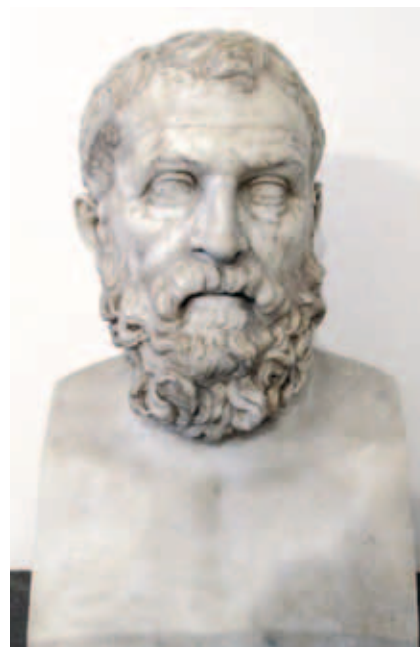
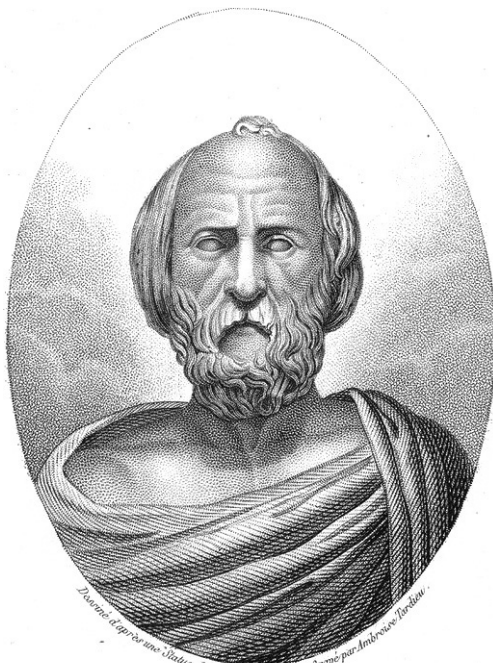


The Deeper Grounds for Philosophical Doubts Respecting the Existence of ‘Joe Biden’

by Lyndon H. LaRouche, Jr.

This is the second, concluding part of a paper by Lyndon H. LaRouche that analyzes the character of Joe Biden—written 33 years ago. Part 1 was published in our November 20, 2020 issue. This paper is even more crucial today than it was in 1987. It was originally published by the LaRouche Democratic Campaign (LDC), candidate Lyndon LaRouche’s campaign committee for the Democratic Party’s nomination for President.



Engraving by Ambroise Tardieu

All politics is reducible essentially to either the oligarchical model, derived from the laws of Lycurgus of Sparta (left), or the republican model, represented by the reforms of Solon of Athens (right).

Solon vs. Lycurgus

The leading western European defender of the American Revolution was the historian, dramatist, and poet Friedrich Schiller. During his service as Professor of History at the University of Jena, Schiller issued a short paper to guide students in their approach to elaborating western European history as a whole. He advised the students that all western European history can be made intelligible as a whole, by aid of reference to two opposing philosophies of law, the one exemplified by the reforms of Solon of Athens, and the opposing one the defense of slave-society in the laws attributed to the mythical founder of Sparta, Lycurgus.

Although Schiller’s thesis does not address the broader context of the Persian wars, in which the opposing systems of Sparta and Athens came into existence, the thesis itself is an accurate one. Every leading

political current in the entirety of western European history since Solon, has been one of three types: 1) The republican model continuing the essence of Solon’s reforms, 2) The “oligarchical” model, continuing the essence of Spartan law; and, 3) The Dionysiac model of radical revolutionary chaos, as typified in modern times by the rise of fascism and bolshevism out of Jacobinism and anarchism. Since the Dionysiac “new age” movements were always instruments of policy of the oligarchical faction, over more than 2,500 years to date, all politics is reduced essentially to one of two varieties, republicanism versus oligarchism.

Western European civilization begins with Homer,

with the revival of classical Greece from a preceding dark age of illiteracy. Classical Greece's political heritage for us today begins with the constitutions of the Ionian city-state republics. The achievement of those constitutions was given continuity into modern times in 599 B.C., by the forms introduced to Athens by Solon. The link between Solon's reforms and the 1776 U.S. Declaration of Independence is provided by the writings of Aeschylus and Plato, and by the introduction of western European Christian statecraft in the writings of St. Augustine.

In politics, as distinct from religion, we often say that our heritage is that of western European Judeo-Christian civilization. The reference to Judaism includes emphasis on Moses, and upon the efforts of Philo of Alexandria to free Judaism from the alien relics of Mesopotamian captivities and imposed syncretisms.

"Judeo-Christian" also signifies the collaboration between St. Peter and Philo against Simon The Magician in Rome, and the adoption, in large degree, of the Christian notion of the individual personality by western European Judaism of Spain, Italy, France, and Prussia. The Christian of western European culture recognizes the New Testament's view of Moses, and utters "Judeo-Christian" in that sense.

