

THE TRAGEDY OF U.S. EDUCATION

Shrunken Heads In America Today¹

by Lyndon H. LaRouche, Jr.

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It is a fair rule-of-thumb, that until he thinks of himself as just another victim of the situation which the legacy of Richard Nixon's "Southern Strategy," has re-imposed upon those fellow-Americans considered to be of African descent, no citizen of the U.S. is capable of seeing the reality, that his own rights as a human being are impaired by the systemic defects in our nation's present culture.

The truth of this matter, does not lie in the situation seen as the usual individual victim views it, as if with eyes in shrunken heads, from inside-out, and bottom up. Instead of the usually expressed, "TV talk-show" view of the issues, the individual must develop a scientifically efficient grasp of the centuries-long, even millennia-long historical process which has placed the victim, whoever you are, in that position.

We must view the situation of the victim, from outside himself, from the standpoint of considering his society as a whole, in which the individual exists only briefly as a mortal individual. What will be your continuing interest in the outcome of your mortal life, later? Thus, the meaning, and self-interest of that individual mortal life, could be competently conceptualized only as the principal authors of the 1776 Declaration of Independence and general welfare clause of the 1789 Preamble to the Federal Constitution situated the individual, only in two respects. Narrowly, by the individual's acting from the vantage-point of a top-down comprehension of that long-term historical process in which he is situated; but, broadly, by the individual's contribution to improving the culture within which his individual actions and their consequences are situated.

1. This was written for the included purpose of setting the stage for a coming, Bad Schwalbach, Germany conference of May 4-8, which will have as an included feature some deliberations on urgent contemporary issues of Africa itself.



The problem of racism in America today radiates from President Nixon's 1966-68 "Southern Strategy." It is not only a matter of the oppression of those of African descent, but expresses the pervasive degeneration of U.S. society. Right: Nixon with George Wallace in Alabama. Left: A policeman surveys the wreckage after the bombing of a black church in Birmingham, Alabama, 1963.

In the course of this report, I shall clarify that matter, of inside-out versus top-down, as a central matter of the scientific principle to be brought to bear; but, meanwhile, expect my proof, in a later part of this report, that the problem of racism in America today, could not be efficiently explored for durable solutions, without bringing in the issue of the top-down outlook.

As I shall show, the racism radiating from former President Nixon's 1966-68 launching of his "Southern Strategy," and permeating U.S. society, top down, today, is not a only a matter of society oppressing those considered as of African descent. It is an included symptom and product of the systemically oppressive, all-pervasive, degenerative, present condition of the society in which that specially oppressed stratum is nothing different than an integral part.

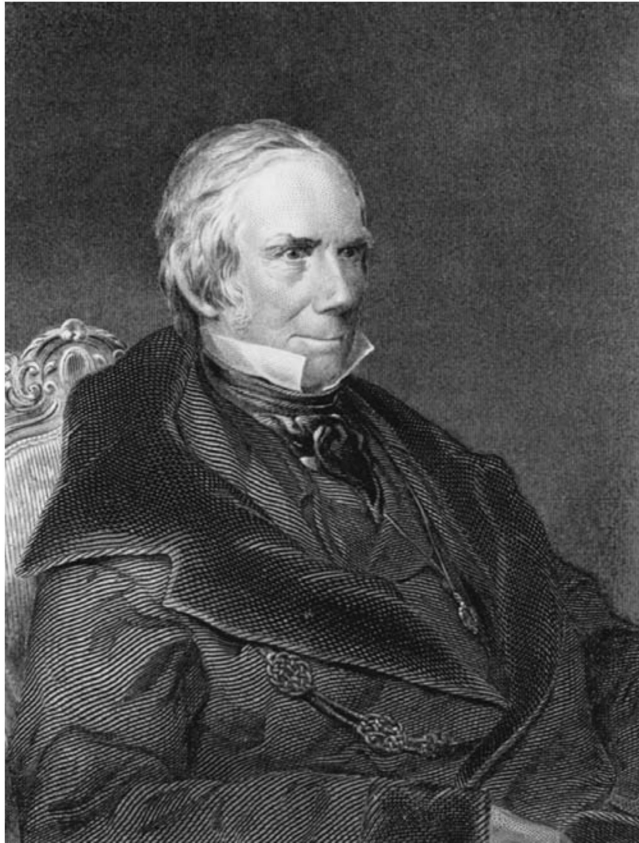
The problem immediately before us, is a matter of Nixon's abruptly reversing the trend toward civil rights, his reenergizing of a long-existing, axiomatic legacy of racist intention, as expressed in U.S. society at the moment of the assassination of Rev. Martin Luther King. This is an oppression which continues to be directed not only against so-called African-Americans, but against each and all of the members of our society, whether they are conscious of this state of their affairs, or not. The effects, already actual and worse threatened, produced by the presently accelerating, new general collapse of the world's present financial system and economies, are an expression of these connections.

As I shall show in this present report, the truth of the matter

at issue is exposed, most efficiently, from the standpoint of studying those defective policies which are usually practiced in the often misused name of education, the policies experienced by nearly all students, in virtually all schools and universities, still today. It is in the footprints left by the trends of change in U.S. public and higher education, and the relationship of education to citizens' voting rights, rather than such matters as employment and housing as such, that the principled issues are most immediately and clearly expressed. Patterns of employment and housing can be changed; but it is only proper education, armed with their struggle to acquire and maintain voting rights, which can enable the victims of unfair practices in employment and housing, to change their situation in the only way possible, *politically*.

As a first step toward that knowledge, look over my shoulder, to see that problem, so defined, as my experience has shown it to be.

My first actual knowledge of the institution of racism in the U.S.A., came, more than seventy years ago, from the dinner-table discussions at the Ohio parsonage of my maternal grandfather, the late Reverend George Weir. For me, as a child, this repeated experience was like sitting, rapt, at the performance of a great Shakespeare drama; it was living history of a recent past century, brought to life, reenacting itself before me. The dominant figure on stage in those dinner-table conversations, taken as a whole, was the family's vivid anecdotal memory of my great-great grandfather, the Rev. Daniel Wood, a Quaker abolitionist in the following of John



Henry Clay (1777-1852). LaRouche's maternal great-great grandfather, the Rev. Daniel Wood, ran an "underground railroad station" in Ohio, and was known as a "Henry Clay Whig" in his political leanings.

Woolman, and a contemporary of Abraham Lincoln's generation, who had resettled in the area north of Columbus, Ohio, in what is known as Woodbury. Rev. Wood had run one of the "underground railroad stations" in Ohio, and was known by handed-down family reputation as a "Henry Clay Whig" in his leanings.²

During my early years, first, in a Rochester, New Hampshire childhood, and, later, adolescence in the area of Boston, Massachusetts, my understanding of institutionalized racism in the U.S.A., was limited to what was supplied to me from a combination of certain Quaker traditions and my adopted, adolescent, self-identification as a follower of President Abraham Lincoln and his Clay-Carey tradition generally.

It was during my war-time experience, in military and

2. George Weir was the teetotaling son of a professional Scottish dragoon, the latter equally adept with whisky and saber, who immigrated into the Fall River, Massachusetts area, circa 1861, to join the First Rhode Island cavalry. George Weir's uncle, Captain William Weir, was a Scottish sea-captain, who took the assignment of commanding a U.S.-made steam-ship from Rhode Island, down the Atlantic to Argentina. My paternal grandfather was a clever and energetic fellow of Quebec origin, but unfortunately a bit too soft on Clemenceau for my taste. A pedigree well suited to the requirements of an American Whig of the Clay-Carey-Lincoln tradition.

related settings, that I had any first-hand encounter with the institutionalized contemporary practice of anti-"African-American" racism, in a more concrete, personalized way. My concerns on this matter were strengthened by experience with the disgusting racism exhibited by the British, military and others, in India and Burma, during and following World War II. However, it was memories of my conflict with the hegemonic variety of oligarchical culture of the Greater Boston area, already during my childhood and adolescence, which I mined, in my adult reflections, for the depth of background needed to understand the top-down, anglophile cultural influences, by aid of which racism and its associated effects are spread in the U.S.A. more generally.

The shortfall in most academic and other specialist attempts at comprehension of the issue of racism in America, is exhibited by most of what is written in the U.S. today on the subject of education and its required content in general, including the subject of the education of so-called "African-Americans." For example, I have on my desk a copy of James D. Anderson's *The Education of Blacks in the South, 1860-1935*.³

The latter is, on balance, an amiable and valuable book, and a timely one for today's study, that chiefly because Anderson documents, anecdotally, and clearly, the statistical fact of a crucial difference, that expressed as *intention*, between education for freedom, as the figure of Frederick Douglass typifies the latter approach to U.S. chattel slavery historically,⁴ and the contrary tendency of direction in education, notably that of Douglass' opponents. That of Douglass' opponents was intended to adapt most among its victims to acceptance of a more or less stereotyped future style of life, a life typified by the relatively lowest categories of employment, rather than the development of the individual as a citizen of a republic, in the fullest sense of the term.

However, the crucial problem, which, regrettably, prevented Anderson's effort from approaching the quality of "definitive," reflects his attempt to situate that important phenomenon within the wrong historical geometry, that of today's broadly accepted list of academic, so-called political-science categories, and, therefore, to ignore the essential, top-down features of the history of the relevant development of the policies and issues of education in the preceding approximately 2,600 years of European civilization. The overall result of those errors, is an example of the dangers of today's customary academic errors, of fallacy of composition in selection and treatment of the evidence considered.

I need not review Anderson's book itself here. I address the context in which I wish he had situated his approach to defining the deeper implications of the matter, and let the

3. James D. Anderson, *The Education of Blacks in the South, 1860-1935* (Chapel Hill: University of North Carolina Press, 1988).

4. The bell-wether of that book's shortfalls, is the lack of emphasis on the case of Frederick Douglass, which should have been a central feature of Anderson's treatment of the very subject on which he focusses.



A school at the Freedmen's Bureau in Richmond, Virginia, after the Civil War.

reader then read his book, this time in the context of the deeper issue which I set forth as follows.

1. Racism in Modern Society

Racism in the American colonies, and the U.S.A. itself, can not be competently understood, except as a product of the circumstances under which the imperial maritime power of Sixteenth and Seventeenth centuries Venice, the leading European opposition to the networks and legacy of Cardinal Nicholas of Cusa, organized the modern African slave-trade.⁵

That slave-trade began in earnest at the outset of the Sixteenth Century, following the death of Spain's follower of Alfonso Sabio, Isabella I, through Venice's political control over the Iberian maritime powers and their monarchies. This same Venetian influence, was also exerted during that period by such figures as Henry VIII's marriage counselor, Zorzi, who were associated, like the Plantagenet Cardinal Pole and the Newt Gingrich-like, Sir Thomas More-hater Thomas Cromwell, with the circles of the Paduan mortalist Pietro Pomponazzi.⁶ Later, during the Seventeenth Century hey-day

5. Nicholas of Cusa, 1401-1464, was a key figure of his century, who played a crucial role in establishing the modern sovereign nation-state and also in launching modern experimental physical science.

6. Francesco Zorzi (1466-1540); Henry VIII (1491-1547, reigned 1509-1547); Pietro Pomponazzi (1462-1525). The significance of the emphasis on

of the relevant founder of empiricism, Venice's Paolo Sarpi,⁷ the slave-trade became a typical practice among the customs of the Dutch and English India companies.

At the close of the Eighteenth Century, Britain began to dump the African slave-trade from vessels sailing under the "Union Jack," in favor of using the British merchant marine's bottoms for the East India Company's more lucrative opium traffic; but, Britain continued its participation in the slave-trade, deep into the Nineteenth Century, but then chiefly through its clients of the Portuguese and Spanish monarchies. In fact, the British monarchy has maintained the pro-genocidal legacy of that nation's slave-trade tradition, as Field Marshall Montgomery did, to the present day of British specialists Lynda Chalker's and Caroline Cox's currently continuing roles in shaping British and U.S. Africa policies.⁸

"mortalist" here, is of crucial significance for grasping the origins of modern European racism. Although Pomponazzi's fear of the reprisals by religious authorities, and warnings to this effect by his student Gasparo Contarini, prompted him to appear to recant on this matter, his argument for mortalism is implicit in his elaboration of the Aristotelean method. In social practice, all of the leading Venetian currents were practicing mortalists. Slavery was one expression of this.

7. Paolo Sarpi (1552-1623).

8. Chalker and Cox have been key figures in the fomenting of genocidal conflict within sub-Saharan regions. Montgomery's Cecil Rhodes-echoing, homicidal statements on Africa policy are a matter of record, in his "Memorandum—Tour of Africa Nov/Dec 1947." See Linda de Hoyos, "African Unity: Community of Principle, or New Colonialism," *EIR*, July 30, 1999.

The characteristic feature of that modern slave-trade, is that it was premised on Venice's success in establishing a widely accepted convention as a "rule of law," a *presumed rule of international positive law, that any person of sub-Saharan African descent shall be defined as fair prey, to be made into a customary, and hereditary commodity and "shareholder value" of the modern slave-trade.* I refer to characteristics, distinct from the millennia-long, earlier practices of slavery, which first appeared in modern European civilization during the Sixteenth Century. This "rule of law" persists, in fact, as an active, and recently accelerated feature of the British monarchy's "Rhodes Plan" tradition of genocidal policy of practice toward Zimbabwe and other regions of sub-Saharan Africa today.

The doctrine of "Life, Liberty, and Property," of English empiricist John Locke, typifies the doctrine under which the institutions of slavery and "shareholder value" have been hegemonic among what President Franklin Roosevelt recognized as our nation's treasonous "American Tory" faction, the faction represented by the combined forces of the anglophile current centered within Wall Street, and those, such as the self-styled "Nashville Agrarians,"⁹ filled with nostalgic yearning for the quaintness of the Confederacy.

The mere details of the historical record on the documentation of slavery and Jim Crow, are so extensively documented, that it would be superfluous to reprint that vast record as part of the present report. Useful as that documentation is for the purpose which it serves, such mere statistical and anecdotal documentation has so far failed, inevitably, to get to the crucial point of national policy at issue.

So much putatively scholarly and other attention, has been given to the interpretation of the emotionally charged phenomena of slavery and racism in America, that the most important side of the issue, *the causes for the interpreters' doubtful interpretation of that racism,* has been buried.¹⁰ My point here, is to treat those interpretations of the facts as what they are, in net effect, often inflammatory distractions of attention from the underlying, determining, principled, functional features of the solution for the continuing injustice to be cured.

Therefore, I ask you to focus your attention on the axiomatic features underlying modern history as a whole. To this end, I focus upon that aspect of the practice of slavery, which has continued to be expressed as a continuing political alliance between the "American Tory" tradition of the southern slaveholders and New York-centered Anglo-American financier interest, down to its fresh upsurge as the Nixon-led

"Southern Strategy," which has dominated U.S. policy-trends increasingly since 1966-1968.

I say again, for emphasis, that the tradition of slaveholder interest, as defined by John Locke and his followers, has a vigorous reincarnation as the Locke doctrine of "shareholder interest" today. On today's global scale, that Locke doctrine, deployed under the name of "shareholder interest," has become as murderous and savage a pro-racist killer, as the old Locke doctrine of "slaveholder value" took pride in being. I shall not, and need not repeat here what is documented sufficiently elsewhere, on the relevant subject of the legacies of Jeremy Bentham's Aaron Burr and Burr's Martin van Buren, as by Anton Chaitkin's *Treason in America*.¹¹

The Central Issue of Law

The precondition for any competent discussion of the practice and legacy of chattel slavery, and of the education of populations of former slaves and their descendants, must begin by locating the central principle of intention of law at issue in all these cases.

That issue of law is, that, prior to the revolutionary introduction of the principle of a modern sovereign form of nation-state, itself based on the principle of the general welfare, all known forms of society degraded most of their subjects to the status of either wild creatures to be hunted, or, as the Roman imperial Code of the Emperor Diocletian did, and as the feudalism of Venice and its Norman and Plantagenet allies did, that of virtual human cattle. Like cannibalism, head-hunting, and Phoenician infanticide, slavery was but one of the typical expressions of the bestiality of man to man, which pervaded known or inferrable history and prehistory, prior to the great moral improvement introduced during the Fifteenth-Century birth-pangs of modern European civilization.

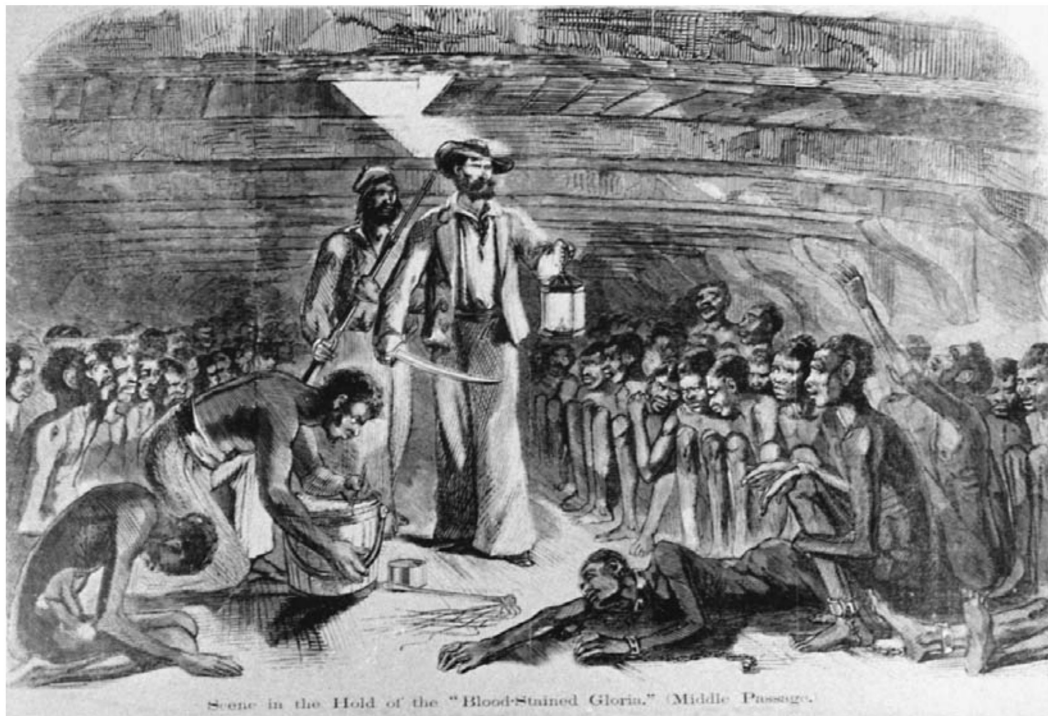
For recorded portions of ancient, medieval, and modern Mediterranean and European history, the prototype of ancient societies, was the continuity of the model of ancient Mesopotamia (e.g., Babylon), the Delphi cult of the Pythian Apollo, and pagan Rome. These societies were sometimes identified as expressions of an "oligarchical model," and, whether described so or not, fit that standard description. It is the continued legacy of that oligarchical model, commonly expressed in modern times as *Romanticism*, which is the ancient systemic root of the evil of racism, and of related phenomena, in all of modern European civilization, including the U.S.A. today.

The modern African slave-trade, as launched, under Venetian influence, near the beginning of the Sixteenth Century, was first practiced by Portugal and Spain, and later by the ruling oligarchies of the Netherlands and England, that according to the precedent of pagan Roman law (i.e., Romanticism). As noted, these modern slave-traders treated so-called "black Africans" as, originally, wild prey to be hunted, and the

9. See Stanley Ezrol, "William Yandell Elliott: Confederate High Priest," *EIR*, Dec. 5, 1997; "Vanderbilt University and the Night Writers of the Ku Klux Klan," *New Federalist*, Oct. 7, 1996, p. 7; "Elliott and the Nashville Agrarians: The Warlocks of the Southern Strategy," *EIR*, Jan. 1, 2001.

10. Typical of such dubious interpretations, are the assumption that either sexual-cultural issues are determining, or that "white racism" is a reflection of so-called "Caucasians," and "black racism" a biologically determined cultural distinction of Africans.

11. Anton Chaitkin, *Treason in America: From Aaron Burr to Averell Harriman* (Washington: Executive Intelligence Review, 1999).



The introduction of the trans-Atlantic slave-trade into the Americas was aimed to prevent the successful development, in either the Americas or Europe, of the new form of independent nation-states modelled on the reforms of France's Louis XI and England's Henry VII.

captives held, bred, and culled as, quite literally, human cattle.

Three features of this Venetian innovation in the practices of slavery, as by the Portuguese and Spanish monarchies, are most notable.

First, that the introduction of the trans-Atlantic slave-trade into the Americas by the Sixteenth-Century Portuguese and Spanish monarchies, and under the Seventeenth-Century Dutch and English monarchies, was aimed, from the beginning, to prevent the successful development, in either the Americas or Europe, of the new form of independent nation-states modelled on the reforms of France's Louis XI and England's Henry VII.

