# Return to the Machine-Tool Principle

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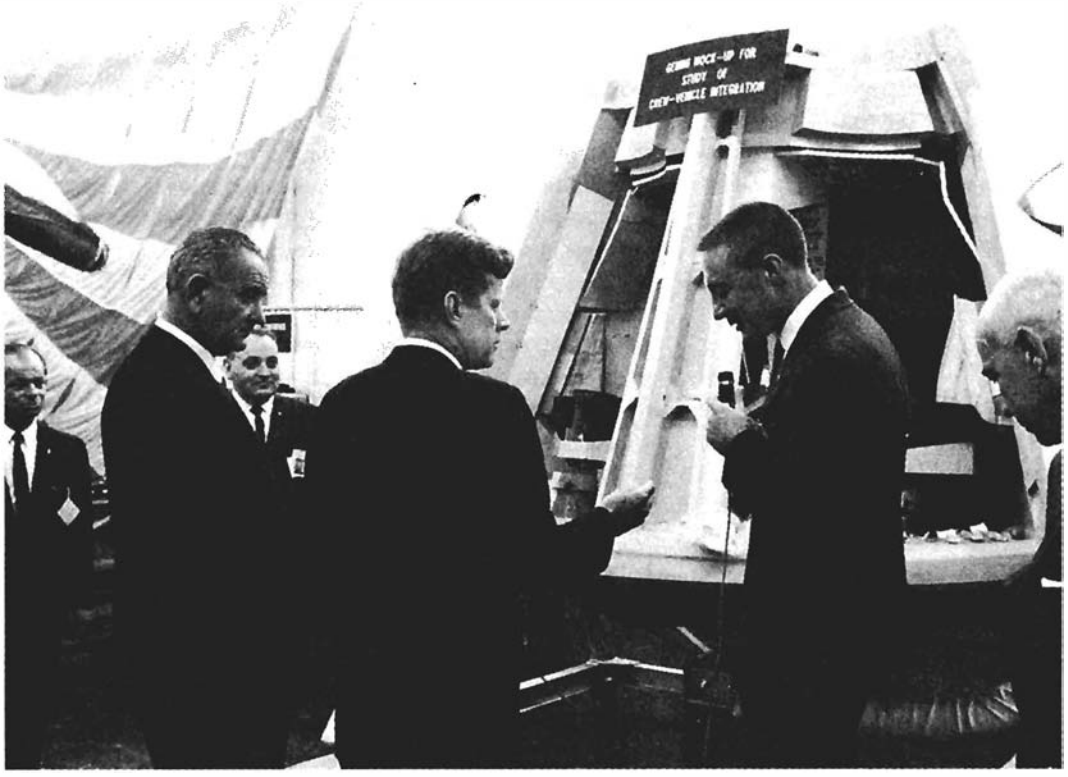
In science, and in history, the delusions of blind faith in "simply self-evident facts," exist only in the minds of the brutishly illiterate and the sophists. True facts, like highways, do not exist in empty space; the first step toward truth may be the recognition that roads, rather than existing as "self-evident facts," may be represented, inadequately, as situated within a well-defined physical geography. In truth, today, roads, and railroads, like shipping lanes, and all other artifacts, are selected, developed, and used, by mankind as part of a *physical-economic* geography, including the physical-economy of warfare: in truth, as parts of corridors essential, for the efficient linking of nodal points of a national, and world economy.

Similarly, machine tools come into existence, and are used, as expressions of an historically situated phase of world and national processes of economic, cultural, and demographic development. In economy, nothing, including a machine-tool, can be competently defined as a fact, without first situating its existence within that functionally historical setting in the course of which it appears, and is later superseded by a better one. This principle of scientific method was identified by Gottfried Leibniz by such rubrics as "Analysis Situs."[1]

Nothing competent can be said about any aspect of economic, political, and cultural problems today, without first stating the following. We proceed thus here.