This emphasis upon "Judeo-Christian" is of special importance to us in the United States, because of our separation of church from state; our statecraft, our law, is not that of some religious denomination, but is, rather, an ecumenical statecraft, predominantly Christian, but also rightly named "Judeo-Christian" in the sense of the ecumenical dialogue of Cardinal Nicholas of Cusa, *De Pace Fidei*.

There is one point of significant difference between *natural law* as defined by Plato and St. Augustine, as St.



The link between Solon's reforms and the U.S. Declaration of Independence is provided not only by the writings of Aeschylus and Plato, but also crucially by St. Augustine's notion of the relationship between the micro-cosmic, individual human personality and the Creator. Shown, St. Augustine in His Study, by Sandro Botticelli.

Augustine emphasizes in a famous letter qualifying his general agreement with Plato's method. The divinity of Christ, as underscored by the *Filioque* of the Latin Creed, defines the individual human personality in a new, essential way, unlike the notion of the human individual in all other religions; the lack of this is the single, pervasive flaw in Plato's work. Otherwise, with that qualification taken into account, we must recognize a continuity of western civilization's notion of *natural law*, from Solon, through Aeschylus, Plato, St. Augustine, Dante Alighieri, Cusa, Leibniz, Cotton Mather, Friedrich Schiller, et al.

We republicans in the footsteps of our Declaration of Independence and Federal Constitution today, are a continuation of that heritage of *natural law*. The only important political issue, is the opposition between the appropriate

application of our heritage to current realities, and that of all opposing political currents, chiefly the oligarchical formalists and their use of radical-dionysiac instrumentalities. The latter include today's "radical ecologists" and terrorists as well as the oligarchical Soviet model.

The point to be made clear in this report is twofold. First, the nature of those differences. Second, the way in which non-linearity arises in the political process; this point is made clear by exposing the non-linearity intrinsic to *natural law* itself. We are at this point, occupied with elaborating the background knowledge essential to understanding those points to be made.

What I have to emphasize here respecting the bearing of *natural law* upon today's U.S. politics and strategic policymaking is the fact that *natural law* is susceptible of a comprehensive sort of intelligible representation which is as rigorous as a mathematical physics. Before coming to that, I must clarify what

Schiller’s treatment of Solon and Lycurgus omits, the significance of the “Persian wars.” The essential relevance of what might wrongly appear to be digressions, will be made clear enough in due course.

Western European civilization’s rise, beginning with the constitutions of the Ionian city-state republics, is a revolution in the history of mankind, a process of rise to a new condition of mankind higher in quality, more appropriate for the human species as a whole than any other current originating in other regions of the world. However, this emergence did not simply drop out of nowhere; it represented a solution to the devastating problem which confronted mankind in every part of this planet earlier.

The earliest known roots of the conflict leading into the birth of western European civilization, is the conflict between the Indo-European, Vedic culture coming into India out of Central Asia, and the degenerated “Harappan” civilization then dominating the Dravidian population of the Indian sub-continent. Our principal means for adducing a rigorous picture of that Central Asian Indo-European Vedic culture are, the comparative study of the solar-astronomical content of ancient Vedic hymns shown to date from no later than sometime during the period 6,000-4,000 B.C. in Central Asia, and those remarkable features of the Vedic-derived Sanskrit examined by the philologist Panini circa 500 B.C.

This understanding of the Vedic-“Harappan” conflict is the principal key to the characteristic features of the internal history of ancient Egypt, and the conflict between the “Golden Age” current in Egypt against both what became known as the Hellenistic “Isis-Osiris-Horus” cult in Egypt, and also between Egypt and the states of ancient Mesopotamia and Phoenicia. It is that set of conflicts which is key to the rise of classical Greece during the period beginning approximately 800 B.C., and hence key to the rise of western European

civilization as a whole.

The “Harappan” culture was associated with the worship of two key pagan deities, the Earth-mother and lunar goddess, “Shakti,” and her phallus-god son and lover, Siva. This “Harappan” culture established major colonies at Sumer, where the Dravidian “Harappans” were known as “the black-headed people.” Sheba, in southern Arabia, and ancient Ethiopia were also “Harappan” colonies.

With the collapse of Sumer, echoing the Indo-European defeat of the “Harappans” in northern India, the

Semitic colonial subjects of the Sumerians established a culture in Mesopotamia based on the “Harappan” model. The “Harappan” Shakti assumed the Semitic dialectal name of “Ishtar” in Mesopotamia. Shakti became the “Athtar” of Sheba, the “Astarte” of the Philistines, and the “Isis” of Hellenistic Egypt. She also appeared as the “Cybele” of the Phrygian Dionysiac cults.

Prior to the “dark age” sweeping much of the planet near the beginning of the first millennium B.C., the anti-Isis faction in Egypt sponsored the Israelites as a marcher-state against the Philistines and Mesopotamians, and reestablished Athens. Later, as the Mediterranean emerged from that dark age, about 800 B.C., this force in Egypt fostered the

rise of literacy in classical Greece, sponsored the Ionian Greeks against the Phoenicians, and the Greek colonies in southern Italy against the western Phoenicians, the Carthaginians.