The included aim was to plant and develop in the Americas a powerful oligarchical class, of the *compradore* type, as typified by the English-speaking North American slaveholders and their confederates, which would both loot the Americas for the profit of their European backers, and also serve to suppress the tendency toward emergence, in those Americas, of independent nation-state republics, the latter according to the Fifteenth-Century nation-state principle, the constitutional principle of the general welfare.¹²

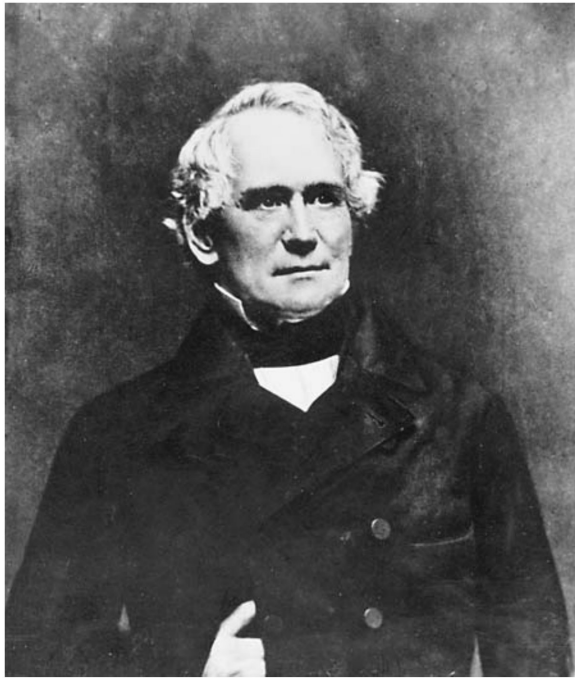
12. Although the first attempts to establish nation-states in Europe are typified by the efforts of Staufer emperor Frederick II, in peninsular Italy and Sicily, Alfonso Sabio in Spain, and the work and influence of Dante Alighieri, the first successes came directly out of work of Cardinal Nicholas of Cusa and his friends, in the context and aftermath of the great ecumenical Council of Florence. It was the Fall of Constantinople, in 1453, which impelled the circles of Cusa, such as his friends Fernão Martins and the astronomer Paolo Toscanelli, to launch what became known as the rediscovery and colonization of the continent and islands of the Americas. The included purpose of this project, and its included evangelization, was to outflank the combination of

The second feature, was the change in the way in which the virtually global marketing of African slaves and their produced product was practiced, relative to earlier periods in European history. The genocidal scale of loss of life among the victims, in their capture, culling, and transportation to the Americas, reflected the commercial programs used by Venice and its Portuguese, Spanish, Dutch, and English and French partners (chiefly). The appetite for the profit of such forms of looting, and the demands of those financier interests who funded these operations, resulted in a vast expansion of the scale of slavery; and the ratio of deaths caused, both directly and indirectly, by the combined capture and transport of slaves taken in Africa, zoomed to monstrous proportions.

The flooding of European markets with goods looted from the Americas and its growing slave populations, was, as has been generally recognized, a new, global, commercial scale and quality introduced to the practice of slavery.

This is a point addressed by the leading American economist, Henry C. Carey, in his work on the slave trade and the

enemy forces, represented by Venice and the Ottoman Empire, by building up allies for modern European civilization in lands beyond the oceans. Thus, from the voyages of Columbus, the development of colonies in the Americas became a battleground between the pro-slavery Venetian faction, which took control of Spain's monarchy after the death of Isabella I, and the Christian forces of the Council of Florence. The battle between pro-slavery and anti-slavery forces in North America can not be understood competently as an historical phenomenon, except from this standpoint. The development of proto-republics in North America, beginning with the Massachusetts Bay Colony of the Winthrops and Mathers, and the continuation of that legacy under Benjamin Franklin and his circle, must be understood in light of that conflict.



Economist Henry Carey demonstrated that the pre-1861 U.S. economy did not profit from slavery, but, rather, lost money. It was the British monarchy that gained, by looting the U.S. physical economy, its people and its natural resources, for the enrichment of the parasitical British system. Here: a cotton plantation in Texas in the early 1900s.



Gathering Cotton on a Southern Plantation, Dallas, Texas.
Copyright 1907 by E. W. Kelley.

practice of slavery in the United States. Essentially, Carey's facts show that the pre-1861 U.S. economy as a whole did not profit from slavery, but, rather, lost money on slavery. The net economic benefit of that slavery was enjoyed, not by the internal economy of the U.S.A., but by the British monarchy, looting the U.S. physical economy, its people, and its natural resources, for the enrichment of the parasitical British system.¹³ The slave-owning U.S. planter class, was simply a local pack of predatory parasites, compradores acting as the de facto agents of the British monarchy in this business arrangement.

The third feature, was the use of the power of the initially Habsburg-centered European assets of Venice, to attempt to

13. Henry C. Carey, "The Slave Trade Foreign and Domestic," in W. Allen Salisbury, *The Civil War and the American System: America's Battle with Britain, 1860-1876* (Washington, D.C.: Executive Intelligence Review, 1992). Note, on the map of the Americas, the areas in which the practice of slavery was carried out in great concentration: Brazil, the Caribbean islands, and the southeastern U.S.A. Then compare the vastly higher per-capita net product of agriculture in the northern U.S. states. Islands were ideal locations for controlling large slave populations; areas of relatively warmed climates and relatively dense rainfall were indispensable for operations in which wealth extracted meant chiefly a looting of land and human bodies alike. Hence, the irony of Nixon's "Southern Strategy," which, in thirty-five years, has transformed the formerly richest, most productive region of the U.S. into a "rust belt."

crush the accomplishments of the Fifteenth-Century Renaissance out of existence in Europe itself.

Their intent was to destroy and outlaw that institution of the sovereign nation-state based on the principle of the general welfare, such as Louis XI's France and Henry VII's England, which had been introduced by the Fifteenth-Century European Renaissance. The roles of the Habsburgs, as tools of Venice, in both the fostering of the trans-Atlantic slave-trade and the religious warfare of the 1511-1648 interval, were continued through the participation of the Nineteenth-Century Habsburg and Spanish monarchies in support of the cause of the slaveholders in North America against the United States, through the point of that assassination of Lincoln, conducted with political support from Habsburg circles in Rome and elsewhere, through the 1863-1865 interval. The British monarchy, although a rival of the Habsburg-centered pro-feudalist interests of continental Europe, played the same role in its own interest, often in concert with its imperial rival, the Habsburg interest.¹⁴

14. This Habsburg anti-American tradition was defended by the Henry A. Kissinger (e.g., *The World Restored: Metternich, Castlereagh and the Problems of Peace 1812-1822* [Boston: Houghton-Mifflin, 1957]), who was trained at Harvard University under the neo-Confederate ideologue Professor William Yandell Elliott of *Nashville Agrarian* notoriety, as, implicitly, in his shameful London Chatham House address of May 10, 1982.

Thus, the three pro-slavery factors so indicated, are fully congruent with the adopted legacy of the so-called “conservative revolution” of the modern fascist tradition traced from Romantics such as Friedrich Nietzsche and like-minded existentialists, through Mussolini, Hitler, and the neo-Confederacy tradition of Presidents Theodore Roosevelt, Woodrow Wilson, and the Nixon “Southern Strategy” campaign of 1966-1968.¹⁵ As I have documented that point in an earlier published location, the Confederacy qualifies as a fascist state in the strictest sense, that of the 1789-1794 Jacobin Terror, the tyrannies of Napoleon Bonaparte and Napoleon III, and Twentieth-Century cases such as Benito Mussolini and Adolf Hitler, and their co-thinkers of the 1920-1945 interval. The “Southern Strategy” is, as Newt Gingrich described his “Contract With America” movement, in 1995, a strictly fascist movement, a “conservative revolution,” as Armin Mohler defined it as an historical phenomenon, in the footsteps of Robespierre, the imperial Bonapartes, Mussolini, and Hitler.¹⁶

That defines, summarily, the context, within which the history of the modern slave-trade and its aftermath must be situated, for any competent understanding of the roots of racism in America today. It is only against that historical background, that the issues of law and related policy may be competently addressed.

The fundamental issue of law posed by the legacy of that modern slave-trade, is nothing different than the following. *Is there some absolute difference, corresponding to a physical-scientific notion of a universal physical principle, between the nature of the individual human being and the nature of each and all lower forms of animal life?* It is from the standpoint of this question, and in no other way, that the issues of slavery and of education policy in general, are competently posed. As experience to date should have shown anyone alert to the facts, any different standpoint has turned out to be a dead end, and an awful waste of time, sweat, and much blood.

The fundamental issue, as I have just identified it, is best brought into focus by concentration on the way that issue is expressed in terms of policies for universal education.

The basis in law and custom for the institution of both the

15. Theodore Roosevelt was raised as the nephew of the notorious Confederate spy and filibuster Captain James Bulloch. Woodrow Wilson was not only an unregenerate enthusiast for the original Ku Klux Klan, but played a leading role in reviving the Klan, publicly, from the White House, while President. President Grover Cleveland, a Democrat of the same political faction as Republican Theodore Roosevelt, orchestrated the changes in policy which led directly into the establishment of “Jim Crow.” President Calvin Coolidge represented that faction in the Republican Party. Presidents Nixon and George Bush, Sr., have been an integral part of the “Southern Strategy” of racism, and the financier interests immediate associated with President George Bush, Jr., are fairly described as pro-racist, Southern-based carpet-baggers who have been looting the former agro-industrial power of the U.S. into a “rust belt” condition since Nixon’s 1968 election. On the links to Nietzsche, et al., see Armin Mohler, *The Conservative Revolution in Germany* (Darmstadt, 1972).

16. Lyndon H. LaRouche, “What Is Fascism, Really?,” *Executive Intelligence Review*, April 13, 2001.

modern slave-trade and its continuing offshoots, is what I have already referenced here as that legacy of pagan Roman law and custom which is strictly definable as *Romanticism*. Empiricism, as associated with the legacy of Thomas Hobbes, John Locke, and Adam Smith, is the most widespread and important expression of Romanticism in the past and present history of the United States, and has provided the geographical basis, in choice of climate, for the legalization of the custom of slavery and the slave-trade within some among the original thirteen English colonies of North America, most notably the Carolinas, Georgia, and Virginia.¹⁷

Since prior to Plato, the fundamental issue of law within globally extended European civilization, has continued to be the conflict between two axiomatically irreconcilable notions of law and government, between the Classical standpoint of natural law, as typified by Plato and the Christianity of the *New Testament*,¹⁸ and that opposing, pagan tradition known today as the Romantic school of law, whose precedents included the customs of ancient Babylon and the Delphi cult of the Pythian Apollo.

It is only from that standpoint respecting law, that the phenomena of racism in modern society can be competently diagnosed.

The effect of the influence of various forms of Romanticism, in crippling the mental and emotional life of Americans, for example, generally today, is pervasive, and is expressed in varieties of ways. Empiricism, as typified by the teachings of Locke, as aggravated in the form of imported positivism and its offshoot, the pragmatism of William James and John Dewey, or the behaviorism of Watson, et al., is to be recognized as the corrupting, hegemonic current in present-day education, law, and scholarly practices, in the U.S. It is also, specifically, the prevalent basis in intellectual corruption for what has been taught as “political science” and “sociology,” during the past century. My concern here is to show, how all of that is combined with a specific degree and form of force,

17. In the northern states of the union, the superior productivity of labor, per capita and per square kilometer, in agriculture and otherwise, was a reflection of a massive investment in development of the basic economic infrastructure of the locality and region. This included both the infrastructure of production as such, and that, such as schools, essential for promoting the productive potential of the population. In the practice of chattel slavery, the source of the wealth taken by both the planter class and the foreign (British) interest which that class served as compradore, was the looting, by what is called “primitive accumulation,” of natural conditions, both the land and the living bodies of the slaves. Thus, the slave-system kept moving on, from looted areas, into new areas for production by slaves. Only where the climate allowed such looting to proceed, at least for a time, was this feasible. Hence, the relative brutishness of intellect and morals typical of the regions of the U.S. in which the tradition of slavery lurks on, to the present day.

18. To simplify the point, I emphasize both the Gospel of John and the Epistles of Paul, and the role of those portions of the *New Testament* employed by J.S. Bach for his *St. John Passion* and *St. Matthew Passion*. These aspects of the *New Testament* typify Christianity’s integration of the Platonic Classical Greek cultural tradition into Christianity; Bach’s referenced works, strictly reproduced in performance, express, most powerfully, the role of what Friedrich Schiller defines as *the sublime* in Christianity’s notions of the Crucifixion.

in the phenomenon rightly distinguished as racism.

In the history of European civilization, this issue is best typified by the irreconcilable opposition, both in principle and in fact of practice, between, as I have said above, that Classical Greek tradition typified by the dialogues of Plato and by Christian humanism, on the one side, and what is called Romanticism, on the other. The key to understanding all of the leading features of approximately 2,500 years of European civilization to date, is the conflict between the Classical Greek tradition of Solon, Plato, et al., on the one side, and the oligarchical model of ancient Babylon and the Delphi cult of the Pythian Apollo, and also, the legacy of pagan Rome.

That conflict between Classicism and Romanticism, is key to any competent understanding of the roots and effects of the modern slave-trade and its legacy as racism in the U.S. today. This locates the point of reference from which to understand educational policies of practice as the *political* battlefield on which the most essential fight against racism must be conducted.

Those who enjoy the right to a Classical humanist form of education, or its functional equivalent in self-education, are implicitly free; those who lack that education, are assuredly inviting, if not already suffering the conditions imposed upon virtual human cattle, even the conditions of slavery.

Plato's *Meno* Dialogue

In addressing the issue of slavery and its legacy in the U.S. today, the typification of this difference, as expressed in education, is Plato's *Meno* dialogue, as the lives of Classicist Frederick Douglass and of his family typify that distinction with a special practical excellence. Whereas, as I shall emphasize here, those who tolerate such swinishness as the policy of not compelling students to expose themselves to the ideas of "dead, white European males" (DWHEMs) are, in fact, acting to defend and propagate the mentality of men and women who embrace the most essential features of slavery. The act of the fool who rejects study of the ideas of DWHEMs, must therefore reject the lesson of Plato's *Meno*, and thus defines himself as the fool whose part he is playing. The life of Frederick Douglass expresses the same connection emphasized by Plato.

The essence of the issue posed by racism, is to be located only in respect to that conflict between those two views on education. Either one takes the side of Frederick Douglass in that debate, or one is, in fact, dedicated to promoting what is recognized as the practice of racism, whether one believes that he, or she intends that result, or not.

The so-called African-American, for example, who defends the notion of an education free of the requirement of mastering the ideas of "dead white European males," is being a racist to himself; he is the slave who does not need to be enslaved, because he zealously puts his shackles on himself, and displays them proudly, even militantly. He is like that slave who insists, "Don't give me freedom; just give me reparations — money."

As Plato illustrates the proof of this, in his *Meno*, all human individuals have the developable cognitive potential to generate validated discoveries of universal physical principle. From that vantage-point, all human beings are equal in respect to their inborn nature, and all groups of human beings, from every society, share, as a group, that developable potential in virtually equal degree. The essential function of education, and of the conditions of family and community life in which education occurs, is to develop precisely that cognitive potential to the highest possible degree, in every possible young individual.

No lower form of life has this potential; that is the essential difference between man and beast. Beasts can learn, but only human beings can know; education which teaches children to learn to pass tests, to acquire habits needed for a specific form of employment, is education designed for beasts. Such forms of education, or of family relations, will tend to bestialize the students, and produce corresponding rations of bestialized adults. Unless your children are enjoying a Classical humanist form of education, they are being cheated; they are being bestialized, at least relatively so, that in the name of education.

It is important to emphasize, once more, that the result of accepting mere learning as a substitute for knowing, is not far from the condition of being a slave. At the very best, mere learning is a kind of obedience-training, as at a school for dogs, which produces an individual prone to many of the characteristics of behavior of a slave, the characteristics of a class of virtual human cattle.

Those who enjoy a Classical quality of education, and who are permitted to express that development in their practice as functioning members of society, are relatively "free," at least within and among themselves; those who lack such educational development, are not yet free within themselves.¹⁹ Those who are not free within themselves, will find themselves, if not actually slaves, self-degraded to a condition fairly described as "human cattle," as today's U.S. popular opinion and mass entertainment, condition most Americans today to behave as did the Roman mob of spectators in the Colosseum, as human cattle, most of the time.

19. Public and higher education in the U.S.A. provided the more fortunate pupil a map of some of the crucial topics which should be known. Unfortunately, that map concentrated on the student's learning to recite the map, more often than actually knowing the discoveries to which the points on the map corresponded. If the pupil's entire education provided encounter with a few teachers who provoked the pupil into the kind of experience of knowing typified by the *Meno* dialogue, the student was thus prompted to apply that lesson to the effect of developing his, or her own self-education. Read the map, but discover the actual territory to which the map pretends to correspond! Then, go on to build a corrected map. The difference is typified, as I stress in my "Gravity of Economic Intentions" (*EIR*, March 30, 2001), by the difference between the student who has *merely learned* to recite the Newtonian version of gravitation, and he who has relived Kepler's step by step process of actually making the original discovery of universal gravitation. Knowing, like food, nourishes the body; that which is not food, such as mere learning, will, in its best performance, merely pass the course.

Now, turn again to Plato's *Meno* dialogue. Do not merely read it; relive it. Relive it as if you were, alternately, playing the part of the boy, and of Socrates: not acting out the recitation of the words, but reliving that experience of the paradox and discovery for which those words are, like sense-perceptions, mere shadows cast on the irregular wall of a dimly lit cave.

2. Education & Humanity

All of my own original discoveries of principle, during the approximately sixty years of my adult life, have been the harvest from a single germ, a germ whose existence I can date consciously, as a matter of knowledge, to no later than my childhood's family and community life, during my first three years of public school, in Rochester, New Hampshire. Some of the resulting, original discoveries, which first occurred early during my adult years, are shown to have been of outstanding, world-wide importance today, most emphatically so by the implications of the eruption of the presently ongoing, global, combined, existential financial, monetary, and economic crisis.²⁰

As I have repeated that observation many times, it was during those childhood years in Rochester, that I recall today, reaching the conclusion that my parents, and most of the adults and peers I knew, lied habitually most of the time, as most of your friends and neighbors, and elected officials, still today.²¹ It was also clear to me, that teachers, even then, were not necessarily a source of truthfulness. In my parental household, lying was filed, euphemistically, under such categories as "company manners," or falsehoods which, when caught out, were explained to the children as "I am only telling you this, for your own good." In school, the same type of practice prevailed, and tended, in my experience, to grow worse, not better, as the grade-levels succeeded one another.

In political life generally, lying is often called today, "Going along to get along." Dale Carnegie's *How To Win Friends and Influence People*, is an example of a ritual devotion to lying, as seen through the eyes of my own generation.²² "Sensitivity," is the code-word for widespread practices of lying popular among the so-called "Baby Boomer" generation. Those horrid, existentialist fanatics, who insist upon

20. Among increasing numbers of leading circles around much of the world, the relative uniqueness of my successes as an economic forecaster, and in related matters, is no longer honestly debated among competent observers. Since that fact, and its implications are fairly established, it is not necessary to plead a case which has been, thus, already proven. There is a point, beyond which, the assertion of denial becomes either factitious lying, or conduct beyond the bounds of reasonable ignorance.

21. The most important forms of lying in the three constitutional branches of the U.S. Federal government today, are lies made on the same pretext invoked by the spectators of the pagan Roman Colosseum: "Go along, to get along."

22. Dale Carnegie, *How To Win Friends and Influence People* (New York: Simon and Schuster, 1936).

threatening school pupils with the Orwellian dogma, that there is no truth, only opinion, are perhaps the worst of the liars to be considered for the purposes of this report.

I recognized that what I was instructed to learn, was morally worthless to me, even if it might happen to be true factually, *unless I knew it to be true by my own intellectual resources*. I became, therefore, with but extremely rare exceptions, typically, the most knowledgeable person in any class I attended, among those most stubbornly resistant to merely learning what was prescribed. Some learned much more than I knew, but what I knew, I, unlike those peers, actually knew. I developed, more and more, the habit, that to say what one had merely learned to say, as to assert, as a matter of claims to *knowledge*, "What I read," or, "What I have been taught to believe," or "What I have been told by authorities I respect," is, itself, intrinsically, a form of lying, a form of habitual lying typical of the society and peer groups I knew.

Take, as an example, my rejection of the first year of high school geometry, from about the first day of class.

Earlier, I had observed carefully the structures seen during one among my not-infrequent family visits to the Charlestown (Boston), Massachusetts Navy Yard, and recognized that the holes made in the steel beams made the structures stronger, by eliminating the burden of weight not essential to the function of supporting the structure itself. Why should people concerned with the strength of the structures they had constructed, make those holes in the relevant beams? I decided that knowing the kind of geometry required for this use of materials, represented some principle to be discovered and mastered.

So, when the teacher challenged the members of the assembled geometry class to identify the useful purpose for studying geometry, I referred to the effect of making those holes in the beams seen at the Navy Yard: one cuts out the holes to make the structure stronger; there must be some reason why circular, or approximately circular holes had been chosen for those cases. Those who ridiculed my response, which included some teachers at that high school, and most of the classmates, were not only clearly wrong on this and other issues expressing the same matter of method. This intellectual, and moral flaw expressed by my critics in that matter, is but all too typical of much of the adult population, even university science graduates with what are called, sometimes ironically, "terminal degrees," of the present day, and pathetically so.