*Analysis Situs:* Since the middle of the 1960s, an accelerating, fundamental, downward trend in economic policy, has dominated the economies of the U.S.A., western Europe, and international relations generally. *Analysis Situs:* In the setting

1. See "Studies in a Geometry of Situation," in ***Gottfried Wilhelm Leibniz: Philosophical Papers and Letters,*** Leroy E. Loemker, ed., Second Edition (Dodrecht, Netherlands: Kluwer Academic Publishers, 1989); pp. 248-258. The Leibniz ***Monadology*** should also be read as a text on the subject of *Analysis Situs.*




*Astronaut "Gus" Grissom demonstrates the two-man spacecraft "Gemini" to President John F. Kennedy and Vice President Lyndon Johnson in 1962. In the aftermath of the Cuban Missile Crisis and the Kennedy assassination, leading oligarchical family circles assumed that there was no longer a danger of general nuclear warfare, and "no foreseeable strategic need to continue the institution of the modern sovereign nation-state, or the form of agro-industrial policies associated with that form of nation-state."*

of the new "balance of power agreements" emerging in the aftermath of the 1962 "Cuba Missiles Crisis," and of the November 1963 assassination of U.S. President John F. Kennedy, leading oligarchical family circles, in the United States and western Europe, assumed that there was no longer a danger of general nuclear warfare among the principal powers, but only diplomatically managed, "limited wars," including "international terrorism." Thus, leading circles among these wealthy oligarchical families, assumed, that, for the medium and long term, there was no foreseeable strategic need to continue the institution of the modern sovereign nation-state, or the form of agro-industrial policies associated with that form of nation-state.

Thus, again, *Analysis Situs:* The U.S.A. economy, and the world's, was shifted, at an accelerating rate, to a policy of fostering "neo-Malthusian," "post-industrial" utopianism, away from the commitment which had characterized all our republic's economic and cultural successes, from our first war against the British monarchy, 1776-1783, until the mid-1960s: increasing the productive powers of labor through *strategic* investment in scientific and technological progress.

Under this regime (*Analysis Situs*), about 1966, this shift in policy was spread from the disastrous Prime Minister Harold Wilson's United Kingdom, into the United States, and also into the western European continent. The first neo-Malthusian policy was introduced into the U.S. State Department about 1966. It arrived in the U.S., domestic, economic policy, during 1966-1967, as the first of a series of massive cut-backs in the space program.

An accelerating contraction in the economy followed such 1966-1967 policy-shifts, leading into the Chrysler and Penn Central bankruptcies of 1970, and the "Henry A. Kissinger administration's" August 1971 take-down of the pre-existing Bretton Woods agreements. As a continuation of this plunge into "post-industrial" utopianism, we experienced the 1971-1972 shift, from a system of stable international monetary relations, into the speculators' lunacy of a "floating exchange-rate" system. President Jimmy Carter's October 1979 appointment of Paul A. Volcker as Federal Reserve chairman, completed the principal policy-changes under whose guidance we are plunging into national bankruptcy today.

Consequently, as these things must be measured in physical content of market-baskets, the income and output of the U.S. labor-force, per capita, has fallen, today, to approximately half what it was a quarter-century earlier.[2] Hence, as shown in earlier issues of ***EIR:*** commonly, a U.S. house-

2. This includes not only physical goods as such, but also those forms of education, health-care, and science services (such as fundamental research) which are essential to fostering the per-capita cognitive potential of the population for current and future levels of scientific and technological progress in designs of products and productive processes. It includes not only household consumption, but also infrastructure, agriculture, mining, and industry. See discussion of this principle of economic measurement, under the rubric of "*Analysis Situs* in econometrics," below.

hold in the lower 90% of income-ranges, requires two to three incomes today, to attempt to reach the real-income standard achieved by households with one, or one-and-a-half incomes a quarter-century earlier.[3] Similar results prevail in western Europe, with worse results in eastern Europe and the former Soviet Union. The collapse prevailing throughout the developing sector as a whole, has been worse. The condition of sub-Sahara Africa has been unspeakable, and no national economy of Central and South America has failed to degenerate, consistently, during the entire twenty-five year period, especially since the beginning of 1982.

In fact, as measured in physical-economic market-baskets of purchasing power, the U.S. economy has contracted by more than 2% per annum each year since 1971. The false, contrary claims, by some agencies of the U.S. Government, and other quotable authorities, have been premised chiefly upon two general classes of fallacy in reporting. First, a mixture of wishful incompetence in choice of statistical yardsticks, combined with naked, politically motivated, outright statistical frauds by the Federal Reserve and other relevant agencies. Second, failing to take into account, imputable, unpaid costs, such as unrepaid attrition in previously constructed, essential economic infrastructure, combined with attrition in capital elements, such as machine-tool capabilities.