Much as England’s Robert Dudley and others of the western European republican faction proposed the colonization of the Americas, to tilt the balance of forces within European civilization, these Egyptians sponsored the rise of Greek civilization as a force to tilt the balance against the Mesopotamians and Phoenicians. Here is an ancient example of great statesmanship on its true scale of historic action.



The “Harappan” deity Shakti, known in Hellenistic Egypt as Isis.

By the time of Plato, this process produced an alliance between the remains of the Golden Age faction of Egypt, then centered in the Cyrenaic temple of Ammon, and Plato's Academy at Athens. Briefly, shortly after Plato's death, the alliance between the Academy and the Cyrenaic temple of Ammon brought Alexander the Great to power in Macedon, and accomplished the destruction of Phoenician Tyre and of the Mesopotamian empire. Alexander's assassination by poisoning, brought that great project to an end, paving the way for the rise of the later empire of the Roman legions. However, the roots of western European civilization were established as a force, to become part of a much greater force through Jesus Christ and His Apostles.

In the effort to eliminate the Greek obstacle, both the Mesopotamians and Phoenicians established their own colonies in Greece, most notably the Cult of Apollo (Horus, Lucifer) at Delphi and Delos, and the homosexual cult-state of Cadmean Thebes. Sparta was a creation of the Cult of Apollo.

With the re-subjugation of the revolting Ionians by the Achaemenid Empire, the Ionian republicans shifted the center of their power to Athens. From that point on, there was a continued struggle between the Persian-Phoenician-sponsored faction at Athens, the oligarchical faction typified by its ritual assassination of Socrates, and the role of the Cult of Apollo in orchestrating the conflicts among Sparta, Athens, and Thebes.

Within Greek society, the chief ideological weapon of the oligarchical faction was the cult of Mount Olympus and its putative gods. The Egyptian scribe Manetho and the Roman historian Diodorus Siculus report on the Moroccan origins of this Olympus cult. Aeschylus addresses this cult's evil role directly in his *Prometheus* tragedy, of which only the first part, *Prometheus Bound*, survives. These gods of Olympus are the paradigm of oligarchical politics in western European civilization,

to the present day. For related reasons, Aeschylus' tragedies, notably his 'Prometheus Bound', have been a focal subject-matter of western European republican poets, dramatists, and scholars, to the present day.

These Olympian gods were monstrously immoral creatures, playing dirty tricks upon themselves and poor mortals, like the leading families of Venice to the present day. In *Prometheus Bound*, Prometheus informs the Olympians that they are no true gods, but merely potencies which have set themselves up in hubristic opposition to the true God, by Whose Will they shall be toppled and destroyed. In this, *Prometheus Bound* pre-figures the *Apocalypse* of St. John.

In Christianity, Mary's willful acceptance of the instruction to bear the Son of God, and the divinity of Christ as affirmed by the Augustinian *Filioque* of the Latin Creed, defines the human personality as rightly become *Promethean* through the intercession of Christ. We are endowed with the *divine spark of reason*, to receive the *Logos* incarnate in Christ, from Christ, by the agency of that *divine spark of reason* in ourselves, and to become as if *reborn* by so doing.

Thus, we become qualified for representative forms of self-government, by means of knowing the *natural law* as the guide to our policies and related decisions.

Our enemy, from the beginning, is the "Whore of Babylon," Shakti, Ishtar, Isis, Astarte, Cybele, Venus. Our enemy incarnate is Siva, Satan, Osiris, Lucifer, and so on, and those, like the Roman emperors Augustus, Tiberius, Nero, Diocletian, and would-be new-Roman emperor Mikhail Gorbachev, who wear the mark of the beast, Satan. Those who wore this "mark of the beast" were once known as the "Chaldeans," the priest-caste which orchestrated the rise and fall of the empires of Mesopotamia. In the time of classical Greece and the Roman empires, the Chaldeans were known as the Magi ("magicians"), an institution continued into



Dick van Baburen, 1623

The Olympian gods were monstrously immoral creatures, playing dirty tricks upon themselves and poor mortals. Shown, Prometheus Being Chained by Vulcan.

modern times as the Sufi cults centered in Syria.

It was the Magi who controlled that Democratic Party of Athens, which ordered the trial and death of Socrates, and the Magi who later entered into the pact with Caesar Augustus establishing Capri as the western center of the Cult of Mithra and Rome as the nominal capital of the empire of the Roman legions. Thus, in the time of Christ, St. John, and St. Augustine, it was the evil which was the Roman Empire, its customs, its laws, its ethics, its politics, which was the Anti-Christ, as the imitation of that culture, in the West and in Moscow, which is the *Anti-Christ* of today: the evil that was ancient Mesopotamia and its *Whore of Babylon*, incarnate today.

It was western Christianity rallied by St. Augustine's work, which overthrew the legacy of Roman culture in the West, to such effect that the *Filioque* has become the dividing-line between the quasi-Mesopotamian East and Western Civilization in European culture since the time of St. Augustine. So, the spread of Christianity from Rome into the Slavic East, as opposed to the anti-Western, gnostic church of Muscovy, is today the borderland of the global apocalyptic conflict.