In all my own teaching of university students, and in my leading role in the philosophical association which I have led, since more than three decades ago, I have recognized, and emphasized the importance of the individual's developing an epistemologically competent, critical insight into the characteristic panoply of ideology of his or her own culture, and of comparing the pathological quality inhering in that and all other ideologies of all cultures. Without that kind of self-conscious awareness of the invariably, ideologically polluted

character of the prevalent assortment of leading ideologies within one's own cultural background, one is like a blinded beast struggling to survive in a swamp whose quicksands and other perils one is conditioned not to recognize.

Look at my immediate, and continuing disgust, in reaction to that classroom situation, from the standpoint of my frequent use, over recent decades of teaching and related activities, of the example of Johannes Kepler's original discovery of the principle of universal gravitation. The issue, that geometry must be studied from the standpoint of physics, rather than Euclidean ivory-tower geometry, was the same, in my relatively primitive, but accurate, adolescent's recognition of a pervasive, axiomatic fallacy in the classroom teaching of geometry and mathematics, and in Kepler's much more profound grasp of the same distinction, he echoing thus the insights of such among his named, relatively immediate predecessors as Nicholas of Cusa and Leonardo da Vinci.

Riemann's fundamental contribution to all modern physical science, was to free geometry from all such ivory-tower assumptions, and to base mathematics exclusively upon experimentally validated discoveries of universal physical principles. In my own principal original discoveries, I established the basis which enabled me, shortly thereafter, to view Riemann's work in the more general way required for a competent science of physical economy. It is mankind's relationship to the universe, as measured by increases in society's increased power to exist, per capita and per square kilometer of surface area of Earth, which is the foundation for all that truly sane people will regard as empirical knowledge, nominally physical-scientific or other.

That is the continuing tradition of Plato, Cusa, Kepler, Leibniz, et al., within which lie all of my principled contributions to society. So, the germ of all that began for me, in my rebellion against the kind of knee-jerk-reflex lying I witnessed, as a child, among my parents' household and their society. Herein lies also the germ of what must become our nation's general policy, respecting education for freedom.

As Kepler emphasized this fact, the astronomers Claudius Ptolemy, Copernicus, and Tycho Brahe, had each made the same specific mistake against which I rebelled in the secondary geometry class, as I rebelled, later in my student years, against swallowing a version of a differential calculus premised fatally upon the fraudulent, radically reductionist Cauchy "fraction," and as I, still later, in early 1948, rejected the fraud of Norbert Wiener's "information theory:" in each case, on the same epistemological premises.

There is no exaggeration, or other incongruity, in my comparison of my adolescent reaction against the underlying error of secondary geometry instruction, to the reaction of Kepler to the fundamental errors of method by Ptolemy, Copernicus, and Brahe. *What I expressed in that act of rebellion, was like Kepler's recognizing the fallacies of Ptolemy et al., a defense of that same principle which is innate to all human beings, and which expresses the fundamental distinction between man and the apes. This, as I shall emphasize, is, as Frederick*

Douglass's life reflects this, a distinction inhering in every child of those liberated from slavery, or of newborn children of today. This was expressed for me, as an adolescent, and also earlier, by a feeling of moral wrongness in the demand that one suppress in oneself the impulse to know, a demand that I do so for sake of the rewards proffered for obedience to the demand that one submit to learn as one is told.

More and more, especially as they grew older, most among those who had been my youthful peers capitulated, sooner or later, to the pressures for doing as one is told one must learn to do, especially as they acquired more and more of the burden of what are sometimes described as household life's hostages to fortune. The difference was, essentially, that I, like others of my kind, did not capitulate; being human was too important for us, to betray our birthright.

I shall return to that point as the pivotal feature of the argument developed in this report.

These three, Ptolemy, Copernicus, and Brahe, had constructed their astronomy on the basis of completely arbitrary, wrong-headed blind faith in the assumption, that events in space and time were organized according to a so-called Euclidean, infinitely linear, unscientific,²³ ivory-tower notion of space and time. Kepler, showing that any such construction as theirs, could not account for the variations in position and speed of the planet in its orbit, discovered an underlying, universal physical principle, universal gravitation, a discovery through which we are able, today, to *know* much about why the orbit behaves as it does.²⁴

By "know," I mean, first of all, discovering paradoxical evidence, the kind of evidence which shows that reality contradicts absolutely what ivory-tower assumptions, such as those of Ptolemy, Copernicus, and Brahe, assume, still today, to be universally true. I mean also, solving the paradox posed by that contradiction; I mean, discovering, or rediscovering, through the perfectly sovereign cognitive powers of one's own individual mind, a Socratic form of *hypothesis*, which can be shown, physically, to be universally true, and is, therefore, an experimentally validated, universal physical principle. What you know in that way, and only in that way, is as much as you actually *know* about anything.²⁵

This quality of *knowing*, as distinct from the beast-like

23. My use of "unscientific," here and elsewhere in this report, signifies arguments upon included arbitrary assumptions, including those of Euclidean geometry, rather than methods appropriate for defining universal physical principles.

24. LaRouche, op. cit. The thread of development of this principle of method, as applied to this problem by Kepler, is traced explicitly from Plato, through his follower Eratosthenes, and from Nicholas of Cusa, through Leonardo da Vinci, Kepler, Gottfried Leibniz, Abraham Kästner, Carl Gauss, and Bernhard Riemann.

25. *ibid.* On *Analysis Situs*. This issue of method, was the thematic subject of the founding work of modern experimental physical science, Nicholas of Cusa's *De Docta Ignorantia*. It is the method of Plato, as richly developed, after Cusa, by Luca Pacioli, Leonardo da Vinci, William Gilbert, Kepler, Leibniz, Kästner, Gauss, Riemann, et al.

ability to learn, is, once again, the essential, absolute distinction which sets the human species apart from all lower forms of life. In theological terms, this is the specific quality of the human individual, which is reflected in *Genesis* 1: man and woman as made equally in the image of the Creator of the universe, and, thus commanded to assume dominion within that universe, that in accord with the human individual's kinship to the nature of the Creator. This is no mere hand-me-down tradition; it is a scientific fact, as readily demonstrated as if that chapter of *Genesis* had never been written; sometimes, as the Apostle Luke writes, we must "let the stones cry out!"

Unless our natural human potential has been crippled by habituation to mere learning, when we, as such human beings, are faced with a paradox, in which something we had been taught to accept as universally true, such as a Euclidean geometry, is demonstrably false to physical reality, we reject the presumed authority of that mere learning. If we are then honest with ourselves, we cease to look for answers in "the back of the textbook," and cease attempting to pass the course by reciting what we have been taught to say.

Unless we are crippled by conditioning to accept conditioned learning, if we have not, like the Biblical Esau, sold our birthright for the mess of pottage called learning, we cease playing the game according to what we were told were "the accepted rules." We must strike out on our own, and discover a truthful solution.

However, this is no license for existentialism, or of kindred, inherently destructive, and evil forms of intellectual anarchy. In such matters, we must always act on behalf of discoverable truth, according to principles lacking in all beasts. We must act according to that specifically anti-reductionist quality of mind, which is indicated by a literate use of the term *reason*, reason, sometimes called *natural law*, as pointing toward some imperfectly known, but coherent set of principles underlying the ordering of the universe.

How shall we know that the crucial solution for a rigorously defined paradox, called a Socratic hypothesis, which we believe we have uncovered, is truthful? Plato's *Meno* dialogue confronts the reader with precisely such a problem, and that in the form a slave boy might be capable of not only solving the problem, but know that he had solved it. There, in that example from Plato's work, lies the open door to a real education, a Classical mode of primary, secondary, and higher education.

I had the good fortune to meet a few teachers, in the course of my childhood and adolescence, who sometimes walked me through vivid experiences of discovery of the relatively simplest quality of universal physical principles, those of the type which the *Meno* and *Theaetetus* dialogues typify. In later life, Professor Robert Moon was notable among those whose impact upon me was of that quality.²⁶ With a bit of

26. Robert James Moon (1911-1989) expressed his intention early in life to master thermonuclear fusion. Arriving at the University of Chicago in 1928,

such help, here and there, what did most of the rest for me, were a similar approach to study of books and my own critical, experimental view of what became an increasingly rich experience of, and appetite for the world at large

Once one has that kind of Socratic experience, as a child, perhaps one never really forgets it. In the first moments one is aware that one has confronted an actual paradox, produced the fruitful hypothesis, and proven the hypothesis by appropriate experimental standards, one must never forget that mental-emotional experience. It is something of a different quality than one experiences in any other way. That way of looking at the world, in terms of that special kind of cognitive experience, must become the core of our sense of "Who I am!"

In search of that truth of reason, about the age of twelve, I found myself lured into stumbling, as if purblind, but not accidentally, into a habit of reading philosophy, and, increasingly, debating, within my mind, with the authors of those writings.

During the ages of twelve through eighteen, I worked my way through the standard books authored by each of those certified to me as the leading English and French philosophers of the Seventeenth and Eighteenth centuries. At the same time, I became more and more engaged by the writings of Gottfried Leibniz, and faced the challenge of Immanuel Kant's attack on Leibniz. About my fourteenth year, I had become a convert to Leibniz's approach, with special attention to the *Theodicee* and *Monadology*, and by sixteen had begun filling notebooks with composed arguments in defense of Leibniz against Immanuel Kant of the Kemp-Smith presentation of the first and second editions of Kant's *Critique of Pure Reason*.

The issue was the same which arose, during that same adolescence, as my quarrel with the ivory-tower version of Euclidean geometry, at the beginning of the high school geometry course. What are ideas, and what is the provable relationship between ideas and the physical reality of the universe upon which we are acting willfully?

In fact, I knew virtually nothing, first hand, of Plato's work at that time, or for some time later, but I had become, through my objections to the empiricists (among whom I included Kant), an implicit Platonist, through the mediation of English translations of Leibniz, and through wrestling, as if in living controversy on the stage of my imagination, against the principal philosophers of the so-called English and French Enlightenment.

The point to emphasize is that with which I began the present section of this report: How does one find one's way,

he was directed to William Draper Harkins at the Department of Physical Chemistry, with whom he studied and worked, later also obtaining an advanced degree in physics. He taught both subjects at the university. Professor Moon built the first cyclotron at the University of Chicago; solved the problem of the contamination of the carbon moderator, which made the Chicago pile possible under the wartime Manhattan Project; and, conducted pioneering research on the action potential of the nerve after the war, using the world's first scanning X-ray microscope, which he had designed and built.

in a world in which parents, teachers, peers, and public officials, lie about almost anything, most of the time? For an “ugly duckling” like me, that was the most important, the most impassioned, of all questions. It is the crucial issue, for any student, of securing an education for the cause of freedom.

It is necessary that I continue a bit longer here in this direction, but I shall interrupt the part of the development of my argument for a moment, now, to make some needed remarks on the direction in which this report is now leading us.

Classical Education

What I have just illustrated by these autobiographical references, illustrates, both technically and morally, what is meant by a *Classical humanist mode of education*, as Classical humanist education differs from those sundry Romantic varieties and their offshoots, which predominate in the schools, universities, and popular culture of the Americas and Europe today. I emphasize Classical humanist education, against the satanic influences exerted in U.S. and other educational policy today, by truth-hating existentialists such as the Nazi philosopher Martin Heidegger and his morally degenerate cronies Theodor Adorno and Hannah Arendt.²⁷

The illustration I have given from my personal experience, just above, is typical of the importance of choosing the Classical humanist approach to classroom education, and also, toward the conduct of that greater portion of any successful Classical education, which must, of necessity, occur in the private, personal activity of the student, apart from the classroom.

The Classical education program, as conducted in the classroom itself, could provide no more than a good partial map of extant knowledge; the broader significance of the in-classroom program, is that it provokes the student to explore, on his own, the larger physical reality which the map attempts to represent, a map which is merely an approximation. A good Classical education, if constantly reenforced by an active, cognitive form of experimentally oriented self-education of that quality, develops in one the ability to make clear distinctions, as I did in my reaction against ivory-tower geometry, between a mere map and the physical reality which it, at its best, merely symbolizes.

The dialogues of Plato, the scientific writings of Archimedes and of his contemporary Eratosthenes, and the founding of modern experimental physical science by Cardinal Nicholas of Cusa, with his *De Docta Ignorantia* and relevant later writings in this field, the notebooks of Leonardo da Vinci, and the writings of Johannes Kepler, especially his *New Astronomy*, are, if combined as one experience, paradigmatic for any serious student today. All great scientists, and all truly promising students, as children and adolescents, are those training themselves, primarily, in the role of becoming ever better performers as original thinkers, discoverers

27. Theodor Adorno, et al., *The Authoritarian Personality* (New York: Harper, 1950).

of experimentally validatable universal physical principles, first, and pedagogues only as a subsumed part of the work of ongoing attack upon, and sharing of ever new discoveries.

As I walked readers through the successive steps of the process of such discovery, in sundry earlier publications, there are *three crucial implications of making, or communicating a series of validatable original discoveries of universal physical principles*.

First, what is the process by which a discovery of an experimentally validatable universal physical principle is made, and communicated, as such communication should occur between teacher and pupil in a competent form of education? I summarize here, what I have presented many times in earlier locations on the definition of *ideas*.

Second, what is different about such discoveries of principle, on the one side, and the objects we believe that we have experienced directly through the means of our sense-perceptions, on the other?

Third, when we take into account the ability to generate and communicate the experience of valid discoveries of universal physical principle among the members of society, what is the fundamental difference, on principle, between relations among animals, and among human beings? What happens to the notion of “race,” once that difference is taken into account?

It is upon those three considerations that the notion of a Classical humanist mode of primary, secondary, and higher education is premised. It is in such a mode of education, that the otherwise infectious bestiality of notions of “race” is avoided.

Lately, we have been presented with paleontological relics, which anthropologist Meave Leakey claims to represent human life in Africa from several millions of years ago. I would not insist that she is mistaken in saying that those relics are representative of the human species, but the ideology of the school of anthropology with which she is associated, does not permit us to trust her on the matter of defining the nature of the strict difference between human beings and what are classed as “the higher apes.”

Her argument, as I witnessed it on a televised interview broadcast by Britain’s *Sky News*, is highly provocative, because of some among its more plausible features; but, the argument I heard from her is not definitive.²⁸ Perhaps there are

28. Meave Leakey and her daughter Louise announced on March 21, that they had discovered a new species of hominid, dubbed *Kenyanthropus platyops*, which they say lived 3.5 millions years ago. Their claim is based on analysis of a skull found in 1999 in Kenya. What is clearly plausible, is the existence of humans in that part of Africa as early as three to four millions years ago, or even earlier, since the biogeochemical preconditions for human life have pre-existed for not less than approximately two millions years of recurring cycles of glaciation on much of the land-mass of the northern hemisphere. Obviously, the Indian Ocean region and its African coastal region are likely places to find human traces during, for example, the period of massive glaciation of the Eurasian and North American land-mass. However, it is one thing to know that human cultures’ existence that early, or earlier, is plausible, and another to assume that a fossil is human, rather than a relic of some higher ape.

physiological characteristics of man as a cognitive species, which should indicate to us, as Leakey claims, even in the case of fossils, whether or not the fossil is human. We know that that kind of distinction has not yet been determined scientifically, *since the crucial question defining the relevant experiment has not yet been recognized among the relevant peer-review establishments*. Meanwhile, what we can classify as human fossils, are cases in which the site in question is conclusively associated with products of distinctively cognitive activity, of which, despite Wolfgang Köhler's use of the term "insight," higher apes are not capable.²⁹

As a wag might put the point: "Teacher! Don't you monkey around with my children!"

This distinction goes to the heart of my original discoveries in the science of physical economy. What I personally, have to add to the extensive literature on the otherwise known principles of Classical humanism, is the effect of my discoveries in enabling us, today, to resolve certain previously unresolved issues of that topic. It is those resolutions which have made possible the fresh argument on education for freedom which I present here.

Now, focus on the three points I have listed a short space above. I turn now to the first of those topics, the subject of the act of discovering and communicating a valid discovery of universal physical principle.

Discovery & Its Communication

As I have elaborated this definition in locations published earlier, there are three distinct steps in any valid discovery of a universal physical principle. As I have summarized the point in those locations, the most appropriate presentation of that process of discovery references the practical significance of what Leibniz termed *Analysis Situs*, a notion which Riemann addressed explicitly, or otherwise, in all of his leading work. The most rigorous form of recognition of the need to effect a new discovery of universal physical principle, is the following.

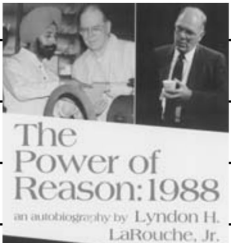

Given an assumed set of definitions, axioms, and postulates, which have been assumed to best represent, mathematically, the consistent understructure of our prior knowledge of the physical universe. In the case, that an experimental, or equivalent experience, described strictly in those mathematical terms, produces a certain type of clash of represented results, we must regard that conflict as of the form of what we call an *ontological paradox*. Take as an example of this, Fermat's introduction of the notion of a contradiction between the notion that action occurs along a pathway of shortest distance, and the physical evidence, that refraction of light occurs along a different pathway, that of quickest time.

This discovery, as pursued further by Huyghens, Leibniz, Bernouilli, et al., required the overturn of that Aristotelean-Euclidean notion of mathematical physics which subsumes

29. Wolfgang Köhler, *Gestalt Psychology* (New York: Liveright, 1992, reprint of 1947 edition).

the neo-Ockhamite variety developed as English empiricism by Paolo Sarpi, Sarpi's house-servant Galileo, et al. That discovery did not provide the accomplishment of that task; it posed the need to develop a solution for that paradox. The combined effects of Kepler's and Fermat's discoveries, thus foredoomed the conventional classroom doctrine of geometry used in the usual mathematics and physics classrooms. The search for a solution for these paradoxes, led, as through the definitions of an anti-Euclidean geometry by Leibniz follower Abraham Kästner, through the work of Monge, Gauss, et al., to the discovery and development of modern hypergeometry, successively, by Gauss and Riemann.

To restate and emphasize that point in broader terms of reference: As I have indicated, in earlier locations, during the middle of the Seventeenth Century, this paradoxical experimental discovery by Fermat, juxtaposed against the paradoxes posed by the revolutionary discoveries by Kepler, set into motion all of the subsequent principal progress in physical science and mathematics, through the circles of Christiaan Huyghens and Leibniz, through the work of Riemann and beyond. Leibniz's originality in discovering the calculus, and his continuation of that discovery as his monadology, contrary to the later frauds by Leonhard Euler, Augustin Cauchy, et al., is a central feature of that process of development. This would be a pivotal feature of any competent secondary program of education in mathematics and physics.

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The search for a solution to the ontological paradoxes posed by Kepler's and Fermat's discoveries, led, through the work of Gaspard Monge (left) et al., to the discovery and development of modern hypergeometry, by Carl Gauss (center) and Bernhard Riemann (right).

In any truthful, Classical secondary educational program, the student should relive Kepler's, Fermat's, Huyghens', Leibniz's, and Bernoulli's related work, as a mandatory exercise, prerequisite to certification as a secondary-school graduate.

The kind of mutually contradictory, pairwise statements, such as those of Fermat's experimental comparison of reflection and refraction of light, provide an example of the way in which a pre-existing ivory-tower form of mathematical physics often collapses when one attempts to extend it to previously unknown, or overlooked physical realities. The juxtaposing of a pair, or more, of such mutually contradictory statements, as formulated within some existing mathematical-physics doctrine, typifies an ontological paradox, as Plato, for example, addressed such phenomena. The juxtaposition of the contradictory elements of such an ontological paradox, typifies a statement in the form of *Analysis Situs*.

For example, in the history of arithmetic as such, there are ontological paradoxes among the notions of arithmetic, algebraic, and transcendental numbers. Plato addresses the first pair in his dialogues, and implies still higher cases, as in his *Timaeus*. These paradoxes and their implications, are addressed in one way by Kästner and his student Carl Gauss,³⁰ leading Gauss and his successors Lejeune Dirichlet and Riemann, to develop a new kind of mathematics and physics.³¹

30. Carl Gauss, *Disquisitiones arithmeticae*. An 1889 German translation from the original Latin is available in a reprint edition: *Untersuchungen über höhere Arithmetik*, H. Maser, trans. (New York: Chelsea Publishing Co., 1981).

31. On Gauss, Dirichlet, and Riemann. Lazare Carnot and Alexander von Humboldt had been closely associated as members France's Ecole Polytechnique during the first decade of the Nineteenth Century. Humboldt continued an active relationship to the functioning of the Ecole, in Paris itself, until about 1827. During the interval following the Restoration monarchy's pro-British ouster of Monge and Carnot from the Ecole, Humboldt had worked

In physical science as such, we discover two pertinent things about this. First, that all meaningful paradoxes introduced by higher categories of number, are phenomena which reflect some, underlying, corresponding function within physical science; and, second, that the existence of number itself originates in, and is controlled by the way in which the universe is organized according to physical principles, rather than the simply aprioristic notions of numerical ones, as the latter are typified by the assumptions of Bertrand Russell and such acolytes of his numerological cult as Norbert Wiener and John von Neumann.³²

The first step in a well-organized process of discovery of some valid universal physical principle, is to define such an experimental quality of ontological paradox, by showing that the paradox must reflect a systemic flaw within (for example) the existing doctrines of mathematical physics as a whole. Such a paradox is stated most usefully in the form of a paradoxical statement in the form of *Analysis Situs*.