Take the case of the recent, disastrous floods in northern California, for which the blame lies, not with the weather, but the breakdown of over-aged flood-control infrastructure. The responsibility lies with those who made the decisions, during the past thirty years, to the present day, not to maintain the flood control systems which had been designed and constructed to prevent precisely such a catastrophe. Consider the cumulative deadly, or otherwise grave implications of a collapse of the nation's power or railway systems, and deregulation-caused collapses within the U.S. airline industry.

Consider the impact of the irrational shift in U.S. national policy of practice, away from inland waterways and rails, to that greatly excessive reliance upon costly highway transport, which has been the long-term, ruinous trend in the U.S. economy throughout the 1945-1996 interval.[4] The U.S. Army Corps of Engineers' estimates coincide with results of independent, late 1970s, studies made by the Fusion Energy Foundation. In terms of energy costs per ton of bulk freight, rail transport is only 40% as economical as inland waterways, while truck transport is merely 30% as efficient as rail. Economic efficiency depends crucially upon increasing steadily the number, and relative cheapness, of kilowatt-hours available per household, and, even more emphatically, to agriculture and industry. In production, efficiency depends upon increasing the applied energy-flux-density of power, and the relative coherence of that application, per operative.

General economic efficiency depends upon maintaining increasing percentiles, over 90%, of the total population within well-maintained cities, as opposed to the vastly wasteful correlation of growth of "suburbanization" and urban slums, during the recent forty-five-odd years. The breakdown of the cities, has driven people into suburbs, with the resulting costs in time and money to households (and costs to national, state, and local governmental agencies) incurred through commuting, and also as the social costs of breakdown in family life, including the increase in crime-rates: all caused, in large part, by the costs and other burdens of commuting-time, an affliction added to the effects of an increased number of incomes required per household. As the recent thirty years' experience demonstrates, low costs of production, low-cost quality education, and health-care, can not be provided under the combined impact of increasing suburbanization and shifts into the "neo-Malthusian, post-industrial" utopianism, and into virtual-reality fads such as "information society."

Here, we focus upon a single, characteristic feature of the recent thirty years' devolution of the world economy taken as a whole: *the crucial impact of cutting deeply into capital costs of machine-tool input, ostensibly to effect a more competitive pricing of commodities.*

These cuts have been defended, often, in the name of lowering the costs of production, through decreasing the "overhead load" attributable to research and development. Obviously, if a firm eliminates the costs associated with use of the machine-tool factor in design of product and productive processes, foolish accountants and financial managers will insist, that this is an apparent cost-saving, which renders the firm more price-competitive, and also contributes to increasing the percentile of total income distributable to shareholders.[5] What has been contemptuously, and fairly described as the "globaloney" of "out-sourcing," is one of the tricks by means of which this looting of the productivity of the U.S. economy is extended to about the same ultimate effect as driving a truck across a non-existent bridge.

In reality, contrary to the sophistries of such financial managers and accountants, the result of continuing such pur-

3. See Christopher White, "NAM's 'Renaissance' of U.S. Industry: It Never Happened," ***EIR***, April 14, 1995; ***EIR Special Report:*** "U.S. Consumer Market Basket Shrinks to the Crisis Point," ***EIR***, Sept. 27, 1996.

4. The systematic destruction of the post-World War II national transportation system, was fully under way during the 1950s, marked by the looting of the New Haven Railroad and subsequent, pre-1957 recession, failure to merge the Pennsylvania and New York Central systems. Then, under President Jimmy Carter's deregulation, came the ruin of both the national trucking and airlines systems. The proper, crucial relationship between a trucking and railroad industry, which still might have been pulled off during the second half of the 1950s, will require a protectionist program of reconstruction, and coordination of functions, of both the rail and trucking-warehousing industries.