Do professed Christians believe that Christ born to Mary is the Son of God, the Logos Incarnate, from whom the Logos flows as from the Creator, and this to such effect that the *divine spark of reason* within the person is able to know the Will of God, *natural law*, through the interceding part of Christ? Politically, are we capable of rendering intelligible to ourselves, not only that lawful ordering of Creation embedded in our universe, but of the individual person's intended place in that Creation? If we reject that guidance of our affairs, we reject that which sets us above the beasts, and become as beasts.

Thus, our 1776 Declaration of Independence appealed to the authority of a *natural law* above the will of governments, treaty-agreement, and mere opinion, to establish our republic as a perfectly sovereign order in representative self-government. So, as neither the putative "leftists," "liberals," or Judge Robert H. Bork have understood, the authority of *natural law* adopted by our Declaration of Independence, is embedded in the



LoC

The founders of our republic recognized the Christian meaning of natural law, as anti-empiricist, and anti-Cartesian. Shown, The Declaration Committee. Left to right: Thomas Jefferson, Roger Sherman, Benjamin Franklin, Robert Livingston, and John Adams.

statement of purposes for formation of a "more perfect union," in that Preamble which states the intent subsuming all other parts of our Federal Constitution and its attached amendments.

That Federalist-Whig politics is my politics, my democratic republicanism.

Reason & Natural Law

The notion of the relationship between the microcosmic human personality and the Creator, elaborated by St. Augustine and by Cusa later, and the situation of that personality in the lawfully ordered macrocosm of the universe at large, constitutes for us the notion of *natural law*. Although the British empiricists, beginning with Bacon, Hobbes, Locke, and Hume, have used the term, "natural law," in an anti-Christian way, the founders of our republic recognized the Christian meaning of *natural law*. The latter is the anti-empiricist, anti-Cartesian meaning of the term which I employ here.

Apart from being the only right choice morally, policy-making shaping by natural law is the only guide to action in which the ultimate consequences are in agreement with the nation's intended choice of action. This connection is defined by the fact that only natural law comprehends the connection between cause and effect in our universe; only policies defined in rigorous consistency with natural law are scientifically sound.

This application of natural law has two aspects. In one aspect, it pertains to the laws of the physical universe. In the second aspect, it pertains to the successfully continued existence of the human species in that universe. The first aspect is one which any intelligent and literate member of western European civilization will tend readily to accept. Fewer today recognize so readily the nature of the second aspect, mankind's place in natural law. The central difficulty which often prevents dedicated men and women from understanding natural law, is a difficulty which Immanuel Kant emphasized in the last of his *Critiques*, *The Critique of Judgment*. Kant insisted there, as he had done throughout his earlier publications, that while *creation* might exist in the universe, the mind of man could not know *creativity* as an intelligible proposition. Kant's argument is premised upon a fundamental error of method, but is nonetheless typical of the blunders inherent in a formal logical method, such as that of Aristotle.

If we assume that mankind ever lived in what ethnologists term "a hunting-and-gathering society," it is shown that an average of about ten square kilometers of the Earth's land-area would be required to sustain an average individual in even a very wretched and precarious mode of existence. In other words, the total population of the human species could not have exceeded approximately ten millions individuals.

We have today over five billions persons. Even with established technologies, we could sustain ten or more billions at a standard of living comparable to that in western Europe and North America during the earliest 1970s. With new technologies now in process of development, tens of billions could be sustained at a much higher standard of living than in any part of the world today. There is no "over-population," but merely under-development.

The life-expectancy of the individual in "hunting-and-gathering society" would be significantly less than twenty years on the average. Today, with progress in mastery of diseases of aging of tissues, life-expectan-

cies are reaching toward the eighties, and foreseeably toward as high as 120 years and beyond. In market-basket terms, measured in caloric content of production, or, better, energy-density terms of reference, the standard of living is hundreds of times that available to primitive mankind.

These kinds of improvements in the potential population-density of society, and of quality of life of the individual, are results of a quality of human activity impossible for the beasts. No species of beast can willfully increase its potential population-density, for example, whereas mankind has increased its population-density

by three orders of magnitude. Only mankind can willfully change its species' behavior to such effect. This change is epitomized by scientific and technological progress.

Those changes in behavior are the consequence of revolutions in mankind's conception of the lawful ordering of nature, revolutions typified by the image of scientific and technological revolutions. By its nature, a scientific revolution originates as a non-linear act of the mind. a truly creative action. So, such scientific revolutions are the most typical representation of what we ought to signify by the term *creativity*.

This supplies the following meaning to *natural law*. First, *natural law* means foreknowing the consequences of our actions upon nature, and selecting those consequences beneficial to mankind at

large. Second, *natural law* signifies the fostering of the development of the condition of the average human individual, to the effect of fostering the individual's more advanced capacity for what we recognize as creative advances in science and technology. The two, taken together, define the development of the quality of the human individual to such effects as the law of society, *natural law*.