At that point in the investigation, the second step takes

both to maintain the Monge-Carnot legacy, and to build up Germany's science through support of the Monge-Carnot line of development of the Ecole in Germany. Dirichlet, one of Humboldt's leading protégés from the Ecole, moved to Berlin under Humboldt's patronage of both Gauss and Dirichlet. Dirichlet, a sometime teacher of Gauss protégé Riemann, succeeded Gauss in Göttingen, and Riemann then succeeded Dirichlet in that position. Notable features of the interconnections of the collaboration among Gauss, Dirichlet, and Riemann, are Riemann's emphasized reliance on what he termed "Dirichlet's Principle," and Riemann's superseding the work of Dirichlet, in continuing Dirichlet's correction of Euler's attempt to define a prime number series.

32. Bertrand Russell, *Principia Mathematica* (Cambridge: Cambridge University Press, 1994, reprint of 1927 edition). On this see Kurt Gödel on the fatal flaw in Russell's system: *On Formally Undecidable Propositions of Principia Mathematica and Related Systems and Discussion on Providing a Foundation for Mathematics, Collected Works*, Vol. I (New York: Oxford University Press, 1986).



Physicist Dr. Robert Moon teaches a class on Ampère's discoveries in electromagnetism. "How could the act of discovering and validating the relevant hypothesis itself be caused to occur in the mind of other persons?"

over. The ivory-tower pedant's classroom blackboard is banned from the continued proceedings, until an hypothetical solution is found. The solution to such a paradox will be found only in the domain of what is defined by Plato as *hypothesis*. This hypothesis must be in the form of a revolutionary change in the kind of mathematical physics used to state the paradox. This hypothesis has, and must have, the form and other quality demanded by the notion of a universal physical principle. Such an hypothesis is purely a creation of the sovereign cognitive powers of the individual mind of the thinker who generates that hypothesis. This is the most crucial fact about all valid methods of education, especially education for freedom.

The third step, once an hypothesis has been generated as a credible kind of proposed possible solution for the paradox, is to craft a design of experiment, which will test for two results. The first such result, must be to demonstrate that a real basis for the assumed effects of the hypothesis can be proven. The second result, must be to show that the hypothesis succeeds not only in some cases, but must be of the quality of *unique experiment* whose results can be regarded as a universal principle of any future mathematical physics.

If those conditions are satisfied, the solution to the paradox is apparently valid. The immediate next question posed is, therefore, how could the act of discovering and validating *the relevant hypothesis itself* be caused to occur in the mind of other persons? Now, we have touched the most essential question of all education. On the answer for this question, the very meaning of education itself depends entirely. *We have thus, now, reached the pivotal issue of our study of the subject of education as such.*

Given two students within a class, who are given a statement of facts corresponding to an ontological paradox as I

have described it above. Let each student withdraw from discussion with the teacher and other pupils for a time. Let each student attempt to solve the riddle, and put any proposed solution into the form of a plausibly arguable hypothesis.

That phase completed, let the class reassemble. Let each of the students who thinks he or she has discovered a solution for the riddle, now observe the teacher's demonstration of each among the students' proposed solutions. Assume that two among the students have solved the riddle, and that, therefore, the experimental demonstration shows that, at least, their proposed solutions are experimentally plausible. Now, the question becomes, which, if any, of those experimentally plausible solutions meet the standard of a universal physical principle?

Let us redefine that situation, as follows.

In this report so far, I have made reference to various celebrated discoverers and some part of their original discoveries. Now, instead of merely presenting the class with a riddle, let us make the subject of the riddle historically concrete, referencing one or more of those, or other discoverers. Let us take Archimedes' cry of "Eureka!" as the point of reference. What was Archimedes yelling about?

We have a place. We have a date, or at least an approximate one. We have a name. We have relevant facts concerning his background, and his previous work. We have portraits which are putatively representations of Archimedes himself. We have a topographical and political map of the area of modern Italy and of the relevant portions of the Mediterranean, at the time the Sicilian Archimedes was about to be butchered by the invading Roman soldiers. We have also a general picture of the quality of Archimedes' accomplishments and of his relationship to the Eratosthenes, the world's

greatest astronomer of that period, then living and working in Egypt, the latter a man of Cyrenaic origin, educated at Athens as a member of the Academy founded by Plato. Give the students the riddle of specific weight which Archimedes solved, by situating him as a real-life person in real history, in their minds, thus efficiently personalizing the task of replicating Archimedes' solution for the riddle. Don't give away the solution for the riddle, but, short of that, box the solution in, factually and historically, as much as possible otherwise.

This is the approach employed in a Classical humanist education.

Let us imagine the case in which two bright pupils, who have obviously been through similar experiences earlier, produce a plausible solution for the riddle. Then, after the demonstration experiment before the entire class, we have the following social situation.

The two relevant students from that class, have experienced a discovery of an hypothesis which is at least an approximation of Archimedes' success. Now, review the dramatis personae of the drama within the classroom as the demonstration is completed.

The teacher knows. Two of the students have each more or less replicated what happened within the sovereign cognitive processes of Archimedes; now that the demonstration experiment has been conducted, they are elated by the fact that they now really "see" the solution. The cry of "Eureka!" is now in order. Other pupils who have not solved the riddle, see a connection between the riddle and the demonstrated result of the discovery, and also see that fellow-students have been able to re-create a living moment from the mind of the great Archimedes within their own minds!

Meanwhile, inside the mind of each of the two students who produced fairly approximate hypothetical solutions for the riddle, there is a recognition of something of fundamental importance, *something uniquely human*.

There were three distinct, successive actions in the model case outlined. First, the paradox, then the hypothesis, and, finally, the validated discovery of principle which solves the paradox. It is the second of those three actions which is crucial: the act of *hypothesizing* a plausible, or entirely valid solution. Here lies the essential principle of all competent educational policy: the principle of cognitive hypothesizing of validatable discoveries of universal principle. Focus on the two successful students, and their state of mind in the aftermath of the demonstration and its discussion.

Focus on the fact that the relevant act of hypothesizing has occurred, independently, within the sovereign cognitive processes of each, a mental act whose occurrence is *intrinsically invisible* to sense-perception. Yet, that act of cognition was not only efficient action upon the real universe in which that event occurred, but, the application of the validated hypothesis to human practice will alter mankind's relationship to nature, a definite physical effect. The evidence generating the paradox was a matter of effects visible to the senses.

The concluding demonstration, was a matter of effects

visible to the senses. However, the connection between the first and the last, however impassioned Archimedes' cry of "Eureka!" might be, is not "visible" to the senses. Therefore, how could the mind of John, one of those who replicated the experience of the discovery by Archimedes, "see" the thought of hypothesizing in the mind of the other student, Robert? Here, in this illustration, we have the germ of Plato's use of the term *idea*.

To the degree that John and Robert have experienced the act of hypothesizing in this case, they each have an experience which they know to be in correspondence with the relevant experience of the other. To that degree, Robert can "see" the act of hypothesizing within the mind of John, and vice versa. To avoid confusion in terms, let us, for the purpose of this report, call this not "synthetic judgment *a priori*," but *Platonic insight*. Both can each see into that moment in the mind of the living Archimedes, in the same way. This cognitive connection among those three figures of this illustration, represents the germ of the truly human quality of social relations, and of the quality which sets the human individual, and species, apart from and above all other living species.

That is, of course, a very simple approximation of what an idea actually represents. Nonetheless, it is a good beginning; we shall improve upon it, step by step.

Plato's Cave

A close collaborator of both Gauss and Riemann, Wilhelm Weber, who was a gifted designer of scientific experimental apparatus, as well as a leading discoverer in the field of electromagnetism, made a very precise measurement, in connection with proving the Ampère angular-force principle, which was, in fact, the first successful modern intervention into sub-atomic microphysics.³³ It was also an idea produced as a part of the overthrow, as also by Ampère's collaboration with Fresnel and Arago, of not only the Newtonian doctrine of propagation of light, but also the general mathematical-physical dogma of the French Bourbon Restoration's "Newton freaks" Coulomb and Poisson.³⁴

The advent of atomic, nuclear, and related microphysics, has the categorical experimental implication of showing that, at the very least, certain crucial sorts of sense-perception-observable macrophysical effects, are determined by efficient action located in a domain beyond direct access by human sense-perception.

Thus, Chicago University's Manhattan Project veteran, Professor Moon, speaking in support of the argument I had presented earlier, on the subject of controlled thermonuclear

33. Laurence Hecht, "The Atomic Science Textbooks Don't Teach: The Significance of the 1845 Gauss-Weber Correspondence," *21st Century Science & Technology*, Fall 1996; Jonathan Tennenbaum, "How Fresnel and Ampère Launched a Scientific Revolution," *EIR*, Aug. 27, 1999.

34. Laurence Hecht, "Should the Law of Gravity Be Repealed?," *21st Century Science & Technology*, Spring 2001; Jacques Cheminade, "The Ampère-Fresnel Revolution: 'On Behalf of the Future,'" *EIR*, Aug. 27, 1999.

fusion, set before me his affirmative evidence for that same conclusion, that on one afternoon back during the mid-1970s. Moon explained to me (and, repeatedly to others among our collaborators), that the work of Ampère-Weber et al., is evidence in support of my insistence on the dubiousness of the assumption, that the purely arbitrary presumption, that repulsive “Coulomb forces” are extended simply infinitely, into large and small, is only arbitrary, and not very intelligent, ivory-tower speculation, rather than sound physics. This proof, as set forth by Professor Moon, of the absurdity of such taught dogma as the so-called “Coulomb” principle, exposes the folly of the presumption by some, that a “Coulomb barrier” constitutes a principled barrier to any development of controlled thermonuclear fusion power production for society.³⁵

This brings us directly to the crucial topic of “Plato’s Cave.” Plato’s pedagogical allegory was, that what our senses present to us, must be assessed as analogous to the shadows appearing on the irregular surface of the wall of a dimly-lit cave, rather than the objects responsible for that projection of those shadows. Microphysics is an obvious case of such an *ontologically paradoxical quality* of sense-perception.

However, the rule is, that the basis for Plato’s argument is not the absurd argument of the bogomils and also the empiricists such as Locke, Bernard Mandeville, François Quesnay, and Adam Smith, that unseeable little demons, whether called “invisible hands,” or “Maxwell’s demons,”³⁶ are the prompters of visible effects. The crucial point is, that each and every discovery of an experimentally validatable universal physical principle, shows that the universe is not controlled by aprioristic kinds of statistical principles; it is controlled, essentially, as Kepler discovered the universal principle of gravitation,

35. My own argument had been the much more modest argument, that it was fraudulent to presume that a Newtonian conception, such as that of so-called “Coulomb forces,” could be neither arbitrarily extended into the “infinitely small” and “infinitely large,” nor assumed to be linear. I had argued, as a matter of our policy, that the matter of “forces at work” on the scale of the nuclear fusion must be left to relevant experimental work. Thus, until Moon’s presentation of the crucial implications of the Ampère-Weber principle, our policy had been based on those negative considerations or principle alone; Moon gave us the positive basis needed for the policies respecting controlled nuclear fusion, then formulated on behalf of what, soon after that, became the Fusion Energy Foundation.

36. The Massachusetts Institute of Technology’s Professor Norbert Wiener, premised the core of his argument for the founding of the irrationalist cult of so-called “information theory,” on citing J. Clerk Maxwell’s speculation, that phenomena such as “negative entropy” could be explained by assuming the presence of an invisible little “demon” operating within the cracks of the infinitesimally small. Although this is the same argument made, for theology, by the neo-manichean cult known as the bogomils, and, explicitly, in support of “free trade,” by Bernard Mandeville, François Quesnay, and Adam Smith, Wiener’s citation of Maxwell reflects Wiener’s and John von Neumann’s conditioning as one-time acolytes of Bertrand Russell. This doctrine, shared by the latter two, provided the basis for the 1970s development of the “Third Wave” cult of Newt Gingrich, Alvin Toffler, Al Gore, et al., and it also supplies the supernatural doctrine of “The New Economy” derived from that “Third Wave” cult.

by those objects of cognition which we know, as my story’s John and Robert did, as the kinds of *ideas* associated with the human *act* of making such discoveries. In physical science, such *ideas* are otherwise known by the name of experimentally validated universal physical principles.³⁷

These are *ideas* in the sense indicated by the way in which Robert is able to look insightfully into the mind of John, in the case of the shared cognitive experience of discovering an experimentally validated universal physical principle.

This connotes, that our sense-perception is not merely something as trivial, and false, as a faithful image of the real universe, but presents us with the mere shadows of physical reality. It is the business of the mind, as the mind is typified by the cognitive action, which generates validated discoveries of universal physical principle, in response to ontological paradoxes. It is the business of the mind, acting in this cognitive way, to discover the reality which corresponds to the effects projected upon our sensorium.

At this point, I summarize the relevant elements of an argument made, with included reference to the work of the founder of the branch of science known as *biogeochemistry*, Vladimir I. Vernadsky, in earlier published locations.

Vernadsky divided the phenomena experienced in the universe among three categories of what he termed *natural objects*.³⁸ The first is the category of natural objects of non-living processes, the second of living processes (the *biosphere*), and the third of cognitive (*noëtic*) processes. In each case, the distinct difference of these types of natural objects, within the overlapping action among the classes, is defined empirically by the evidence of the changes which living processes successfully impose upon non-living ones (such as the body of natural objects constituting the *biosphere*), and the higher order of changes which human cognitive processes impose upon the functions of the biosphere (the *noösphere*).

Since these differences are measured as the natural effects of those physical principles as causes, they are called by Vernadsky *natural objects*. Physical science is properly defined as the discovery of the principles expressed in the form of the process of production of such natural objects. The differences in effects of action among such classes of objects, such as the distinction between non-living and living, cogni-

37. The formal denial of the existence of universal physical principles, so defined, is traced to the famous series of *Critiques* of Immanuel Kant. Modern cult-doctrines of “information theory” and “artificial intelligence” are radical derivatives of the argument, against knowable discoveries of universal physical principles, first published by Kant in his *Critique of Pure Reason* (Garden City, N.Y.: Doubleday & Company, Inc., 1966, translation of 1781 edition). That argument is used by neo-Kantians, such as the positivist followers of Ernst Mach, Boltzmann, et al., as the premise for efforts to reduce the mathematical practice of science to linear statistical methods of the so-called “radical empiricists,” as the devotees of Wiener and von Neumann do.

38. Vladimir I. Vernadsky, “On the Fundamental Material-energetic Difference between Living and Non-Living Natural Bodies in the Biosphere” (1938), Jonathan Tennenbaum and Rachel Douglas, trans., *21st Century Science & Technology*, Winter 2000-2001.

tive and non-cognitive, are measured in terms of the successively higher orders of *anti-entropy* characteristic of that succession, and are properly defined as of the quality of universal physical principles. This definition, as described by Vernadsky, among others, is based upon the experimental evidence of the corresponding uniqueness of the physical effects associated uniquely with each category of action.³⁹

Within each of those three general types of ideas, there are experimentally defined, distinct ideas of valid universal physical principles. My discoveries in the field of the science of physical economy, have the effect of being an insertion into the internal features of the cognitive functions defining the *noösphere* as man's successful transformation of the biosphere, a biosphere which, in turn, is transforming the non-living processes of our planet by such means as creating oceans and atmosphere.

My own original discoveries in the field of physical economy, were prompted by attention to the role of technological progress in increasing the implied power of mankind to exist in our universe, as this could be measured per capita, and per square kilometer of normalized surface-area of Earth. I recognized this as a reflection of the same principle of *anti-entropy*⁴⁰ which leading biologists had recognized as the characteristic, marginal mathematical distinction of living processes from non-living ones.⁴¹ My discoveries along that line of inquiry, led, in turn, to my subsequent recognition of both the importance of Riemann for interpreting the application of my discoveries, and the importance of Vernadsky's discoveries for situating the result within the universe at large.

The idea of such measurements had been prompted, in large part, by my adolescent studies of the work of Leibniz, in which his notions of physical economy, as he developed

those notions over the course of the 1671-1716 interval, radiate from the pores of his work in general. The essential feature of Leibniz's work reflected in my own attack on the problem of physical economy, was Leibniz's notion of a *monadology*.

There are in the universe, objects such as planetary orbits, as Kepler was the first known to us to define the meaning of a planetary orbit as a *cognitively* distinct object. It was Leibniz's continuation of the combined work of Kepler, and of Fermat on "quickest-action pathway," which led to both Leibniz's uniquely original discovery of the calculus, and, thence, beyond the calculus as such, to those principles of physical science set forth as his monadology.

The effect of the orbit is always distinct, as Kepler showed the harmonic ordering of relative values among the planetary orbits; the caused effect is always a definitely measurable one, but the cause of that effect can not be simply reduced, on principle, to the same exact (constant) form of simple numbers under all circumstances in general. Put most simply, anything which exists, is interacting with larger processes. It is not only interacting with other processes, but is acting within, and acted upon by a manifold expressing the universal physical geometry within which all of these processes are situated, and by which they are controlled. The role of harmonics for Kepler, in determining the relations among the planetary orbits, expresses this principle.

Therefore, in considering any such subject, we must distinguish between the notion of its existence as an existence, and the relative value that existence expresses within a relevant physical-space-time geometry, such as a Riemannian hypergeometry.

I emphasize, that we must not limit our attention to pairwise interaction among other systems of events; we must recognize the efficient principle of action represented by the physical manifold as such, within which all apparently pairwise interactions occur. In other words, we must adduce the notion of a specific physical space-time (hypergeometrical) "curvature," not only as a physically efficient form of action upon all within it, but as a curvature upon which the individual action is itself acting, as if reciprocally. This is implicit in Kepler's discoveries, but becomes explicit only through the work of such followers of Leibniz as Gauss and Riemann. An object so situated and defined, is what Leibniz signifies by the term *monad*.

On the condition that we define objects from the standpoint of cognition, rather than naive sense-certainty, we have, as Leibniz emphasized, a vast plenum of such objects, and also categories of objects. For example, there are the relatively simpler objects of non-living processes, also planetary systems, living processes, and the cognitive processes of the individual person. Each belongs to the class of monads, but each belongs to a distinct class, and is distinct within its class. Each has an identity as a non-Aristotelean form of existence, and also a definable, relative notion of the measurable, relative, non-Aristotelean characteristics of the action associated with that existence.

39. This is in opposition to the quietly hysterical reference, implicitly against Vernadsky, to so-called "aperiodic crystals," in the "What Is Life?" essay by Boltzmann follower Erwin Schrödinger. Schrödinger hysterically avoids the fallacy of composition underlying his own argument, that the Clausius-Grassmann-Kelvin notion of entropy is a product not of physical science, but of the hereditary implications of the a priori assumptions of Boltzmann's mathematics.

40. My use of "anti-entropy" parallels Kästner's use of the term "anti-Euclidean geometry," and Gauss's and Riemann's following Kästner's teaching of this principle. I was, however reluctantly, obliged to abandon the use of "negative entropy," which had had an excellent record in the field of biology earlier, because of the massive propaganda in support of Bertrand Russell acolyte Norbert Wiener's vulgarization of the term "negative entropy."

41. This is not to argue that the non-living aspects of the universe are characteristically entropic, but only that there exists a characteristic margin of *relative* anti-entropy, distinguishing living processes from non-living ones of comparable chemical composition. The notion of universal thermodynamical entropy, as associated with the reading of the work of Clausius, Grassmann, and Kelvin, is derived from a dubious imposition of a radically reductionist set of axioms upon the model of the work of Sadi Carnot. The resulting mathematical notion of a universal principle of kinematic entropy is, from its inception, an hereditary implication of the dubious axioms pre-embedded in the mathematics applied to the study. The resulting error is a faithful copy of the common, fatal blunder of ivory-tower mathematics, which Kepler exposed in the cases of Claudius Ptolemy, Copernicus, and Brahe.



Johannes Kepler (left) was the first known to us to define the meaning of a planetary orbit as a cognitively distinct object. Gottfried Leibniz (right) took up where Kepler left off, leading to his uniquely original discovery of the calculus.

All such monads are associated with the notion of a Platonic idea, ideas akin to the relatively successful mental (cognitive) act of hypothesizing by our John and Robert. It is as such *ideas*, that the applicable meaning of the term monad is to be defined.

Our knowledge of such ideas is essentially practical in form. *The discovery of any valid universal physical principle, typifies the sole means by which a characteristic increase in man's power to exist within the universe is effected.* By that, we should understand man's increased (*anti-entropic*) power to exist, as a species, into an indefinite number of future generations, as improvement of this existence can be measured per capita and per square kilometer of surface area. That consideration is the primary experimental basis for any science of physical economy.

The shaping of the physical-economic policies of a society, to bring about that combined result, for the benefit of both present and, especially, future mankind, is of a quality which I have defined, in earlier locations, as a scientific intention, following Kepler's use of *Mind* and *intention* as synonyms for efficient forms of universal physical principles. Physical economy is the science of physical intentions, as these are to be embedded in a nation's laws and related policies, for the increase of mankind's per-capita potential relative population-density into a generation ahead, and beyond.

In the rather common case, the design of a successful experiment which proves the validity of an hypothetical universal physical principle, must contain, by its nature, as if hereditarily, some included feature of design which corresponds to the principle being tested. The application of the results of such a feature of such an experiment, to the designs of products and processes, for example, is a result which we

recognize as a *technology*.