5. Financial managers and accountants represent an essential service to the management of the productive process, a usefulness which ends, abruptly, and often disastrously, when financial executives or accountants overstep the limits of their competence, to impose the mere "virtual reality" of their crafts upon management of the productive process.

ported savings, is national economic bankruptcy. In reality, the continued profitability of any modern agro-industrial economy, taken as a whole, depends absolutely upon the technological increase in productive powers of the labor-force, a gain in efficiency derived almost entirely from the combination of education for scientific and technological progress, and the associated role of the kind of machine-tool sector which was built up in collaboration between Alexander Dallas Bache's United States and Alexander von Humboldt's Germany, during the Nineteenth Century. The key to understanding the impending doom of the U.S. economy under the axiomatic trends in policy-shaping which have reigned during the recent thirty years, is the catastrophic collapse of, combined, the quality of education supplied in the classroom, and the savage, accelerating reduction of the role of the machine-tool sector of the economy.

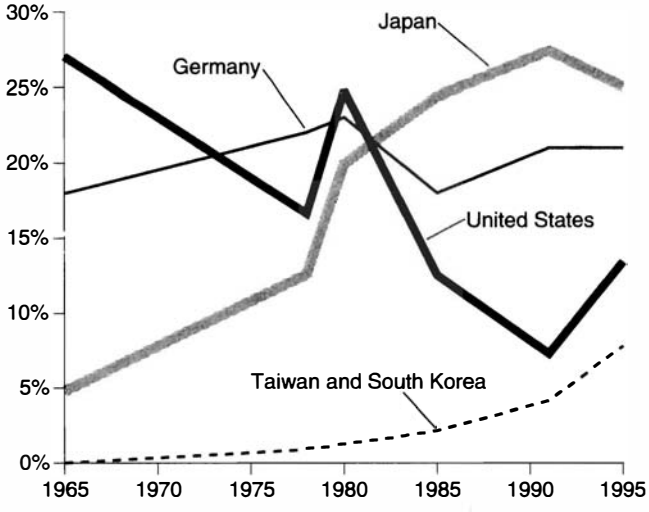
## Southeast Asia: tabbies, not tigers

Amid today's popular gossip of the bar-rooms and the ***Wall Street Journal,*** there is the delusion, that the so-called "Asian Tigers" of Southeast Asia typify the glorious future of a world in which national economies have been junked, for the supposed advantages of "global economy." Let us explore that delusion, as a way of illustrating the general factual point to be made.

The term "Asian Tigers" is often applied carelessly to three axiomatically distinct species of economies in east Asia: a) The post-1949 agro-industrial economies of Japan, South Korea, and Taiwan, which are models for what could, and must be done throughout Asia generally; b) Hongkong and Singapore, those Venice-like parasites of the Orient, whose prosperity is, in large degree, a by-product of the flow of opium from the high mountain ("Golden Triangle") regions on Thailand's and China's borders; c) The presently imperilled, superficial, mayfly exuberance of Southeast Asia's Thailand, Malaysia, and Indonesia.

See **Figure 1,** "Tigers With Teeth," prepared by ***EIR***'s Asia desk. This presents the evidence, that Japan, Taiwan, and South Korea's industrial economies, as measured in U.S. dollars of machine-tool output per capita, are dominated by a machine-tool sector which puts the rapidly collapsing, relatively backward U.S., apparently, into the class of an economically half-witted poor relative.[6] Note, in this chart, the 1979-1981 turning-point, the point at which the U.S. economy began its presently accelerated phase of collapse, out of the disastrous impact of the so-called "Volcker Measures" and Gramm-Rudman "budget-balancing" lunacies.

FIGURE 1
**Tigers with teeth: percent share of world machine tool production**




Source: Association for Manufacturing Technology (formerly the U.S. National Machine Tool Builders Association).

Do not classify Asia's blowfish among its tigers: Put to one side, the dangerously silly Mont Pelerin Society's choice of monetarist paradise, the non-comparable cases of the Venice-style, "hot-money" *entrepôts* of Asia, Hongkong and Singapore. Stick to the relevant cases; contrast the vast superiority of the real "Asian Tigers," of North Asia, with the "Potemkin Village" facade of prosperity, as featured in the Southeast Asia region: the Philippines, Vietnam, Cambodia, Laos, Malaysia, Thailand, Indonesia, et al. Consider, *seriatim,* some relevant points of distinction.