The non-linearity of social processes, as social processes, is traced most immediately to this "functional" distinction between man and the beasts. The quality of the human mind, through means of which mankind is enabled to alter its behavior in such a mode as to increase mankind's potential population-density, with an



Johann Gottlieb Becker

Immanuel Kant argued that while creation might exist in the universe, the mind of man could not know creativity as an intelligible proposition.



John Linnell



The liberal dogmas of population-control and obstruction of technological progress, as promulgated by Thomas Malthus (left), and a toleration of usury and drug-trafficking for the sake of “free trade,” as promulgated by Adam Smith (right), are both hideous abominations to Man and to God.

did General Douglas MacArthur in the Pacific: to obtain victory with the least expenditure of the lives of our own and enemy forces, and at the greatest speed. Victory with the least loss of life by both parties is the moral law in warfare.

For the same reason, Malthusianism, including neo-Malthusian policies of population-control and obstruction of technological progress, are hideous abominations in the sight of God. Any principle of law advanced in defense of such abominable policies, is an abominable principle, which must be struck down, lest the judge or other political official who upholds an abomination be judged wicked on this account.

associated increase of longevity and quality of material existence, is that which sets mankind categorically above the beasts. It is the promotion of this quality of creativity in the individual person, and in society more generally, which is the center of the application of the principle of natural law to the guidance of the institutions of representative self-government.

We must measure the performance of government, and of nations, accordingly. How do the choices of policies of government serve, or fail to serve this imperative? How does the conduct of the affairs of one nation affect the fulfilment of these requirements of natural law within the human family at large?

Are there persons poor and oppressed, in our own nation, or abroad? We must tolerate no policy which fosters such denial of natural rights, and must seek better policies which foster the amelioration of such conditions. Any principle of law or policy which works to the contrary effect, is an obscenity, as Adam Smith’s immoral dogmas of toleration of usury and drug-trafficking for the sake of “free trade” are such an abomination in the sight of God, as “free trade” itself is such an abomination in God’s eyes.

So, individual human life is sacred, and may be taken away only in acts such as those of justified warfare, or to defend life and the natural rights of living persons. Thus, in the conduct of war, it is morally imperative to act as

Let no Malthusian be called a Christian, or government decisions consistent with Malthusianism be regarded as anything but hideous attacks upon constitutional law. No Malthusian or related thinking should be tolerated in our institutions of government.

It is essential to put the two aspects of the natural law into a single conception. What is the interdependency between scientific and technological progress and the primary imperative of development of the condition of the individual person? Essentially, that which is necessary to promote the development of the individual and that person’s condition, is morally imperative. Since this can not be accomplished without the promotion of proliferating scientific and technological progress, scientific and technological progress become a dependent, but uncompromisable moral imperative.

It is also imperative to promote the relative power of good nations above those of nations which are either evil or merely amoral, and to do this for the sake of present and future generations of humanity as a whole.

This pertains to the personality of nations. As the individual is to his or her nation, so the individual nation is among nations. Every moral nation must adopt a moral purpose for its existence among nations. Ours, from the beginning, was to become a beacon of hope and temple of liberty for all mankind; indeed, to this day, our nation’s security for the peaceful conduct of its

internal affairs depends upon this. As our nation pursues that commitment efficiently, so each person within our nation enjoys the personal moral advantage of being part of that goodness of our nation for humanity as a whole.

From this vantage-point, scientific progress is a necessary, but dependent good, and a moral imperative because it embodies the service of the good in this way. Yet, the goodness of scientific truth has another aspect.

To love God, is to love mankind for God's sake. To love God, is also to love truth, to be imbued with a passion for truth. This becomes clearer to us as mankind prepares to colonize space. We shall now prepare to colonize space, even for no higher reason than that discoveries bearing upon the improvement of life on Earth demand this. Yet, finding ourselves impelled in that direction, we must ask ourselves what new role mankind is beginning to assume? We are becoming mankind in the universe, rather than merely the inhabitants of this planet of ours. Some new duty awaits us there. We do not know what that duty is, but we may be certain it will confront us at some appropriate time.

We may speculate, that perhaps it is intended that our species shall come into the time it must "garden" our universe as it has been so far our imperative to "garden" this home planet of ours. Even to preserve life in this solar system, many centuries down the line, we must do something of that sort. The task, however distant it may be, yet looms; we must prepare, morally and intellectually, as well as in the conduct of our labor, for whatever our mission might become.

Such speculations put aside, it remains the fact, that not to know scientific truth less imperfectly than we do, maintains a greater distinct between our will and that of the Creator. In that degree, the improvement of scientific knowledge is an absolute kind of moral kind for the mind of the person, and for the guidance of society in making of its policy.

Similarly, we are now confronted with a new pandemic, AIDS, for which there is no known cure. It is an infection capable of rendering the human species extinct. It is caused by one of the most rapidly mutating kinds of viruses we have yet known; it is a new kind of



NARA

In the conduct of a justified war, it is morally imperative to obtain victory with the least expenditure of human life on both sides, and with the greatest speed, as did General Douglas MacArthur. Here, he is shown returning to the Philippines in October 1944.

infection in the experience of mankind, involving principles of biology beyond our present knowledge. If we fail to master the needed new knowledge in this respect, our species might become extinct. We could have mastered this knowledge earlier, had we fostered already existing, relevant directions of scientific research. So, AIDS illustrates the point, that the toleration of ignorance is a moral crime.