It is the knowledgeable application of science and technology, so defined, to man's action on the universe, per capita and per square kilometer, which is the determining basis for the physically defined productive powers of labor. Thus, the higher the level of educational development of the person, through related cognitive experiences, the relatively higher the *relative* productive powers of labor of that quality.⁴²

That point restated: the combination of the level of development and maintenance of the basic economic infrastructure of the general area and the conditions of the general population, with the levels of knowledge practiced in design and production of useful products, expresses a relationship between the characteristic curvature of that society considered as a Riemannian sort of physical space-time, and the act of production or consumption within that space-time setting. The relative value of a productive act, lies not merely in the internal quality of the intention expressed by that act, but the relative "curvature" of the physical space-time represented by the physical economy in which that act occurs.

Here so far, we have considered only those ideas which are associated with conventional notions of the subject of physical science. This brings us to the third consideration identified above: the social process.

42. This is also relative to the level of development of basic economic infrastructure. Labor of equal skill, situated in a relatively poorer general level of development of basic economic infrastructure, will be of poor quality in its result, even catastrophically so. As I defined the point in earlier locations, basic economic infrastructure is to be seen as a part of the function of the biosphere, as the quality of that biosphere has been enriched with natural products of cognitive activity, such as products of science and technology.

Human Relations

In his work founding modern experimental physical science, *De Docta Ignorantia*, Nicholas of Cusa included report of his work correcting an error by Archimedes, in the matter of the quadrature of the circle (and, implicitly, the parabola). Cusa's report on that matter is the original discovery of a class of geometric numbers subsequently known as *transcendental*.⁴³ The further implications of this line of development, as to mathematics generally, were broadly settled by the continuing work of Gauss on the implications of bi-quadratic residues.

This case implicitly puts us into the middle of a process of the unfolding of the development of a plenum of cognitive ideas, from Thales and Pythagoras, through Plato, Eratosthenes, Archimedes, Cusa, Kepler, Leibniz, Gauss, and Riemann, and also including all the ideas implied in that succession of discovery. In any competent program of secondary and higher education, the pupils have, like the students John and Robert of our story, relived the cognitive act of original discovery of some of the crucial discoveries of universal physical principle, by each and all of these and comparable historical figures of scientific progress.

Moreover, these ideas are not ideas which exist in isolation from one another; there is a qualitative interdependency of the existence of the discovery of any idea, upon the situation presented by the accumulation of an ultimately enormous array of actual, or merely alleged cognitive discoveries of principle by predecessors. Some years ago, in a featured article, I compared such an array of predecessors to the historical figures assembled by Raphael Sanzio in his *The School of Athens*.⁴⁴

Focus upon that historical class of ideas as subjects of the replication of the cognitive act of the historically original discovery, rather than merely learning. Compare the cognitive relationship to these discoverers, of any student who has successfully relived the experience of discovering those principles, principles known to the student by the name and historical setting of each of those earlier discoverers. Compare the relationship of the student to each of those discoverers to the relationship among John, Robert, and Archimedes, in the illustration provided above.

Look at Raphael's *School of Athens*. I propose that the reader work through the following exercise.

Make a list of each of the historical figures represented. Take a map of the relevant area of the Mediterranean and its littoral for the period from the time of Homer through the entirety of the Classical and Hellenistic phases of Greek and

related culture. Locate the place and date of existence of each figure on that map. Then, identify the relationship among these figures in terms of those leading ideas which bear upon the irreconcilable dispute between the cognitive Plato and his opponent, the reductionist Aristotle. Ask yourself, is the gloomy figure in the foreground, perhaps the Classical Platonist Raphael's recognition of the Romantic tendencies in his contemporary, Michelangelo?

In this collection as a whole, there are sequences of time, and sequences of ideas, or beliefs, such as Aristotle's, substituted for ideas. In the painting, these figures are represented as contemporaries, as if the entire period represented by these figures' mortal lives, had been compacted into a kind of simultaneity of eternity. Yet, when one considers the medley of interacting ideas and other beliefs represented by the whole assembly, there is an order defined in terms of action among both kinds of notions treated as principles by the user, either ideas or substitutes for ideas, or a combination of both.

Ask: What is the meaning of Raphael's resort to such a portrayal of a simultaneity of eternity? Is it not the case, that that painting corresponds to the way in which a well-educated student's mind, even a graduate of a decent sort of secondary education, sees such figures from that period of history? His mind is a simultaneity of eternity, but there is also an ordering, in the sense of sequences, among the elements of that otherwise timeless eternity.

In other words, by introducing the notion of *change as such*, in the form of continuing, superseding generation of ideas, the time during which the changes unfold is collapsed into a relatively very short lapse of time within the bounds of what is otherwise a simultaneity of eternity.

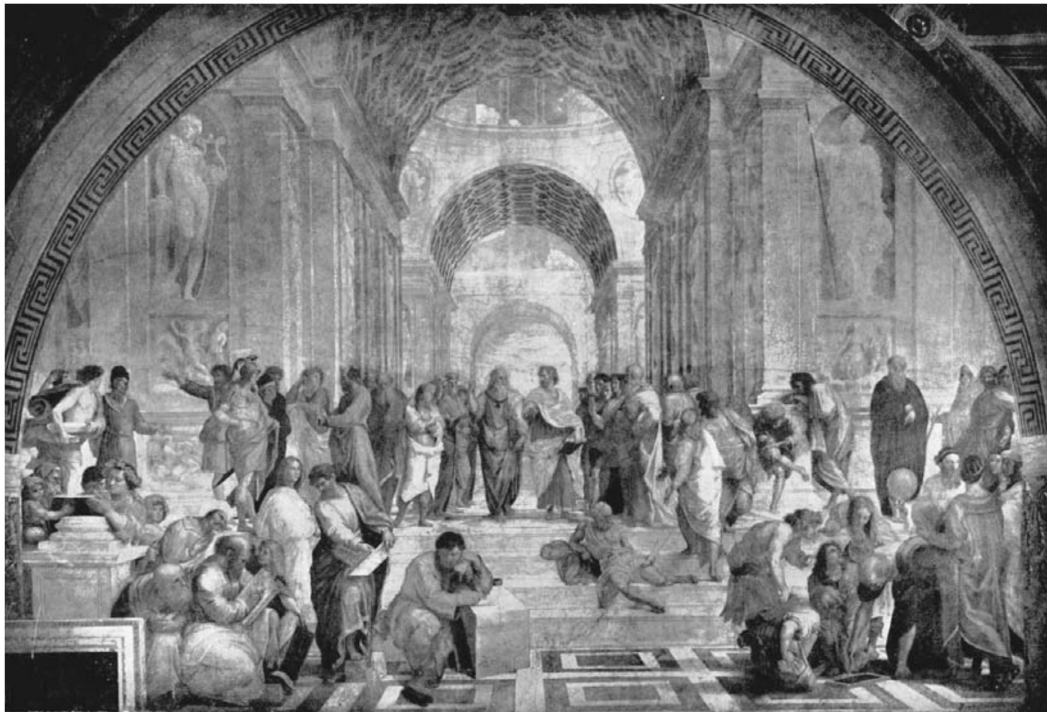
Now, amplify this memory of history, to include virtually all that pertains to physical scientific knowledge, and to the known aspects of the history of cultures, and of the geography in which they dwelt. We will have then amplified Raphael's example, to approximate the functional elements of the memory of ideas by a well-educated individual mind of today. If that memory is organized around the efficient interaction among ideas defined in Platonic terms, we have imagined thus, the case which I wish to call to your attention here.

The relationship of the students John and Robert to Archimedes, in my pedagogical story, is to be recognized as an expression of the truly essential nature of human relations *per se*, as distinct from the quality of relationship among lower forms of animal life (as mimicked by such as the empiricist devotees of Hobbes, Locke, Mandeville, Quesnay, Adam Smith, Jeremy Bentham, and Bertrand Russell, implicitly profess themselves to be). *Truly human relations, are expressed as relations in terms of a Platonic notion of ideas.*

To emphasize the crucial point here, when we shift the notion of events, from mere sense-experiences as such, to the development of ideas, everything believed about the nature of experience changes accordingly. We then contrast the relative clock-time associated with sense-experience as such, to the relative time expressed by the rate of progress in ideas, that

43. Although, it should be clear that this is already implied in the treatment of the Plato Academy's proof of the uniqueness of the Platonic solids, as reflected and elaborated within Plato's *Timaeus*, and as this feature of the work of Cusa, Pacioli, and Leonardo occupies a central place in the work of Kepler.

44. Lyndon H. LaRouche, Jr., "The Truth About Temporal Eternity," *Fidelio*, Summer 1994.



Raphael's "The School of Athens."

relative to whatever physical process we are measuring in terms of rate of progress. We shift the notion of human relations, from the sensuality of mortal sense-experience, to the passion of the universe of cognitive transmission of development of ideas.⁴⁵

Pause at this point, to reflect on the importance of naming discoverers, of naming the time and place in history in which each discovery is believed to have occurred for the first time. There is an essential function which requires naming ideas in that historical way, rather than the way in which the worst among today's textbooks and classroom instruction tend to do. As my story of John and Robert illustrates the point, *the most essential feature of all ideas, is the historical relationship expressed in the communication of those ideas in the cognitive form they assumed as hypothesis.*

This is the most essential principle of all competent educational policy of practice, as the Friedrich Schiller-Wilhelm von Humboldt program of Classical-humanist education typifies such competence.⁴⁶ Without that notion of the historically

45. It was the inherent inability of a thorough Aristotelean, such as Padua's Pietro Pomponazzi, to accept that distinction, which impelled him, and all of like persuasion, such as the empiricists, to see human existence in any but strictly *mortalist* terms. Only in the realm of cognitive processes, which, like life as such, does not exist in Aristotle's system of only animal life, of *anima*, does the mortal individual have an efficiently continuing relationship to a pre- and post-mortal past and future. Hence, the Christian, in contrast to Pomponazzi, makes a distinction between the mortal being and the cognitive being made in the image of the Creator, the soul.

46. Friedrich Schiller wrote his seminal piece on education, *Letters on the Aesthetical Education of Man*, during the several months in Jena, Germany, beginning in 1794, when he was in the almost daily company of Wilhelm

determined, functional relations among the discoveries and rediscovers of ideas in their Platonic form, no scientific rigor can be achieved; worse, no rational comprehension of the existence of society is possible.

The way in which societies, such as the U.S. today, degrade the personalities of their individual members into an Orwellian condition like that of human cattle, is through the substitution of popular opinion, as Romantic tradition and Walter Lippmann have defined it, for truth. To this end, explanations of the type often referred to today as "spin," and outright, especially official and academic lies, as well as wicked fables and mythologies, are supplied to the credulous as a substitute for knowledge. The case of so-called "religious fundamentalist" beliefs, is among the best examples of the

von Humboldt. Schiller's *On Grace and Dignity*, begun in May 1793, is his first major published work to decisively criticize the perspective of Kant on aesthetics. Schiller's inaugural lecture at Jena University, "What Is, and to What End Do We Study, Universal History," delivered on May 26-27, 1789, shows what Schiller's philosophy was, as a teacher.

Von Humboldt captures Schiller's impact, in his essay "On Schiller and the Course of His Spiritual Development" (1830). Von Humboldt was appointed Privy Councillor and director of the Section for Ecclesiastical Affairs and Education in the Ministry of the Interior of Prussia in 1808, and remained there for 16 months. Two key memoranda, produced in this period, outline his philosophy of education: the "school plans" for Königsberg and Prussian Lithuania. Humboldt's ideas were put into practice in Prussia during his ministry, and continued to influence German education until the 1970s "reforms" of Willy Brandt's government. The founding of the University of Berlin, beginning in September 1807, was Humboldt's crowning achievement.

All the writings by Schiller and Humboldt referenced here are available in English translation from the Schiller Institute (www.schillerinstitute.org).



Friedrich Schiller (left) and Wilhelm von Humboldt. Their program of Classical-humanist education typifies the essential principle required for all competent educational policy: the communication of the history of ideas in their cognitive form.

way official and quasi-official, lying mythologies, are used to control the minds and behavior of large strata of populations, “Big Brother” fashion.⁴⁷ Any well-educated person in study of history, recognizes the way in which synthetic religions and other mythologies have been used, as a principal method of effectively dictatorial control over large portions, even the virtual entirety of entire populations, even entire cultures.⁴⁸ Much of what passes for education in science and other matters, in today’s universities and public schools, is of this de-

47. There should be standards, akin to “pure food” criteria, or labels warning credulous consumers, against the acceptance of the claims of many curious sects, such as those of Rev. Pat Robertson and Jerry Falwell, to the name of “Christianity.” The crucial feature of the latter variety of pseudo-Christian cults, is that they claim that “God’s intention is to be found in an ordinary individual’s reading of the text of passages from the Bible,” a variety of the same argument made by the wildly gnostic, self-avowed “textualist,” U.S. Supreme Court Associate Justice Antonin Scalia. Typical of the point to be made, is the absurdity of any attempt to apply the “textualist” practice to *I Corinthians* 13, in which the Apostle Paul defines the meaning of Plato’s conception of *agapē* according to a most essential Christian principle. Notably, the type of “Biblical fundamentalist” referenced has no agreement with the literal intent of such authorities as the Apostles John and Paul. Indeed, all such “fundamentalist” doctrines are the clearest examples of wild varieties of anti-Christian gnosticism, with clear affinities for the doctrine of the anti-Christian bogomil cult.

48. Thus, a nation can be truly a democracy and also truly a dictatorship exerted by an oligarchy. Such is the nature of the degeneration of the U.S.A., especially since Richard Nixon’s launching of his 1966-1968 campaign for the Presidency. The degeneration of the character of political parties as organizations of the citizenry, into a master-client relationship, instead, typifies the role of a pro-“Southern Strategy”-oriented, oligarchy-controlled mass media, in crushing the U.S. population into a condition of rule by “popular opinion,” a condition akin to the status of the lower classes, plebeians and slaves, of ancient Rome.

graded nature and wicked intent.⁴⁹

The emphasis should be on the word “intent.” The instant one challenges a fraudulent myth of academia, the banshees are unleashed against the offender. Pedants of what ordinarily appear to be of a mind most successfully detached from reality, fly into a mentally deranged state of rage against the violator of what passes for “the code.” The phrase from Eugene O’Neill’s *The Iceman Cometh* pops into mind: “Hickey, you took the life out of the booze!” Once the hypnotic spell of accepted mythology is broken, as by the mere mention of an embarrassing bit of truth, the enraged reaction to this from the thoroughly conditioned pedant, betrays the fact that the dogma being defended by the pedant is a device concocted to serve, and be enforced as a control mechanism over the minds of the credulous members of the student population. You are the target of his, or her rage, because you have unmasked the magician, and spoiled his magic: you have taken the life out of the booze he was intentionally dispensing for its intended effects.

The essence of what we should recognize today as Orwellian brainwashing of large populations for purposes set forth

49. It is very much to the credit of author James D. Anderson, that, in the 1988 book I have referenced here, he stresses the conscious intention of Wall Street banker George F. Peabody, 1914 Woodrow Wilson appointee as Vice-Chairman of the New York Federal Reserve Bank, as typical of those who controlled much of so-called “black education” in the U.S. as an intended control mechanism directed immediately against the so-called African-American population. The same methods were used, by interests of the same Wall Street pedigree, to introduce into public schools and universities, mythologies intended to terminate the role of the ideas represented by Rev. Martin Luther King among so-called African-Americans, as in some propagandistic efforts to discredit the memory of Frederick Douglass.

in Fabian ideologue Walter Lippmann's 1922 *Public Opinion*, is the total substitution of the claimed authority of arbitrary forms of mere *belief* for knowledge. I described such substitution of mere belief for knowledge, in my references, earlier in this report, to the kind of lying which I encountered as dominating opinion among family and school environments during my childhood and adolescence. The use of the modern mass media, notably an entertainment and news media which can no longer be strictly distinguished from one another, to orchestrate a synthetic *vox populi* better named *vox vox*, is exemplary of what we may recognize as the functions of the use of myths and fables for mass social control in former history.

The question posed by today's Orwellian practices to such effect, is, how could a population defend itself against control by the kind of mass-media and related methods of mind-manipulation rampant in the U.S.A. today?

The relevant difference between myth and truth, credulity and reason, is located in the way in which human relations are defined.

If the student has experienced each ancient and other discovery of validated universal physical principle, by means of reliving the historically situated act of original discovery of that principle, the student now knows personally that moment in the mind of the living original discoverer of relevance. There lies the pivotal distinction.

However, competent scientific knowledge is not a mere basketful of separately collected discoveries from the past. Usually, as in the case of the combined impact of the cognitively referenced discoveries by Kepler and Fermat, upon the minds and work of Christiaan Huyghens, Leibniz, et al., the Leibniz calculus, for example, was developed. Knowledge of universal principles, gained in this way, is a highly reticulated, highly interdependent lattice-work of an historical, ongoing process of continuing discovery and rediscovery of ideas of a Platonic form. We should say, that this is a multiply-connected lattice-work, as Riemann signifies by his use of "multiply-connected." The process of knowledge is an organic process, rooted in the principle of cognitive action.

A competent process of education, is organized and conducted according to that conception of the cognitive experiencing of the relevant lattice-work of validated discoveries of universal physical principles, up to the present time. That goal is accomplished, by limiting the core of all educational practices and related experiences, to the experiencing of the cognitive process of generating knowledge, rather than by means of learning. *The primary intent of any good education, is to produce a graduate who embodies the most essential achievements of history, in that way, up to that moment.*

3. 'Science and Culture'

A good education does not end with the subject of the discovery and application of universal physical principles as



"The primary intent of any good education, is to produce a graduate who embodies the most essential achievements of history . . . up to that moment" — a goal to which this young man apparently aspires.

such. Although we must measure economic performance, and its demographic characteristics, in physical terms, and per capita and per square kilometer of a normalized cross-section of the Earth's surface, the individual does not act solely as an individual, but also as a product of, and functioning part of an entire society. When we consider a society's relationship to the planet on which it lives, it is the ordering of the social relations within the society, which determines the ability of the society to cooperate in ways which make the fostering of discovery of universal principles, and their application, effective, if they are to become, indeed, truly effective.

Stated in terms of the implications of a Riemannian physical geometry, the productive potential of the individual lies not entirely within himself, but in the relationship of his development to the characteristic "curvature" of the society and more immediate circumstances in which his function is situated.

This brings us, now, to the second principal aspect of a competent form of education, the role of Classical culture in determining the relative ability of a society to discover, and to utilize knowledge of validated universal physical principles.

The best way in which to define this second aspect of a Classical humanist education, is to focus, first, on the role of what is strictly definable as a Classical humanist species of artistic culture, as this is distinct from, and also the natural adversary of either Romantic forms of culture, or those so-

called popular, modernist, and post-modernist novelties which a jaded Romanticism has concocted, apparently, at least in part, in its desire to escape from its boredom with its tedious self.

Situate what I have said in this report so far, in terms of the referenced discoveries reported by Vernadsky. See the place of human relations within a functional image of what Vernadsky defines as the *noösphere*.

In Vernadsky's imagery, we have three classes of what I have defined in this report as *experimentally validated universal physical principles*. I restate that argument now:

The first, is a set of such principles as might be assumed to be acting within and upon a non-living universe.

The second, is what Vernadsky defined as the *biosphere*, a principle of life, not derived from the physics of non-living processes, which is able to impose its *intention*, as Kepler uses the notion of "intention," to place the Earth under increasing domination of the effects of action by a principle of life as such, thus producing a *biosphere*.

The third, is the power of willful, cognitive ("noëtic") discovery, unique to the human species, by which mankind is able to impose its will to change the characteristic behavior of both non-living processes in general, and of the effects of the principle of life in general. This creates the *noösphere*.

These three classes of experimentally validated knowledge of universal physical principle, represent, combined, an implicitly Riemannian form of multiply-connected manifold of three distinct types of universal physical principles.

In the study of the efficient role of cognition within the context of the *noösphere* so conceived, what are those physically efficient forms of relations which define the cooperation upon which man's efficient role within the *noösphere* depends?

As is reflected most explicitly in the science of physical economy, the ultimate validation of the hypothetical principles governing efficient forms of cognitive relations among the members of society, lies in manifest physical effects produced, or what Vernadsky's argument defines as the natural products of cognitive ("noëtic") activity. That natural product is the increase of the potential relative population-density of the society, or human species as a whole. Since cause and effect express themselves over generations, this subject must be considered over a span of not less than several successive generations. Those changes in the organization of society and its physical economy, which determine such increases, represent the natural products of cognition, as defined in the way consistent with the way in which Vernadsky uses his general notion of natural products.

Thus, the view of a natural science of culture defined by the principle of the sovereign cognitive process of the individual mind, requires that we adduce the principles underlying cognitive relations within society, by a study of the relative superiority or inferiority of forms of culture, as adduced from long-range studies of those changes in culture which are empirically the most characteristic, relative fea-

tures of multi-generational trends of change within the evolution of society in general.