Non-Linearity

So, *creativity* pertains to the divine, to that which sets mankind above the beasts, and to the rule of society by the natural law. There can be no adequate politics without first rendering the notion of creativity intelligible for mankind.

This brings us to Kant's error in his *Critique of Judgment*, his denial that *creativity* could be made intelligible to mankind.

The strength of Kant's argument is that he appears to rely entirely upon Aristotelean formal logic. Among all who have denied the intelligibility of creativity, Kant is most notable because of the thorough consistency of his formal arguments. It is true, that in formal logic, creativity does not exist.

In formal logic *creation* occurs only in the form of something existing in one instant, which did not exist in the preceding instant. The logician assigns the term "creation" to some mysterious agency lying between



Attributed to Jacopo de' Barbari, 1495.

Nicholas of Cusa (left) first provided a non-formal definition of creation in his *negentropic Maximum Minimum principle*. Later, Fra Luca Pacioli (right), collaborating with Leonardo da Vinci, achieved a rigorous, if not yet adequate definition of the distinction between living and non-living things.

those two instants; yet, the word “creation” has no intelligible meaning for him. He can not supply an intelligible representation of what has occurred between those two instants, to cause something not existing in the first to exist in the second.

Formal logic has the same disability when confronted with the term *life*. In molecular biology, the question whether an organic process is living, or not, can be shown in much the same way formal logic defines *creation*. It can be shown, that in successive instants a living process has the quality called *negative entropy (negentropy)*, and that, on this scale of measurement, only living processes exhibit this behavior. Non-living and dying processes are characterized by the opposite quality, *entropy*. However, a formal molecular biology has the same, axiomatic difficulty in discovering what lies between the two successive instants so compared, as in attempting to define the term *creation*.

The beginning of a modern solution to these two related problems was supplied in Nicolaus of Cusa’s 1440 *De Docta Ignorantia (Of Learned Ignorance)*. Cusa there introduced what became known later as a principle of *physical least action*, which appears in Cusa’s work as a *Maximum Minimum principle*.

At this point, we must become technical. Without reference to these technical points, it is impossible to provide the reader an adequate picture of the problem of non-linearity. We can only keep the matter as simple as possible, hoping that the general reader will see the gist of our argument, while indicating the nature of the proof of our argument to the relevant professionals. Although

some of what we report might appear to be peculiarly a physics matter, it is also indispensable for understanding the problem of non-linearity as this applies to strategy and politics generally.

What Cusa established was the foundations of a “non-Euclidean geometry.” This term signifies that the system of formal deduction from sets of axioms and postulates is discarded, and geometry defined solely in terms of a single principle of construction, based upon no axiom or postulate but the single principle of *physical*

least action. In such a non-Euclidean geometry of physics, so developed, *creation* and *life* are susceptible of an explicit form of intelligible representation, as this is not possible in formal logic. The solution made implicitly accessible in this way, was not developed all at once, and the work in this direction is not completed to the present time; in principle, the axiomatic difficulties of formal logic are overcome.

Rather than measuring processes in terms of comparisons of discrete linear magnitudes, we start with the geometrical notion of the least (physical) perimetric action required to generate the relatively maximum area or volume, and base the intelligible representation of all real propositions in geometry and physics on nothing but this principle of what is best named “physical topology.” Instead of comparing two successive instants, we focus directly upon the action efficiently connecting those instants. All the solutions so obtained are non-linear in the mathematical sense of distinction between linear and non-linear processes and their corresponding mathematical-functional representations.

This and related work of Cusa led directly to an Earth-shaking collaboration in the founding of modern science, by Fra Luca Pacioli and Leonardo da Vinci, at Milan, Italy, during the last decades of the fifteenth century. Among the leading accomplishments achieved, was a rigorous, if not yet adequate definition of the distinction between living and non-living processes.

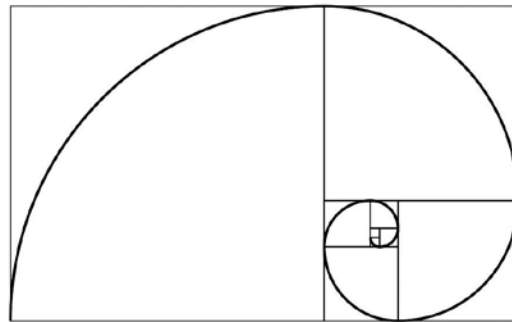
Prior to Pacioli and Leonardo, the description of living processes was that supplied by Leonardo of Pisa, the so-called “Fibonacci-numbers series” used to repre-

sent the increase of population of living species. Fibonacci series are useful descriptions, but suffer the characteristic problems we have identified for formal logic. Pacioli and Leonardo restated this in the implicitly non-linear (non-Euclidean) terms of Cusa's method, in terms of physical least action. They reported the fact, that all living processes are characterized morphologically by harmonic patterns of growth and movement congruent with the construction of the circle's *Golden Section*.

Since the founding of a comprehensive mathematical physics by Johannes Kepler, we know that the laws of the universe are also harmonically congruent with the Golden Section. More recently, we know this is also true on the scale of microphysics, the scale of atomic and smaller phase spaces. However, between those extremes of scale, any process which is harmonically congruent with the Golden Section is either a living process or a special class of work done by a living process; all other processes, between these extremes, are non-living processes.

The two kinds of processes would tend to be distinguished by modern statistical thermodynamics, such that the processes harmonically congruent with the Golden Section are seen as *negentropic*, and those not so congruent as *entropic*. The fault with statistical thermodynamics, is that it is a form of mathematics derived from formal (deductive) logic; it is therefore linear, and is therefore incapable of representing what happens between the instants of an ordering to cause that ordering to assume the form it does. The term *negentropic* identifies the common characteristic quality of *creation* and *life*, an axiomatically non-linear quality.

In elementary non-Euclidean physics, physical least-action is associated with the simplest conceivable form of isoperimetric action, what is called *multiply-connected circular action*. Gauss and his successors introduced a higher form of least action, *multiply-connected,*



All living processes are characterized morphologically by harmonic patterns of growth and movement, congruent with the construction of the Golden Section. Above, a Fibonacci spiral, and below, a cross-section of a chambered nautilus shell.

self-similar-spiral action, associated with the image of the self-similar spiral on a cone and the projected plane images of such conic action. So, beginning with the work of Gauss, we have the ability to construct intelligible representations of non-linear processes, to explain why Kepler's physics succeeds as it does, and why living processes' negentropic behavior is as it appears.

In modern physics, we signify by *non-linear* a continuous mathematical function for a physical process which is marked by the generation of what appear to formal-logical mathematics as local (topological) discontinuities. This problem in Gaussian topology was the subject of the principal work of Lejeune Dirichlet and Karl Weierstrass. Out of this came what is known as *Dirichlet's Principle* of topology, which became, in, the hands of Riemann, the general approach for

rendering intelligible all principled features of non-linear functions in mathematical physics.

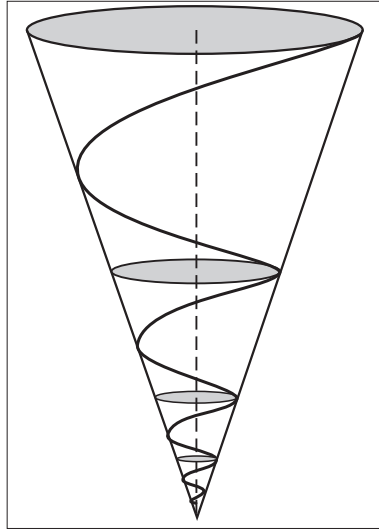
This area of inquiry is the central feature of my own work in economic science, especially my work in a branch of economics founded by Gottfried Leibniz, called "physical economy" or "technology." This point of intersection between mathematical physics and political-economy, is the key to an intelligible representation of the reasons political processes are intrinsically non-linear. A summation of the effect of scientific revolutions upon real rates of growth of productivity in economic processes shows the connection most simply.

From the standpoint of formal logic, any fundamental discovery in physical science is shown to represent the equivalent of change in one or more of the underlying axioms and postulates underlying accepted physics. This is the same effect produced by any among Plato's Socratic dialogues. This is the way *non-linearity* is best understood from the standpoint of reference of a formal mathematical logic.



LoC

Carl Friedrich Gauss and his successors introduced a higher form of least action—multiply-connected, self-similar spiral action (shown at right), and thus gave us the ability to construct intelligible representations of non-linear processes.



To the formalist, it appears that the old physics works adequately up to a limit, at which it breaks down as a reliable predictor of experimental behavior. Then, by means of an alteration in the set of axioms and postulates, a new physics enables us to continue successfully, beyond that point of breakdown, until the next point of breakdown. Each of the successive, formalist schemas so represented is internally linear. The region of breakdown is the discontinuity, the *creative* transition which linear physics can not render intelligible.

So, it must appear, that *non-linearity* signifies a method of predicting such breakdowns, and also predicting the new kind of physics-schema which will enable the physicist to trace the continuation of that process beyond the apparent discontinuity. In other words, what the formalist sees as the generation of a *discontinuity*, is not really a fault of physics, but of the mathematics used in the effort to explain the physical process. The physical process is continuous, through and beyond the mathematical discontinuity; thus, we require a new mathematics, capable of constructing functions which are as continuous as the physical processes they are adopted to represent.

In physics, we substitute for the term *discontinuity*, *singularity*. What we require, in the language of Cantor, is a notion of *transfinite functions*, which measure the increase of density of occurrence of such *discontinuities* for some arbitrarily small interval of action of a

continuous process.

Mentally, what physics requires is a principle which represents an ordered process of successive scientific discoveries. In other words, a functional statement of the scientific-creative mental process itself. Just as, in more pedestrian physics, we must show an experimental correspondence between the formulations and the physical results, so, in mapping the mental process of discovery, we must show that the successive discoveries so ordered each correspond to a higher degree of mankind's mastery of nature than the preceding level of knowledge.