Since the changes in culture introduced by the revolutionary establishment of the first modern sovereign form of nation-state, during Europe's Fifteenth Century, is, as measured by the standard of potential relative population-density, by far the most successful development in human culture known, we must proceed from a study of the relevant qualities of changes which that revolution has introduced to the preceding phases of both ancient and medieval European civilization. At the same time, we must focus upon those conflicts within European civilization which show us which cultural trends within modern European civilization are responsible for the improvements, and which, as Henry C. Carey showed for the case of slavery, detrimental in their effects upon the society's development as a whole.

In the later sections of the present section of this report, I shall emphasize those issues to be seen from the standpoint of the role of Classical humanist policies of education, in the struggle against slavery and its effects within the U.S.A. itself. In the subsequent section, I shall turn to the role of today's globally extended modern European civilization within the economy and culture of humanity as a whole.

Thus, we continue this section of the report, by beginning now with a restatement of an immediately crucial point.

Where mankind's discovery of universal physical principles of non-living and living processes as such, deals with the relationship of the individual human mind to the universe, the ability of the human species to accumulate, transmit, and use such knowledge, depends upon discovery of certain universal principles of the human mind, principles upon which society depends for the successful application of what are physical principles of nature, as the latter are considered apart from viewing the problems of individual and society in terms of the measurable effects of mankind's relationship to the universe at large. We must distinguish between the potential relative population-density of society, as measured from the standpoint of the physical universe outside us, and the manner in which society organizes its internal, social relations, to produce changes in society's voluntary relationship to the physical universe.

This involves a crucial point, and must be made clear, even if it costs a bit more effort to do so.

In the usages of Vernadsky, the effective increase of the potential relative population-density of mankind is a *natural product* of a cognition-driven progress in the practice of society, upon the biosphere which it inhabits. This is the form in which physical productivity of society can be measured for its relative success in improving its ability to exist in terms of the world around it.

The making of that natural product, occurs within a different dimension of the process. It occurs primarily as the cognitive production of valid discoveries (or enactments of discoveries) of universal physical principles; but, the fostering of those discoveries and their application, is a reflection of a

social process, the process in which mankind defines relations within society.

So, those social processes, especially the social processes associated with the transmission and application of ideas as ideas, are themselves properly the subject of the same methods of investigation used for discovering universal physical principles in the domains of non-living and living processes in general.

To restate that point, we have the following. The cognitive work of scientific discovery must be continued, from the subject of mankind's effective physical relationship to the universe at large, to the subject of the principles governing the way in which man's ability to cooperate for the mastery of nature, is determined in terms of the relations among the cognitive processes of the individual members of society at large. Just as mankind must discover how better to order our species' physical relationship to the universe, the noösphere, in which we live, we must discover those principles needed to better order such task-oriented relations among ourselves.

This signifies that our programs of education, and related activities, must rise above the application of cognition to the narrower purpose of discovery of valid universal physical principles respecting man's direct mastery of the non-living universe and biosphere. We must broaden the inquiry, to focus upon the application of cognition to the discovery of the universal principles governing the efficient consequences of relevant, directly functional relations among the cognitive processes of persons. We must, so to speak, expand upon what is demonstrated as the cognitive relationship among the minds of John, Robert, and Archimedes, to include the generality of such cognitive relations within society.

This application of the principle of cognition to the subject of the functions of the cognitive relations within society, is best named *Classical humanist culture*. The clue leading to solutions to this problem, is study of the way in which self-conscious forms of cognitively creative social behavior in children, determine the possibility of healthy forms of functioning of adult society, or, in the alternative, how the lack of such cognitive development among the young, tends toward descent of the adult society into bestiality. The theme of such an inquiry, must be the subject of policies of education.

The essence of all competent forms of Classical artistic composition, is *the principle of cognitive play*. For example, the person who is not more or less effervescent in impulses for specifically cognitive forms of playfulness, as Wolfgang Mozart expresses that quality so beautifully, or J.S. Bach before him, has little or no capacity for sustained creative work in general, either scientific, or in Classical forms of artistic composition and performance in particular.

I have suggested, in earlier locations, that one might examine more closely the happier instances of play between a boy and his puppy, noting particularly the impulse of the mentally healthy boy for invention of harmless games, which the puppy then happily learns. In that combined symbiosis and difference between boy and beast, a principle of humanism



"The essence of all competent forms of Classical artistic composition, is the principle of cognitive play." Here: a day-care center in Bolivia.

is being demonstrated. Nicholas of Cusa, on this account, referenced the animal's participation in man, as paralleling man's participation in God the Creator. The morally healthy order among living creatures, is the participation of the lower species in the work of the higher.⁵⁰

Perhaps the best way to describe the individual's impulse for cognitive play, is to regard this as the individual's impulse, at least implicitly so, to play with the Creator, as the puppy desires to play with a boy who treats it well. I think that neither Cusa nor Friedrich Schiller would disagree with that. Plato's Socrates is a paradigm for such a playful individual; the dialogues are models of a quality of play which seeks to define forms of behavior which are cognitively pleasing, not only because of the need of the sane human individual to be cognitive, but the desire to choose games in which nothing sordid or unjust ensues.

The characteristic of such cognitive play, is the exercise and development of the powers of cognition themselves. This may be expressed, in approximation, either as the development of the individual powers to rally one's mental powers

50. The boy, as usual, had hitched up his mule, and the day's ploughing was under way. A stallion and a donkey, watched from over the fence. Suddenly, the donkey began braying, ridiculing the mule. "What are you laughing at me?" said the mule. "Because, despite all your hard work, you will never have a child," the stallion intervened. The mule rejoined, "Who do you think is walking behind me?" From the mule's standpoint, it made perfect sense.

for making discoveries, which might be termed developing one's cognitive mental muscles, or may emphasize the specific capacities needed for cognitive undertakings in direct, explicitly cognitive modes of cooperation with others.

The study of these matters, from that standpoint, obliges us to focus attention on the relationship between productive forms of play in young children and the productive role of the more developed forms of play which are essential to the best performance of adults. The study of that connection is the proper definition of education.

Classical Drama As Science

So, ironically, but also insightfully, we also use the word "play" to describe what we may regard as a successful design for a drama. In the emergence of what became known as Classical Greece, the successive emergence of the Homeric epics, the Classical tragedy, and the Socratic dialogues of Plato, represent phases of development, in that form, of what is meaningfully identified as a notion of a Classical artistic principle of composition and performance for today.

From the *New Testament*, we have the parable of the *talents*. The impulse for cognitive play, is the talent which must be returned to the Creator enriched by the user. In other words, play as the work of generating anti-entropy for the sake of humanity. In what is called physical science and the practice of physical economy, such a return of the thus-increased talent, is manifest, *as a natural product*, as the increase of mankind's per-capita power in and over nature. In art, it is called play, signifying the importance of the quality of play, which Shakespeare's character Hamlet recognizes, but can not embrace, a Hamlet who is, like his nation, self-doomed by his fear of play, his fear of that realm from which he thinks no traveller might return.

A true Classical drama is never composed for the purpose of providing mere entertainment. Every great drama was composed with irrepressible playfulness, but also in deadly earnest, as were: Dante's *Commedia*; Boccaccio's *Decameron*, written as a commentary on the tragic siege of the Black Death, then raging among the leading wealthy families of Florence, across the river below; François Rabelais' *Gargantua and Pantagruel*; and, Cervantes' portrayal of the tragedy dooming the Spain of Philip II, *Don Quixote*. Forms of play such as the Classical tragedies of Aeschylus and Sophocles, the Socratic dialogues of Plato, and the tragedies of Shakespeare and Schiller, were composed in deadly earnest, to provoke the cognitive processes of the actors and audiences, alike, to an awareness of urgently needed adoption of certain principles of statecraft, for the sake of the historically specific, successful solution, for an historically specific problem of that place and time: the successful continuation, and betterment, of the society represented by those audiences.

For example, Shakespeare's plays on English history, reflect the legacy of the studies of the overthrow of King Richard III, as passed down as a tradition through, chiefly, the work of

the martyred figure of England's participation in the Golden Renaissance, Sir Thomas More. Thus, from the same vantage-point as that study of the transition from Richard III to Henry VII, Shakespeare composed a dramatic overview of two centuries of the history of England's place within Europe. This was put on stage as a series of dramas, from *King John* through *Richard III*. This series of dramas is devoted, throughout, to a single subject, the actual lessons to be adduced from the history of England, from the accession of the Plantagenet allies of imperial Venice, through the revolutionary change in statecraft established under Henry VII. Schiller's dramas, in most instances, addressed actual historical situations, and, on reflection on the actual history so selected, were accurate representations of the crucial issues of statecraft posed in the real-life history referenced by the stage.

In such great drama as that of Shakespeare and Schiller, the object is not the type of impulse to entertain the vulgar appetites for sensual exhibitions, such as those of the "night club," pagan Rome's Colosseum, or mass spectator sports, nor to provide a vehicle for the narcissistic impulses of the actors like Sir Lawrence Olivier, or the sado-masochistic, existentialist impulses of a director toward playwright, actors, and audience alike. The function of great drama, is to make the issues posed by a moment of real history, come to life with great force, within the cognitive processes of director, actors, and audience alike. The crux of such Classical artistic composition and its performance, is the evoking of the specific quality of passion unique to a state of cognitive insight. It is the same quality of passion experienced by one who is engaged in bringing forth a validatable cognitive discovery of a universal principle.

Compare this with the case of the profound superiority of the so-called Negro spiritual to the banality and superficiality of so-called "gospel" singing, to say nothing of that axiomatic contradiction in terms known as "Christian rock." I am not an expert in the Negro spiritual, but I have the advantage of being presented with the essence of the matter by experts who have demonstrated their argument to me most efficiently; the case they make has two aspects, both of which are relevant to the point I have just made, above, on the subject of Classical drama.

In its raw form, the Negro spiritual as I recognize it, expresses the historically specific situation and experience of the slave. On this account, a certain authenticity of presentation is essential for a convincing result. The singer must put himself, or herself inside that slave, and sing in a way which touches the quality which Friedrich Schiller defines as the *sublime*. I compare this quality of the spiritual to the expression of the sublime in Schiller's *Joan of Arc*.⁵¹

In the development of Classical drama, we must recognize chiefly two distinct levels of such drama. The relatively infe-

51. Friedrich Schiller, "On the Sublime," in *Friedrich Schiller, Poet of Freedom*, Vol. III (Washington, D.C.: Schiller Institute, 1990), p. 255.



A Schiller Institute performance of excerpts from Shakespeare's Julius Caesar. Here, Brutus addresses the plebeian mob, after Caesar's assassination. Shakespeare's tragedies and history plays were composed in order to bring about an awareness of urgently needed adoption of certain principles of statecraft, for the sake of solving an historically specific problem of that place and time.

rior form is typified by the Classical Greek tragedy. On this account, Plato was not only critical of the leading Classical Greek tragedians, but presented the alternative in the form of his intrinsically dramatic Socratic dialogues, which must be performed and heard as the drama they are, to master their cognitive content. With Plato's dialogues, we encounter a typification of the transition from Classical tragedy, to the higher principle of the *sublime*.

In reviewing the works of the world's greatest modern dramatists, Shakespeare and Schiller, in their respective entireties, we may trace an upward development in their work, from the level of tragedy, to the sublime. The case of Jeanne d'Arc illustrates the distinction.

In history, Jeanne d'Arc's passion contributes a crucial role to the subsequent freeing of France from the evils of the long reign and ruin under the alliance between Venice and its Norman-Plantagenet partners. Her sacrifice made the existence of a true nation of France possible; also, in fact, she contributed indirectly, but notably, to the proceedings leading into the great ecumenical Council of Florence, which was the central event of the Fifteenth-Century Renaissance. Jeanne d'Arc was not a tragic figure, neither in history, nor on Schiller's stage. Her sacrifice of herself for her mission, was not a tragedy, it was the achievement of the sublime, as Schiller does much to define and refine the notion of the sublime in history and in art. She rose to the sublime in the imitation of Christ crucified. She lived and died for all mankind, not only France, all this, as she insisted repeatedly, for His sake. In the drama, Schiller substitutes a fictional element for the crucial historical event which actually precedes her execution, but,

otherwise, the drama is true to history in everything it claims to present.

The great achievement of the Classical tragedy, even as tragedy, is that it presents an historically specific moment of crisis in civilization, in which the fatal errors of the prevailing national cultures and leaders of the drama, are placed on stage in such a way that the audience may be induced to recognize the principled nature of the fatal error then reigning in that society and its relevant leading figures. However, although recognition of the moral unfitnes to survive of both the culture of Hamlet's nation and Hamlet himself, is a great and useful improvement of the moral and intellectual qualities of the audience, it presents the sickness, but not the solution itself. Its usefulness, is that making the audience conscious of the fact that an avoidable error in moral character of a nation and its leaders was responsible for the catastrophe, inspires the audience with cultural optimism, with the hope that it might willfully free itself from such folly.

With Jeanne d'Arc, both in real life, and on Schiller's stage, she acts in a course, where she spends her life, but does not waste it; she returns her talent to God, enriched. Therefore, she is no tragic figure, but a representative of the principle of the sublime, just as the outcome of Plato's Socratic dialogues, notably Plato's treatment of the figure of the judicially murdered Socrates himself, exemplifies the principle of the sublime in science, statecraft generally, and artistic composition.

See a certain likeness in the slave represented by the Negro spiritual. Out of that condition, he affirms his humanity and his trust in God, and thus touches the sublime. It is always



A Schiller Institute concert "For a Marian Anderson National Conservatory of Music Movement," in 1994 in Washington, D.C. Performers are (left to right) Rev. James Cokley, George Shirley, Detra Battle, Kehembe (Valerie Eichelberger), William Warfield, and Robert McFerrin.

a song of humanity, of the humanity being crushed by servitude, but a cry of humanity which will not be stilled.

Classical Music As Science

In the first aspect of Classical art, as typified by great drama and poetry, the benefit of Classical art is more directly identified. Persons who have been civilized by saturation with the greatest examples of such artistic composition, have relatively superior powers for competence in statecraft and related matters.

This brings us to the second aspect of Classical art, in which the relationship to statecraft is, with certain exceptions, of a less obviously direct quality. Music typifies this second aspect.⁵²

In this second aspect, as through the work of Harry Burleigh and others, as Haydn, Beethoven, Schubert, Schumann, Brahms, and Dvorak applied the relevant principles of Bach's and Mozart's Classical contrapuntal composition to the folk-song of the British Isles and Germany, principally, the great composer employs his musical insight into the folk-song, or folk-song-like compositions, to polish the intention

52. Notable exceptions include Giuseppe Verdi's operas, as only typified by those which are adopted from the tragedies of Shakespeare and Schiller. Mozart's *Abduction from the Seraglio*, *Marriage of Figaro*, *Don Giovanni*, *Magic Flute*, and *Clemenza di Tito*, and Beethoven's *Fidelio*, are musical dramas which are purely musical, and yet also Classical drama of political relevance to the historical specifics of both the nominal setting of the drama and the audiences for which they were composed. The religious music of J.S. Bach, Mozart, Haydn, and Beethoven also typifies the integration of drama and music in an integrated way, not as a musical setting of text, but a qualitative, creative transformation of the delivery of the text to a higher dimension.

which needs to be released from the encumbering limitations of the original.

For comparison, consider the challenge posed by the attempt to perform either of J.S. Bach's two great passions, the earlier *St. John Passion*, and the later *St. Matthew Passion*. Both address a spiritual subject, the passion and crucifixion of Jesus Christ, as defined by the relevant Gospels. The object of the performance of each composition, is to inspire the participants to relive, with cognitive passion, the actual circumstances of the Crucifixion, as a cognitive experience of the sublime. The scores as written, recommend the participation of a musically qualified congregation in singing the parts obviously assigned to them, to such effect that they are not spectators for, but rather participants in the event.

How that functions, and what Wolfgang Mozart and others did, in adducing the principles of Classical contrapuntal thorough-composition of Mozart, Haydn, Beethoven, Schubert, Mendelssohn, Schumann, and Brahms from Bach's discoveries in use of series of Lydian intervals, need not be examined in any depth in this location. What does need to be stressed, is that Classical composition, most notably that of Bach, Mozart, Haydn, Beethoven, Schubert, Mendelssohn, Schumann, and Brahms, as contrasted with their adversaries, the Romantics, such as Rameau, Liszt, Berlioz, and Wagner, and the hoaxsters Helmholtz and Ellis, was to define the means by which the use of well-tempered counterpoint brings out the quality of cognitive passion, and thus produces a composition which, if competently performed, represents a single unifying Platonic idea as the identity (e.g., the "monad") of the composition as an indivisible unit. In the best result, as typified by Beethoven's Opus 132 string quartet, or the last of Brahms' four hymns, the *Four Serious Songs*, is the

achievement of a sense of the sublime.

The origin of this mode of musical composition, lies within ancient notions of Classical (sung) prosody used in poetry composition. It uses the natural well-tempering subsumed by the natural range of human speaking and singing voices, to derive a corresponding polyphony, and a principle of polyphonic development, derived from the principle of the Lydian interval as the pivot of a developmental feature of composition. The difference between Bach's well-tempering and those who seek to degrade it to equal tempering, is the same difference expressed by Kepler's exposure of the incompetence of the mechanistic, reductionist method of Ptolemy, Copernicus, and Brahe.

Similarly, in Classical plastic art-forms, the most important development, is that which existing evidence traces to the Classical Greek developments in sculpture, as distinct from the preceding Greek as well as Egyptian Archaic. Here, the subject is presented to the mind as in mid-motion, rather than as "tombstone" carvings. The revolution in perspective, established by Leonardo da Vinci, has a relationship to Classical Greek sculpture, but is a revolutionary scientific development in art effected during the course of the Fifteenth Century as continued into the beginning of the Sixteenth Century, and as echoed by Rembrandt.

Those background observations now supplied, the point to be made in this report, is that Classical artistic composition is defined as the development of methods for bringing the same cognitive principle required for generating a discovery of a valid universal physical principle, into its corresponding form of application to the study and representation of those social processes of cooperation among persons on which the successful promotion of physical-scientific progress depends.

In the literary non-plastic art-forms, notably Classical drama and poetry, the political side of the social function of Classical composition is explicit. Similarly, Leonardo's *The Last Supper*, and Raphael's *The School of Athens* and his *Transfiguration*, are examples of work which is purely Classical art, but also has a powerful political and scientific importance for statecraft, as I have indicated the general nature of that above.

A few more glances at the case of Classical musical composition, will round out that picture as much as is needed for this occasion.

The subject is now *metaphor*. The example chosen is *Classical thorough-composed song*, as typified by the new form of song-composition developed by Mozart, as expressed in his setting of a Goethe poem, *Das Veilchen*, as that new approach to song-composition was continued by Beethoven, Schubert, Mendelssohn, Schumann, and Brahms, most notably.⁵³

Metaphor is the name, in literary composition and song,

53. John Sigerson and Kathy Wolfe, eds., *A Manual on the Rudiments of Tuning and Registration*, Book I (Washington, D.C.: Schiller Institute, 1992).

for a form of poetical *irony* which is termed *Analysis Situs* in mathematical physics. It is the immediate juxtaposition of two or more mutually inconsistent statements, or individual terms, to define an idea which exists outside the bounds of consistency within the medium of representation employed in communication: *a dissonance*. It is to be compared with the case of Fermat's counterposing a description of reflection to refraction in terms of the language intended for representing events in what is imagined to be a Euclidean space-time.

Fermat's exemplary, concise juxtaposition of those two contrasted statements, both in the same form of description, implicitly destroys the credibility of a so-called Euclidean mathematics of physical space-time. So, Kepler, asks, what is the *Mind*, the *intention* of the planet Mars which causes its orbit to lie in a pathway not calculable within the framework of the Aristotelean notions of space-time commonly used by Claudius Ptolemy, Copernicus, and Brahe. To make that point, Kepler measures the orbit of Mars by means consistent with those of Euclidean mathematical statistics, and gains a result which is implicitly anti-Euclidean.

J.S. Bach approaches the issue of defining the proper tuning of musical instruments in a way which echoes Kepler's *Harmony of the World*. This comparison is demanded by a direct contrast of well-tempered values to those erroneous, so-called equal-tempered values, which a soulless mechanical man might estimate by use of an electronic hand-calculator. As I have already stressed here, the right value of the interval in a well-tempered composition, like the right value for the future velocity and position of a planet in its Keplerian orbit, can not be mechanically predicted as the systems of Copernicus and Brahe would suggest, or the methods of attempts at equal tempering.

The right value for well-tempering arises from the relations among what are called the natural register-shifts of each species of singing voice, among *bel canto*-trained groups representing the standard chest of *human singing voices*. In short, well-tempering is not defined from a so-called instrumental standpoint, but from the standpoint of certain ironies intrinsic to *bel canto vocal polyphony*.

To understand the problem, it is sufficient to throw out all notions of a theory of instrumental composition and performance, and recognize that the Classical performance of the musical instrument, must be an expression of the idea of the human singing voice, that musical instruments are intended to be echoes of the principles of the *bel canto*-trained human singing voice.

This brings us to Wolfgang Mozart's great discovery, as expressed in a series of compositions typified by the Köchel Number 475 keyboard *Fantasy*. This composition represents Mozart's reworking of a celebrated J.S. Bach composition, the so-called *A Musical Offering*. That Bach work, as complemented by the posthumously published *The Art of the Fugue*, is a concentrated expression of one of the most important revolutionary features of Bach's work. Mozart's intensive Vienna study of Bach's work, led him to a discovery

which not only revolutionized all Classical musical composition after that, but which is the most frequently quoted musical idea within the work of all leading Classical composers after that; the kernel of the discovery is expressed by that playful K. 475 *Fantasy*. Mozart made explicit Bach's increasing reliance on a principle of musical composition, and play, associated with the term "Lydian interval."