What I have accomplished through my own discoveries in economic science, is to define the

interdependency of increase of potential population-density with not only advances in technology, but the correlation between the possibility of advances in technology and increase of both the energy-density and energy-flux density of energy supplied to human activity. The increase of the relative and absolute power of nations, in total, per-capita, and per unit of land-area, is determined in this way. Thus, as the increase or decrease of this power determines the relative and absolute conditions of nations and persons, so the results of policies are measurable.

The functions for physical economy so defined are non-linear; hence, the making of policy, and the consequences of choices of policy, as their reality is measurable in such terms of physical economy, embodies the same non-linearity.

Linearity & Mysticism

In the history of mankind, irrationalist politics occurs in two general forms. The extreme case, is the absolutely irrational form of pure individualistic hedonism: the blind adherence to what appear to be instinctive impulses for immediate pleasure and avoidance of pain as the only rule. Mysticism also appears in the guise of formal logic, as the cases of Rene Descartes and Immanuel Kant illustrate this. Formal logic mystifies that of which it is incapable of supplying intelligible representation, as the problems of defining *creation*

and *life* exemplify this axiomatic difficulty of formal deduction. As for Descartes and Kant, for all formalism, the location of irrationalist mysticism is the empty cracks between the instants deductively compared.

Excepting the proliferations of some mystical religious, astrological, and satanic cults, until the emergence of the “New Age” ideologies during this century, all mysticism in the mainstream of our political life has been of the Cartesian or Kantian form. Thus, the eighteenth-century, Cartesian “materialist” Enlightenment, including Kantianism and British empiricism, gave birth to the mystical mythologies of “left,” “center,” and “right.”

Those ideologies conceded the empirical reality of the instants, and were rational in that formalist’s sense. They differed in their ideological conceits, conceits which purported to explain the mysterious causal factors lying between the empirical instants. The belief in Adam Smith’s “Invisible Hand,” is an example of such irrationalist mysticism of the political ideologues.

It is the mystical domain of the in-betweennesses on which the ideologues project their arbitrary, mystical choices of values.

The shaping of American ideologies, until the recent rise of the “New Age” cults, has been governed by the fact that our society was ruled by a combination of republican and oligarchical currents. In the effort to reach a durable accommodation between the two opposing currents of political tendency, there has been a search for some arbitrary set of values which might establish the basis for a pragmatic accommodation between the opposing republican and oligarchical tendencies.

This pragmatic quest has been shaped by the relative power of the one tendency relative to the other. Thus, the weaker faction has sought values advantageous to it which might be adopted by the stronger, and the stronger has sought out common values which might win the peaceful toleration of the weaker.

This pragmatic tendency, which jelled over the period from the inauguration of the oligarchic “New Age” radical, President Theodore Roosevelt, beyond the presidency of the Fabian-guided President Woodrow Wilson, has led in the direction of uprooting all authority of *natural law*, in favor of a drift into the formalism of Aristotle’s *Nicomachean Ethics* and *Politics*. This turning away from the principles of western European Judeo-Christian civilization, and its natural law, toward Roman law, is reflected in such influences

as that of the Romanticism of Karl Savigny.

Thus, our national politics has veered away from all issues of substance, to mere issues of formality, as *Nicomachean Ethics* and *Politics* define such formalism.

Not only have we neglected all the leading issues of substance, excepting a waning concern for the substance of military capabilities. We have destroyed the substance of our civilization’s power whenever issues of substance came into conflict with pragmatic choices of arbitrary values. This sort of degeneration of our national political life, is the source of the strength of opinion supporting the cults of “Left,” “right,” and “center” in our national political life today.

The more the substance of policy conflicts with these pragmatic choices of arbitrary (ideological) values, the more distant the ideologue’s thinking and behavior separates itself from all matters of substance. So, we have the spectacle of my Democratic competitors of today: not the “Seven Dwarves,” but as Wasserman’s *Boston Globe* cartoon indicates, “The Seven Deadly Sins.” Thus, in the intelligence community, and related aspects of the policy-shaping establishment, issues of substance are pushed aside, for the sake of adopted perceptions of pragmatic agreements in matters of policy, methods, and procedures. Thus, the late William Casey turned the U.S. intelligence establishment into an amateur night’s performance, and so my policies ran afoul of that intelligence establishment’s wrath: I was not playing the game according to those rules, under whose guidance they have been destroying our nation, our civilization.

The problem is not that they were not capable of understanding the problem of non-linearity. The problem has been, that they did not wish to attempt to understand it, because the issue of non-linearity is a matter of the substance, rather than the ideology of politics.

We can beat Moscow’s game, as Moscow itself at-tests, by avowing me as the one individual it most fears among all others on this planet. We can beat that game by turning to the non-linear matters of substance, which Moscow’s own ideology prevents it from comprehending. That is my game, and will continue to be so. *Natural law*, rightly understood, is the great power of Creation we can tap for the cause of strategic victory; the problem is, to tap that power, we must renew our nation’s commitment to the practice of that *natural law*, and thus bring this disgusting age of mere ideology to an end.