To get directly to the essential point of relevance for this present report, focus upon the role of the method of *Analysis Situs* intrinsic to Bach's art of well-tempered counterpoint.

Take an interval of two tones, and now state that interval in an inverted order. State both of these juxtaposed intervals in the same key signature, and do so in a way which expresses the natural dissonance inhering in such a notion of inversion. If the development of that germ is successful, the attempt to resolve the counterpoint will lead inevitably toward a series of what are called "Lydian intervals," as Beethoven's famous Opus 132 ("Lydian") string quartet illustrates this, or the Brahms Fourth Symphony derived from a germ in the slow movement of Beethoven's Opus 106 "Hammerklavier" sonata.

The implicit dissonance in well-crafted choices of inversions, has the same effect as Fermat's resort, in counterposing reflection to refraction, to what Leibniz later named *Analysis Situs*. These metaphors, whether in mathematical physics or Classical artistic composition, define germ-ideas, as provoke that cognitive "energy" which requires the mind to make the cognitive leap from reductionist schemes, to discovering the cognitive principle which overcomes the apparently insoluble paradox so posed. That, in music, as in practice of mathematical physics, constitutes the identity of a Platonic form of *idea*.

When a great composer employs that principle of inversion, by such devices, to that purpose, his conscience requires him to do nothing which does not introduce and develop that idea in such a way, that the development of the entire composition reaches a conclusion which defines the idea which the composer has chosen to bring into being through the introduction of the root-metaphor generated through inversion. If the composition is well-crafted, then it becomes the performer's duty, to deliver the performance of the composition in a way which never spoils the indivisible unity of the idea embodied in the composer's intention. Such a principle of performance was sometimes termed by the conductor Wilhelm Furtwängler, "playing between the notes."

Such was the stroke of genius expressed in Mozart's pioneering *Das Veilchen*. Instead of setting the poem to the natural prosody supplied by the custom of the language used, as J.F. Reichardt did, follow the advice of the poet Friedrich Schiller, apply the principle on which Beethoven, Schubert, Schumann, and Brahms agreed with Mozart and Schiller, contrary to the argument of Reichardt and Goethe: discover a single musical idea, which shall control the singing of the poem from beginning to end, and use the implications of the Lydian principle in composition, as a way of making the sung prosody march to the idea which the poem itself

is intended to express.⁵⁴

The same intention is found, and made undeniably obvious, in the great artist's performance of the Negro spiritual, even when the means used by the artist may differ, in a formal sense, from the German Classical *Lied*, for example.

Complement the argument I have just given for music, with frank assessment of the decadence in the art of speaking which usually contrasts literate English speakers of my generation, to the "up-talk" and comparable perversions in habits of speaking, or of reciting text induced by recent or current, immoral idiosyncrasies of public school and university instruction, especially in reciting prose passages or poetry aloud publicly, among those of the "Baby Boomer" or later generations. The loss of the habit of Classical poetry, the Classical dramatic stage, and Classical music, has been a crucial factor in the loss of ability to communicate ideas among comparable representatives of later generations.

The person who speaks in a literate Classical mode, speaks as one *who can be heard actually thinking*, rather than merely engaged in a more or less arbitrarily stylized recitation of what is either written, or memorized text, or a text the speaker is, in effect, writing as he goes along. The modern tendency is comparable to the case of the musician who is so busy interpreting the score itself, that he, while in that virtually schizophrenic state of mind, has no perceptible intellectual connection to the music which the composer intended.

The problem of speech typified by the increasingly illiteracy of manner of speaking among post-war U.S. generations of university graduates, in particular, is comparable as a problem to the case of the trained musical performer, who can play notes, without any understanding of music beyond the conventions which he or she recognizes almost as programmed instructions for note-playing. It is often worse than that; they "improve" the dish by putting tabasco sauce on the raspberry ice cream, so to speak. They read text in such idiosyncratic styles in text-reading; they do not oblige the prosodic utterance of the statement to conform to a process of development of ideas. Worse, they, as the Romantics do, add interpretation to text as such, without regard to the cognitive processes required by the clearly adducible intent of the text itself. They become functionally illiterates of that sort.

The same pathological state of mind is exhibited by the person who, when challenged to debate his, or her statement socratically, responds by repeating the statement more loudly, more angrily, perhaps adding the unsanitary proposal, "Read my lips." The victims of that perversion do this even in the case that the criticism itself exposes the statement being repeated as absurd. Why does that person exhibit such pathological behavior? The explanation is elementary: "It is my opinion!" and therefore has the attributed authority of the believer, of being *self-evidently my opinion*. One is reminded of the state of mind lurking behind the glaring eyeballs of that mani-

54. *ibid.*, Chapter 11, "Artistic Beauty: Schiller versus Goethe," *passim*.

acal pre-middle-aged tail-gater, searching for her own shortcut to Hell, along the Maryland and Virginia highways of the greater Washington, D.C. region.

The relative impairment of the ability to communicate ideas, in the manner a Classical education and practice provide the relevant contrary standard, becomes a loss of the ability to think clearly, a loss of what the poet Shelley describes as the power of “imparting and receiving profound and important ideas respecting man and nature.”

Culture As Education

As the case of Classical drama typifies this connection, all knowledge of statecraft is best developed through emphasis upon educating the young in both Classical approaches to physical science and Classical forms of artistic composition. The Classical form of study and practice of physical science, as I have indicated in this report, combined with a Classical artistic education, serves as the foundation for a competent grasp of the general problems and purposes of cooperation in general, and of matters of statecraft more narrowly. To complete the picture: the science of physical economy, properly bridges the roles of both science and Classical art.

The obligation of Classical humanist education, is to employ an historical approach to the cognitive apprehension of the history of scientific and Classical-artistic ideas, to the purpose of building up within the student’s memory, his, or her own equivalent of the kind of sense of a simultaneity of eternity, as I outlined the case of Raphael’s *The School of Athens*. The pupil should relive the history of ideas, historically and cognitively, to that effect.

The intended result, is that the student should locate himself, or herself in a great span of human history, as one in direct communication, cognitively, with the living minds of the greatest original thinkers of that past. The development of the personal character of the student, in this mode of education, tends to ensure a beneficial result which could be achieved in no other way. In brief: as the student defines the student’s personal relationship, through the methods of the Socratic dialogue, to living notable persons long since deceased, so the student is impelled to come to see himself, or herself, in respect to those who have yet to be born. It is that manner of development of the moral character, so defined, of the pupil, which is the only proper central aim of education.

The motivation of the pupil must become, concern for the consequences which the present bequeaths to the future, a generation or more ahead. There is nothing arbitrary in this. To transform a newborn child into a young adult, requires approximately a quarter-century of development. During that quarter-century, the expenditure of effort and means on the development of the young individual, brings no net return on that expense. Important projects of development take years before reaching the point of yielding net economic fruit. Yet, what will happen a quarter-century ahead, will be determined, often, by the decisions chosen today. As in the case of Kepler’s meticulous measurement of the orbit of Mars, the

velocity and position occupied by that planet tomorrow, will not be determined by the statistical trend adduced from its recent movements. Science must always locate the long-term expression of the intention embedded in the process being considered.

It is not possible, except in an oppressively stagnating economic culture, and perpetually decadent society, such as that prescribed by the Code of the Roman Emperor Diocletian, to determine what a young person in school today should be doing a score of years ahead. The choices available then, will depend upon a combination of the decisions made beforehand and in between. What we can know with reasonable certainty, is the degree of general development, and related adaptability we should seek to build into the labor-force as a whole. Rather than training the person to fit the specific form of employment (which, by that time, should no longer exist), develop the economy to make use of the quality of labor-force we are working to develop.

It is the level of development which the present generation will make possible for its successors, which should be the determining consideration in economic policy today.

Beyond all other considerations, educational policies must be conditioned principally by the consideration, that the function of education, is to produce qualified citizens of a true republic, with no substitute for that allowed in defining educational policies of practice. The primary responsibility of the citizen, is not that of an employee, but, rather, a policy-maker for society as a whole. It is to that end, and no other, that goals for the education of the individual are to be chosen. Nothing less than the fulfillment of that goal shall be a minimum standard of education of the future adult member of society.

Once it is agreed, without exception, that that is the universal mission of all education, we can consider other things, but without eliminating, or depreciating any part of the obligation to serve education’s primary mission-responsibility.

This does not place an excessive burden on the educational system. The presently practiced modes in education are immensely wasteful of the time and energy of the pupils. Heave out the popularized rubbish, to save time and energy for what is of more durable value.

As I have indicated here already, there are really two essential departments in required forms of education: 1.) Mankind’s relationship to the universe, in physical terms; 2.) mankind’s relationship to mankind, and person to person within society. Both departments are, and must be situated in history apprehended cognitively as a simultaneity of historical eternity, as this must be provoked into existence within the mind of the student. Stick to that business, and discard the clutter which is commonly substituted for education in today’s educational institutions.

Take astronomy, for example. For many cognitive exercises a pedagogical laboratory capability is needed. Very little is required, by comparison, for an introduction to astronomy. The universe is there, an astrophysical reality which serves



Youngsters explore the heavens through the “Mysterium Cosmographicum” telescope, made by Schiller Institute member Charles Hughes, at an Institute festival in honor of “underground railroad” leader Harriet Tubman in Auburn, New York.

as a demonstration experiment relentlessly continuing its motion. It is that, the great demonstration experiment, up there, called astronomy, ocean navigation, geodesy, and so forth, upon which the most ancient of societies, whichever they were, first produced the rudiments of what we recognize as physical science today. “With your bare eyes and some sticks and stones, proceed to construct a calendar. Don’t admire the stars; don’t waste your time just mooning and gawking, when you might be engaged in beginning to construct a calendar. Don’t look it up on the Internet; know what you are talking about; look up to the stars, instead.”

Keep what I have identified as the principles of cognitive education in focus. The practice of learning must be superseded, to a relatively enormous degree, by a thoroughly cognitive, historical approach to education, as my references to the example of Raphael’s *The School of Athens* typify the point. The historical, direct and personal link, through cognition, of the minds of the original discoverers from the past, to the students, must be the foundation of all pedagogy. The students must be engaged in the cognitive passions of an endless Socratic dialogue with all notable minds from the past. All knowledge is located in the importance of experimental validation of the hypotheses developed in response to the ontological quality of paradoxes expressed within the bounds of that realm of relative simultaneity of eternity.

On this account, the structure of public and university education must incorporate a relatively great emphasis on the facilities for, and activities of pedagogical proof-of-principle experiments. The notion that any hypothesis must be validated, and that in the direct cognitive experience of the students, must be the rule, whether the replication of a past dis-

covery of universal principle, or testing of the mastery of the lessons of that experience, in pioneering into the experimental domains of fundamental research to the purpose of discovering new universal physical principles, and discovering new kinds of technologies which may be derived from those principles.

This also means a certain upper limit on average class-size, and the training and placement of teachers and other relevant specialists in the amount and quality needed for such a program. In the end, these changes in the program and its budget, will cost the U.S.A. (in particular) less than nothing. The increase of the harvest will vastly exceed the added costs of the program. The principle is, that the only source of increase of the average productive powers of labor in society, is the increase of the rate of production and assimilation of more advanced knowledge of universal physical principle, and of the new technologies spawned as offspring of such discoveries of principle.

This implies a sweeping recrafting of the entire primary and secondary curriculum, and correlated changes in programs for universities, too. That requires a great effort. That effort is not only worth the expenditure; it is now indispensable for the survival of civilization.

4. European Civilization

Up to the present day, we have no reasonable choice of dating available, for the first appearance of the human species on this planet. We can only estimate, that that must have begun in the order of millions of years ago. The best evidence

to date, is fairly consistent with the general retrospective picture given by Plato's *Timaeus*, which points toward the conditions under which what we regard presently as historical times, emerged, during the closing, melting phase of the preceding 200,000 years or so of the most recent general glaciation of the land-mass of the Northern Hemisphere.

To supplement that information, we have cave paintings from scores of thousands of years before the present, which show a much higher level of culture than most current cultural anthropologist's standard mythologies would allow to exist, and we also have crucial evidence dating from some hundreds of thousands of years earlier than that, of a cognitive human individual, no mere higher ape, existing in Europe.⁵⁵

On the deeper issues of scientific method posed by this subject, the implications of Vernadsky's case for the "historical" self-development of the biosphere and noosphere, respectively, give us some useful parameters. Two sets of observations to such effect, matters on which I have reported in earlier locations, should be sufficient to situate the way in which we should approach the subject of the recent approximately 2,500 years, since the emergence of European civilization on the foundations provided chiefly by the legacy of ancient Egypt. Look at the matter from this vantage-point, and then turn to the immediate political setting of U.S. education today, the matter of European civilization's development as so situated.

First, as to the existence of the human species as such.

To situate the existence of mankind with respect to the phenomena of both European civilization in general, and globally extended modern European civilization as well, let us box in the issue of the origins of human life, by aid of the following observations, once again, on the implications of the work of Vernadsky.

The issue of tracing the origins and development of human life on Earth, must begin with the fact that the uniquely cognitive form of life, mankind, exists. Not only must human existence have begun at some point in the development of the Earth's biosphere, but certain preconditions, within the biosphere as a whole process, had to have been satisfied for that emergence of man to have occurred.⁵⁶ Inevitably, for many, the most shocking, even stunning implication of Vernadsky's portrait of both the biosphere and the noosphere, is that what he cites as his experimental evidence, points implicitly to the appropriate dating of the occurrence of a principle of life, and also of a principle of cognition, as located in whatever might be considered the beginning of the existence of the universe.

55. See Renate Müller De Paoli, "Die Höhlenmalerei der Eiszeit," *Neue Solidarität*, Feb. 23, 2000; Hartmut Thieme, "Lower Paleolithic Hunting Spears from Germany," *Nature*, Feb. 27, 1997, pp. 807-810; Robin Dennell, "The World's Oldest Spears," *Nature*, Feb. 27, 1997, pp. 767-768.

56. I do not mean evolution in the empiricist's sense. I mean the existence of man as a cognitive species, requires preconditions, knowledge of which has yet to be determined, within the biosphere as a whole process.

To restate that crucial last point, if life is not derived, in fact, as by evolution or otherwise, from a universal physics of non-living processes, and if *life is*, as Vernadsky argues experimentally, *a demonstrably efficient, universal physical principle in its own right*, then, *life always existed* as a principle of our universe. *The same kind of experimental proof applies to the principle of cognition*, which, among all perceptible phenomena, was, from the beginning, unique to those human forms of life which emerged later.

Then, the appearance of the existence of a living species which is characteristically cognitive, the human species, signifies that the preconditions for the appearance of the already waiting principle of human life, had then been realized, that in a certain degree and quality of the development of the biosphere in general. It also indicates, that within the specific features of organization of that living process which is the human individual, there exists something to be discovered, which corresponds to the appropriateness of the human species for cognition, an appropriateness which is lacking in the higher apes.

Moreover, it follows from this, that since, as our national "melting-pot" experience in education exemplifies this, all human beings have the same kind of cognitive potential, then, on this account, it follows, that all human beings are of the same species, and, when defined by that specific cognitive distinction, are of the same race.

These distinctions, among three respectively unique classes of universal physical principles, are associated with the corresponding, specific ranges of relative anti-entropy, as expressed among each of those three classes of universal physical principles. This is demonstrated, with relative great emphasis, by the effect of human intervention in accelerating the anti-entropic development of the biosphere, as this is shown by including the human species and its specific activity as a biological part of that biosphere as a whole. This entails the consideration, that the durability of the existence of a species, depends upon its enjoying *the level of rate of attributable relative anti-entropy associated with, and required for the perpetuation of its own existence*.

In the case of the only known cognitive species, the human species, its superior anti-entropy is expressed by those cognitive aspects of formal and other education, which transmit accumulated discoveries of principle, as from the past, into the mental processes of the living.

Meanwhile, to understand what this anti-entropy represents, and to shape policies to the effect of promoting it, we must discard the Clausius-Kelvin mythology, respecting thermodynamics. We do this on the basis of what should be the obvious, conclusive epistemological evidence, that the root argument in support of their claims, does not actually reflect crucial scientific evidence as such. Rather, as the reductionist's axiomatic fallacies of Grassmann's and Boltzmann's mathematics illustrate the point, it reflects the superimposition upon the physical evidence, of the hereditary influence

of purely arbitrary, reductionist types of axiomatic mathematical assumptions. They made the same hereditary type of reductionist error which Descartes perpetrated on the matter of *vis viva*, and Ptolemy in astronomy.

In that case, our view of what we regard as the non-living aspects of our universe, must define development in the alternative terms of the emergence of relatively higher orders of anti-entropic *organization*, as primary, and the phenomena of relative energy-flux density are to be judged as derived from a universal physical principle of organization, as Leibniz's principle of the monadology expresses this conception, rather than the ideological reductionists' insistence on interpreting the experimental evidence the other way around.⁵⁷

In that latter case, the notion of universal entropy, is discarded into the black museum where all superstitions and other biological freaks should repose, there to warn future mankind against repeating such follies. Instead of axiomatically reductionist thermodynamics, we must regard as primary, the different orders of relative anti-entropy to be considered in assessing the relations and distinctions among apparently non-living universe, life, and cognition. In that case, the universe we inhabit, then becomes, to say the least, much more interesting.

So much for situating a discussion of the preconditions for human existence. Now, turn to the second point, as to the emergence of modern civilized forms of human life.

The earliest evidence of the existence of what we call scientific culture today, is passed down to us in the form of ancient astronomical calendars, such as those known to us from the period of the building of the so-called Great Pyramids of Egypt. The study of these calendars from the standpoint of modern science, shows that these include cycles which reflect cultures of far greater sophistication than can be explained as products of relevant known cultures dated from early within historical times. That is to say, that much of the astronomical and related traditions known from early within historical times, is, like the lunatic contemporary fads of astrology, demonstrably a vulgarized and superstition-ridden

57. In knowledge, as cognitive generation of the ideas of universal physical principle are generated, a paradox of the type of *Analysis Situs* always defines the fact of experience from which knowledge of universal principle is derived. When such knowledge is configured as Riemann's principle implicitly requires, physics, so defined, presents us with a multi-connected architecture of the universe, its *organization* as to matters of principle. It is the view of the universe as a self-organizing process, from this standpoint, which shows us what the evidence as such permits us to consider as "elementary," and what not. Hence, organization-as-such, so defined in principle, must replace notions of self-evident discrete magnitudes. Then, consider Planck's discovery as correlated with the notion of a monadology, rather than self-evidently elementary particles as the reductionists define them. Notably, as emphasized implicitly by Kepler's success over the reductionist methods of Claudius Ptolemy et al., the attempt to derive physical principles from within the bounds of a mathematics based upon reductionist assumptions, is the hereditary principle which separates all constructs in formal logic fatally from science.

parody of actually scientific work from within earlier, so-called prehistoric times.⁵⁸

We must not underestimate such scientific achievements from within the so-called prehistoric times of the last great ice-age on the northern hemisphere's land-mass, but we must not overrate the moral qualities of the cultures of those times, either.

As the case of ancient Greece attests, some ancient societies have contributed a rich legacy of intellectual contributions, at the same time they treated the majority of the related human population, as Sparta did, among others, as actually or virtually human cattle. Chattel slavery in modern European civilization, is but a specific expression of the bestiality of man to man which was characteristic, in more severe or relatively milder degree, of every historically known society from every part of the world. The myth of the "noble savage," or of the moral "beauty" of cultures which actually never existed outside classroom and other mythologies, must be relegated to the same black museums in which the existence of deadly diseases and past experience with oligarchs and biological freaks, is kept on record as a warning to future times.

For these reasons, combined with considerations I have addressed in earlier locations published in the course of decades, the earliest traceable civilizations are to be found among transoceanic maritime ("Peoples of the Sea") cultures, such as the Dravidian language-group's maritime culture, which introduced civilization, as its colony of Sumer, into lower Mesopotamia, and the trans-Atlantic cultures whose Indo-European language-group branch settled in post-glaciation Central Asia, and contributed its cultural legacy to areas including the Iran and Indian subcontinent of today.

During the latter phase of the melting of the great glaciation that had sat for so long upon much of the northern hemisphere's land-mass, the oceans had risen by 300-400 feet above their earlier levels, the great periods of devastating flooding had come to a close, and a process of civilizing parts of the more accessible coastal and major riparian areas then proceeded. As the maritime traits of certain calendars indicate, civilization did not move from inland to the oceans, but the reverse. Even to this day, as the condition of the so-called "Great American Desert," Central Asia, Africa, and the heart of South America attest, the process of making inland areas of continents as accessible to the development of physical economy as coastal and major riparian regions, has been far from completed.

Those two considerations, the one scientific, the other representing some relevant, broad-best estimates, situate the

58. Typical is the case of the hoax perpetrated by the Roman Claudius Ptolemy, who fraudulently reworked the heliocentric constructions of his Classical Greek predecessors, in service of the method of Aristotle. Repeatedly, societies based upon the oligarchical model, perverted the results of earlier astronomy, as a matter of producing myths used as instruments of social control over the minds of the population.

emergence of the history of civilization in a general way. However, one additional point must be heavily emphasized, before taking up the emergence of European civilization upon foundations which were supplied, to a large degree, from Egypt.

The Indomitable Human Spirit

The best examples of the Negro spiritual as such, express that essential quality of all mankind, on which a competent education policy must be premised, as if axiomatically. As long as mankind exists, the essence of human nature, the cognitive principle, can not be stilled. Thus, as history affirms Plato's calling attention, as in his *Timaeus*, to the verifiable fact of many cases of destruction, or self-destruction of cultures before his time, there has arisen, repeatedly, from within mankind, the force of that indomitable spirit of cognition, to give a new birth to the hope of achieving a durable civilization.

In fact, as Plato emphasizes, entire cultures have been swept away, either by natural catastrophes beyond mankind's control at that time, or by a tragic error embedded within the self-doomed culture itself. The case of the super-Krakatoa-like explosion which demolished ancient Thera, is but one example of natural catastrophes. The self-destruction of the Mesopotamian and Roman empires, typifies cultures which collapsed because they lacked the moral fitness to survive. Yet, after such catastrophes, the impulse to give society a new birth, has expressed itself somewhere, sooner or later, sometimes with manifest, if but partial success. To give the best examples of successful renewals of a failed culture, a scientific name, call these, exhibitions of the universal principle of the renaissance.

The Fifteenth-Century, Italy-centered Renaissance, which created a revolutionary new form of society, the modern sovereign nation-state premised upon the principle of the general welfare, is the most important example of the universality of the indomitable human spirit in action.

In history, there is usually an essential conflict between the influences welling up from the human spirit, and the contrary characteristic impulses of the culture which that population inhabits. The cognitive principle is a natural human impulse, naturally specific to the individual member of our species. It is the principle of goodness, the quality which defines all newborn persons as intrinsically, redeemably good by nature. However, in every form of society known, even within the U.S. today, for example, the prevalent tendency of the culture is that expressed by the degradation of a very large part of the population to the condition, and sense of personal identity, which is fairly described as characteristic of human cattle. There sits the principle of evil.

The innate goodness of the individual person, his, or her cognitive potential, is, generally speaking, always there, and will express itself if the cognitive impulse is not suppressed, or corrupted in other ways. From case to case, such spontaneous

expression is more or less difficult. Some oligarchical cultures are less unfavorable to cognitive expression than others. Those poets and scientists who express the Classical approach to composition, rather than the opposing Romantic approach, or something like it, are a measure of the degree to which the spirit of freedom, otherwise called cognition, has found moments of escape from the oppression which otherwise prevails in that culture, that society.

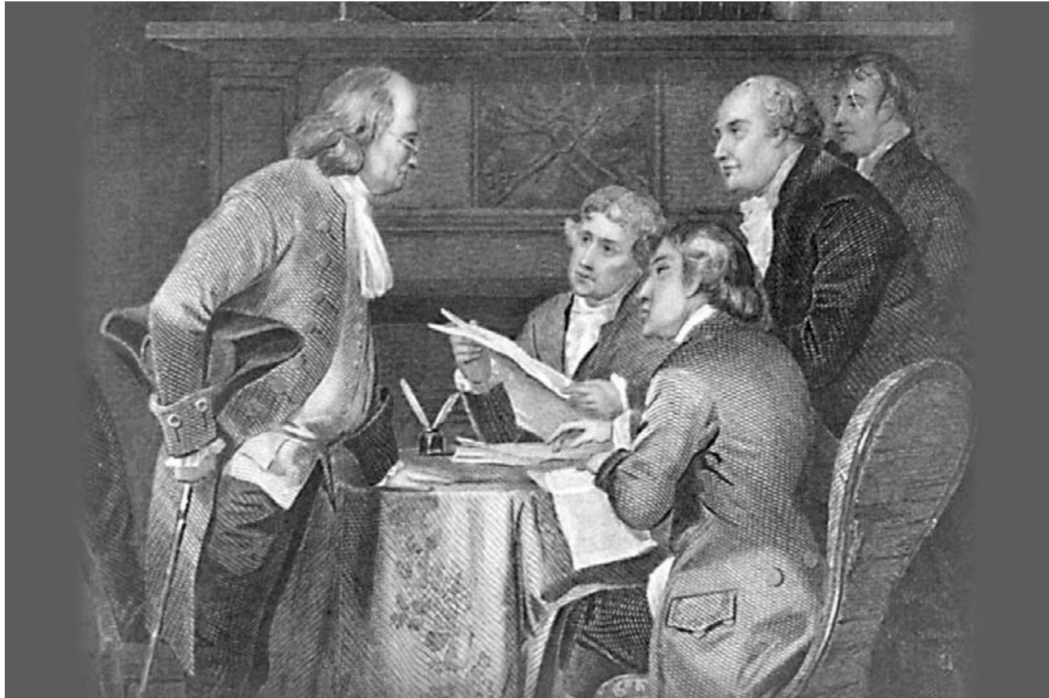
The case of the development of Classical Greek culture, Plato and his Academy most notably, typifies the relatively happier developments to such effect.

Sometimes, all the noted evidence suggests, that some admirable piece of creative expression, such as the Negro spiritual composed amid the conditions of slavery, springs into being without any connection to the work of some earlier period of Renaissance. However, we know that no creative thinker works without a strong impulse to reach into the more or less distant past, or some distant place, in search of predecessors or contemporaries with which he might identify in a way akin to our John's and Robert's study of the discovery by Archimedes. So, ancient, medieval, and modern European civilization maintained connections of that sort to Classical Greece's legacy.

So seek in all distant and past places, likely spoor of the good, but also attempt to situate the place of the occurrence of that good in its appropriate, actual place in the historical process as a whole. This brings us to focus upon the unique global historical significance of the successive impact of the cultural revolution which occurred in Classical Greece, and, its successor in that Fifteenth-Century European Renaissance which gave birth to a revolutionary new kind of institution, the modern sovereign nation-state premised upon that principle of natural law called the general welfare.

In Plato's Socratic dialogues, and in the Christian view, the combat against that evil of oligarchism, is the imposition of what is properly called *natural law* upon government, to serve what is called by such names as "the common good," or "the general welfare." That Socratic principle, called *agapē*, was adopted from the Classical Greek of Plato by Christianity, as typified by the Apostle Paul's *I Corinthians* 13. Although that term, translated into Latin as *caritas*, and thence into English as "charity," is often degraded into the giving of kindnesses, such as forbearance, by the ruling oligarchs to the human cattle of society, such as British ladies teaching the Irish poor to hang lace curtains in their windows, Paul's contrary meaning of the term is clear, as is Plato's.

However, despite the principle of Christ and His Apostles, it was not until the Fifteenth-Century Renaissance, that a putatively Christian western Europe acted to create a new form of state, the sovereign nation-state, under that rule of natural law known as the general welfare. Even then, the oligarchical faction in Europe, typified by the far-flung imperial maritime power of Venice and its instrument, the Habsburg oligarchy, drowned Europe in orchestrated religious



A “conspiracy” for the General Welfare: Benjamin Franklin (left), with other authors of the Declaration of Independence: Jefferson, Adams, Livingston, and Sherman.

warfare, during much of the 1511-1648 interval, in the effort to eradicate the pioneering forms of nation-state first introduced as that of France’s Louis XI and England’s Henry VII. Since the close of the Seventeenth Century, within globally extended modern European civilization, the newly established British monarchy and the legacy of the Habsburg faction, has continued its efforts to eradicate the principle of the general welfare, and to turn the world back, forever, to modern echoes of ancient and medieval oligarchical imperial models of world government, as over the course of the Twentieth Century, and still today.

In the U.S., past and present, the anglophile alliance of Manhattan-centered predatory finance-capital and the tradition of the Southern slaveholder interest, usually acting so in concert with the British monarchy, has maintained the oligarchical tradition to the degree it has been able to do so, both inside the U.S.A. and in our nation’s foreign policy of practice. This continuing struggle between good and evil, the republican commitment to the general welfare, and the anglophile commitment to the evil of oligarchical interest, has been a dominant feature of educational policies and practice within the U.S.A. itself.

That is what must be changed. Reforms of the usual this or that will accomplish virtually nothing good in the end. The evil can not be tamed with meliorative reforms; it must be uprooted. To uproot it, we must impose an appropriate form of what is for today, a revolutionary change of governing principle in national educational policy of practice. To accomplish that, we must know what we are doing. That means that we must locate the unique significance of the modern

sovereign form of anti-oligarchical nation-state, as summoned by the 1776 U.S. Declaration of Independence, in history as a whole.

To understand that, we must know how good conspiracies work.

The Christening of the Idea

Nothing constructive in shaping history could be brought into being without a good conspiracy.

Among literate people, “conspiracy” means what a strict etymological-historical reading of the term suggests. People who agree to act in concert according to certain common axiomatic kinds of assumptions, are conspiring in the most literal meaning of the term. The U.S. Declaration of Independence and Preamble of the Federal Constitution define active conspiracies. However, be cautioned, that to agree to do an act, would be a crude and inelegant literary pretense, which would not in and of itself, meet the standard for literate use of the term “conspiracy.” The term should be used to signify the case in which people agree to cooperate, chiefly in actions yet to be determined by them, but in service of the realization of some set of axiomatic-like principles, such as those, once again, reflected in the 1776 U.S. Declaration of Independence and the 1789 Preamble of our most fundamental constitutional authority on law, the U.S. Federal Constitution, with its included “general welfare clause.”

So defined, conspiracy as such is neither good nor bad, and may be either good or bad. There is nothing bad in conspiracy as such. Judges and prosecutors often conspire against defendants, for example, and sometimes, in cases well known



The “conspiracy” to create European civilization, expresses an impulse for changes in the axiomatic assumptions respecting the conception of man. Here, an ancient Greek amphitheater.

to me from my studies, the defendant’s attorney shares in that conspiracy. That is bad; but, conspiracy is also an indispensable way of bringing about all public good.

The most relevant historical example of a good conspiracy, is the manifest transformation in the image of man, which is traceable from the beginning of the Homeric epics, through the full-blown emergence of Classical Greek culture in the work of Plato and his Academy. The most significant changes are of an axiomatic quality, changes in the set of axioms expressed as ideas about man in the universe.

The most interesting phase of that process of change, begins some centuries before the judicial murder of Socrates by the Democratic Party of Athens, in the sponsorship of the Ionian Greeks and the Etruscans, as allies of Egypt’s combat against the so-called Phoenicians. The long alliance of the Babylonian and Persian Empires with Tyre, against Egypt, the repeatedly unsuccessful efforts of the Persian Empire and Tyre to crush Greek civilization, and the destruction of both Tyre and the Persian Empire by forces led by Alexander the Great and his advisors from the Platonic Academy, are the pivot of a great conspiracy, on which the definition of the emergence of European civilization, as European civilization, depends.

Think of the emergence of European civilization as a prime example of a true conspiracy. This conspiracy does *not* take the form of the planned attempt to impose some “blueprint” upon reality, but like the *Odyssey* of Ulysses,

expresses an impulse for a certain direction of successive changes in axiomatic assumptions of practice respecting man, his conception of the reigning gods, and his relationship to nature.

For the world as a whole today, the most interesting mythic figure of the ancient Greek epic as a whole, is the ironical role of a putatively Egyptian goddess imposed upon the Olympic pantheon as the figure of reason, Athena. The direction of those successive changes, approximately culminating in the establishment and work of Plato’s Academy, is the emergence of the Classical humanist conception of man.

The impelling force of this process of change, was the insurgency of what I have identified as the indomitable, cognitive human spirit.

This was not a mere epiphenomenon of those we know retrospectively as the ancient Greek population. It was a conspiracy within that population, a conspiracy which was able to impose its mark on the ancient Greek heritage for later times with such force, that many people forget that those who introduced those changes were, like the circles of Benjamin Franklin, revolutionaries within their own times and among their own people. These changes were, like all truly good changes, revolutionaries of the type associated with the validated discovery of a universal physical principle by the initiative of an individual and the support for that by a relatively small group associated with the work of that individual. This is as appropriately a model of the best creative artists as of

physical scientific discovery.

Great good conspiracies are of the type to be recognized in the relationship of Leibniz follower Abraham Kästner to his student and collaborator Gotthold Lessing, and the close collaboration of Lessing and Moses Mendelssohn, as defenders of the work of both Leibniz and J.S. Bach, against the circles of Voltaire and Leonhard Euler of the Berlin Academy. The same is true of the continuation of the German Classic, as organized in that form by the initiatives of Kästner, Lessing, and Mendelssohn, which gave the world the German Classic of Goethe, Schiller, the Humboldts, Scharnhorst, Mozart, Beethoven, Schubert, Heine, et al. These changes occurred within societies which were, otherwise, predominantly expressions of the anti-Classical Romanticism of Immanuel Kant, G.W.F. Hegel, Novalis, et al., just as the evil, oligarchical Delphi cult of the Pythian Apollo, typified not only Lycurgan Sparta, but many among the contemporaries of Greece's greatest and noblest Classical figures.

The central feature of the centuries-long process leading into the establishment of Plato's Academy at Athens, was a struggle against, and within the grip of the existing pagan religious beliefs of that time and place. Two overlapping expressions of evil, are of the greatest relative importance: the cult of Olympus and the Delphi cult of the Pythian Apollo. It is important to capture a sense of the revolutionary character of the figures of both Ulysses and Athena, relative to the setting of the Olympian myths.

Like the mind of the majority of the U.S. electorate today, the minds of most of the populations of known societies have been controlled by the use of fraudulent kinds of religious superstitions. These have been superstitions of a frankly religious character, such as the Olympus cult and Apollo cult, or in ostensibly secular disguises for religious belief, such as British empiricism, existentialism, astrology, the escapist mystique of mass popular entertainment, and "the market." All taken together, they constitute a body of *ideology*. By ideology, I signify a system of belief which is adopted by learning or kindred, axiomatically irrational methods, such as the belief that humanity's fate is controlled by the whims of supposed gods of Olympus.

In conventional U.S. practice, ideology is expressed typically by a certain way of using the pronoun "they," as to signify some eerie "establishment," of which it is said, "they will always decide." Granted, as long as eighty percent or more of the U.S. population continues to behave in that superstitious way, as it has in recent general elections, for example, as virtual human cattle herded into the allotted pens, a relatively small number of people, operating through their lackeys, will rule the U.S. pretty much as the most pathetic true believers among the ancient Greeks believed in the absolute power of the ever-whimsical gods of Olympus. It is useful to see the U.S. population today, as exhibiting the most pathetic features of the subjects of the *Iliad*.

It is useful to compare the *Iliad* and *Odyssey* on this account, and to trace the changes in man's conception of himself as expressed by Solon's reforms at Athens, by the Classical tragedians, and by Plato's figure of Socrates. Such false gods rule only as long as the people allow this state of affairs to prevail, as long as the people fasten the shackles of humility toward such would-be, or even purely imaginary gods, such as "The Invisible Hand," upon themselves.

What emerges in this progression from the Homeric epics to Plato, is the shift to the concept of what becomes, in Plato, the *idea*, as the adduceable principle of Classical Greek sculpture's difference from the Archaic, presents the image of the idea as reflected in the language of stone, the idea of *becoming-in-motion*. The figure of Ulysses already introduces a willful evocation of an idea in the hearers of the song of the *Odyssey*.

The poem of Solon presents the idea of the idea with great force. The Classical tragedians Aeschylus and Sophocles, are most notable. Plato and his figure of Socrates, represent the pinnacle of this Classical Greek achievement. The notion of *agapē*, as elaborated in the *Republic*, for example, goes to the heart of the matter.

Throughout the span from Homeric epics to Plato, there is an unfolding process at work, a process which returns always to the issues of justice and truthfulness, these as the alternative to credulous submission to belief in "they," the alternative to submission to "popular opinion," to submission to a reigning ideology. In the end, the work of the Socratic dialogue, in defining the Platonic form of ideas as the standard of justice and truthfulness, becomes, ever since, the quality which sets the emergence of European civilization apart as the birth of a distinct culture, and which provides the foundations for what became the characteristic distinctions of the Fifteenth-Century Renaissance.

The destruction of the Persian Empire by the hand of Alexander the Great, established the leading position of the Platonic legacy within the Hellenistic culture of the eastern Mediterranean and its associated regions, which continued until the Romans had defeated the Greek states in Italy, and moved on to conquer, and largely enslave Greece itself.

Pagan Rome, which expressed both the legacy of the syncretizing cult of the Pythian Apollo and of ancient Babylon's oligarchical model, became the long nightmare of European civilization, from which Europe could escape only through an affirmation of the Classical Greek alternative to Romanticism. This affirmation occurred through the embedding of the Classical Greek legacy of Plato within Christianity, to an effect typified by the Fifteenth-Century Renaissance.

So, in the form of a continuing conflict, over thousands of years, between the Classical Greek and Romantic legacies, the continuity of European civilization has been established as of a distinct type, up to the present day. It is impossible to achieve any effective comprehension of the internal history of

today's now globally extended European civilization, except from that standpoint. The Classical Greek legacy was thus christened to become the most powerful form of culture known to date, not merely by some standard of raw power, but on account of the power expressed by the use of the method of the Platonic idea.

The corollary is, that the world was fated to bear the burden, and the advantages, spilling over from the continuing, millennia-long, great conflict between the Classical and the Romantic within European civilization. Such has been the christening and the aftermath of the *idea*.

The Birth of the Sovereign Nation-State

Now, to sum up with the following crucial, concluding point.

To understand the now globally extended history of European civilization over the past two millennia, it is sufficient to begin by recognizing, that the terrible conflict within European civilization could be overcome, only by eliminating the oligarchical model. That means, today, uprooting the Venetian model of an imperial financier-oligarchical form, in which the reign of a policy sometimes called "shareholder value" degrades virtually all of mankind to the condition of herding, consuming, and culling, the great mass of the population as a human cattle, as has become the increasing practice inside the U.S.A. since the Richard Nixon "Southern Strategy" campaign of 1966-68.

For this end, of freeing humanity from an oligarchy's degradation of the mass of the population to the status of the virtual human cattle which the great majority of the U.S. population suffers today, it has been necessary to impose a specific principle of universal law which, by implication, outlaws oligarchical practices. That law has two features. First, that the authority to rule over a nation must be given only to sovereign governments of nation-states. Second, that no government has the moral authority to exist, except as it efficiently promotes the general welfare of all of the people and their posterity: the common good. In all matters, that principle of the general welfare must be accorded the authority of the highest law applicable to the case at hand.

This was the great change sought in the battles fought by the Emperor Frederick II against Venice and Venice's Plantagenet allies. This was the great end sought by Dante Alighieri's proposed reforms. This is the great fruit of the Fifteenth-Century Renaissance. This is the principle under which Louis XI's reform of France occurred, and Henry VII's uprooting of the evil represented by the Plantagenet legacy of Richard III. This is the source of the unique quality of the intention applied by Benjamin Franklin and his collaborators to the creation of the U.S.A. This reform is modern European civilization. This is the unfinished business, which we must bring to a conclusion.

In this unfinished business inside the U.S.A. itself, poli-

cies governing the general practice of education, form a leading, crucial part. For historic and related reasons, the policies of education and related perspectives for employment of our so-called African-American families are a kind of acid test. Often embittering, and bloody experience of our nation shows, that if we are either unwilling, or incapable, to bring about a reversal of the legacies of chattel slavery and so-called "Jim Crow," as it applies to education, the nation and most of its people will continue to walk, as they have done lately, like serfs or slaves, bearing their shrunken heads on their shoulders.

The power of a nation's real economy lies entirely in the combination of the development of the cognitive maturity of its people, and in the provision of those forms of organization and conditions of life and work, which are the circumstances required for production and for general life by any level of advancement of the scientific and technological capabilities of the minds of the individual members of the labor-force and their families. The higher the level of development, and latitude for expression of the cognitive powers of the individual, the greater the average power of the economy as a whole, the greater the rate of progress of the human condition.

Do not fit the development of the people to the perceived requirements of forms of employment deemed available. Rather, transform the policies of investment in employment, to set priorities on the utilization of the greatest feasible development of the labor-force and its family households.

Indeed, it was never the lack of opportunity to upgrade employment opportunities, which prompted racists to condemn African-Americans into tracking (of most among them) for menial employment and worse education. They were racists, because they were oligarchs, who understand that if a people is not stupefied in relevant ways, it will not endure rule by oligarchs. Therefore, the oligarchs prefer to keep people dumb and deluded, and also culled as much as is deemed convenient, even if that means a much poorer performance for the economy, because it is more important to them to be oligarchs, than to allow that far more successful form of economy, in which free, thinking men and women, will not tolerate being human cattle for oligarchs.

The object of sane economic policy, is to develop the cognitive powers of all the citizens to the highest possible level they are willing to achieve, and to compose the conditions of production and distribution to keep pace with the progress achieved through such policies of reliance on Classical humanist education for each and all.

We must give priority on this approach to education and employment prospects, and to developing the means to conduct such a policy of practice. Only when all means "all," in these terms, will the legacy of racism dwindle away. Only when we do this for ourselves, and reflect this in relations with other nations, will our nation's prolonged gut-pain of racism pass away.