The Philippines used to enjoy a significant machine-tool potential, centered upon the U.S. naval base at Subic Bay; that potential began to be destroyed, by the U.S. government and IMF, during the "Volcker years." The Philippines economy was virtually destroyed by the U.S. coup d'état which Vice-President George Bush's, mid-1980s, "secret government" organized against President Ferdinand Marcos. Much of that economic potential was simply packed up by the U.S. Government, and shipped out, leaving only the emptied hulks of the looted buildings to haunt the victimized nation's people.

6. We may leave it to the Harvard University pro-racialist "Black Studies" program, which alleged, fraudulently, the genetic Africa origins of Harvard-invented "Ebonics," to say whether the economic superiority of the Japanese, Koreans, and Chiang Kai-shek's leadership, over American "Baby Boomers," should also be seen as genetic in origin. Competent researchers know that there are no genetically determined differences in cognitive potential of individuals which can be attributed to so-called "racial" origins. There is only the issue of the right to access of all persons, of whatever so-called "ethnic" origins, to whatever are the education and employment opportunities which correspond to the most advanced levels of culture on our planet. It amuses the writer, however, to throw into the face of the racialists, at Harvard and Vanderbilt Universities, and elsewhere, in today's U.S.A., the evidence which might suggest to Harvard empiricists, that perhaps Japanese, Koreans, and Chinese are genetically superior in cognitive powers, to Harvard- or Vanderbilt-inspired economists, politicians, and literati.

Vietnam, Cambodia, and Laos, have yet to recover from the desolation left in the wake of more than eight years of the U.S.A.'s post-Kennedy "balance of power" sports on the territory of France's old Indo-China colony. Indonesia is the best case among the remaining economies of the region; Germany's Aachen University alumnus, Professor Bachruddin Jusuf Habibie, one of the most influential figures of Indonesia's economic scene today, has led in the attempt to build a high-technology skyscraper, so to speak, from the roof down. There is a semblance—if only a semblance—of a nascent, possible future machine-tool potential there, but nothing, yet, remotely comparable to Japan, Korea, and Taiwan; otherwise, there is no presently existing basis, or competent policy for the present, or future autonomous economic development in any among the other nations of that economic tragedy known as Southeast Asia.

The "out-sourcing industries" of Thailand and Malaysia, represent a present-day parody of the economic model of foreign-controlled plantations and mining enclaves, as seen in British, Dutch, and French colonies of the late Nineteenth Century. Today's manufacturing "out-source" facility in these nations, is simply a way for foreign financial powers to loot the host-nation, through exploitation of cheap labor, in the same sense that plantations and mining enclaves were characteristics of the looting practiced by such colonial powers as Britain, the Netherlands, and France, during the late Nineteenth Century. In the "cosmopolitan centers" of that former colonial world, today, as during the late Nineteenth and early Twentieth Centuries, there is a cheap veneer, of apparent cash prosperity, featuring the fabulously decadent new rich of the "Asia hot-money" social set, with shopping and tourist entertainments to match. Behind, and underneath that "Potemkin Village" facade, the economy as a whole, is rotted out with such evils of colonial-style poverty as mass prostitution, epidemics, and a cultural pessimism redolent with a looming threat, that new Pol Pot-style rampages might soon wreak vengeance upon today's decadent rich, throughout the region.

There is a way in which the patriotic aims of Indonesia's Dr. Habibie could be realized, and the other states of Southeast Asia rescued, similarly, from their recently apparent slide toward looming catastrophe; but, that success depends absolutely upon choosing a different route than the blending of "Asia hot-money" trafficking and the lunatic sort of monetarist dogmas which have been fostered by the doomed, presently reigning international monetary and financial institutions.

## Why most economists are charlatans

Behind the onrushing catastrophes of the present international monetary, financial, and economic policies, there are the bungling propagandists, those Yahoos who are called professors, those mugs who write the widely used textbooks, and who lecture the gaping-mouthed credulous students in virtually every economics classroom of the world today. Yet, some of the world's senior economists, such as the U.S.'s John Kenneth Galbraith, or France's Maurice Allais, have occasionally trumpetted insightful defiance of the "politically correct," lunatic dogmas and practices of today's classroom and foundation-sponsored lecturers. These exceptional outbursts remind us of the little boy in the Hans Christian Andersen fairy-tale, "The Emperor's New Suit of Clothes": the emperors of today's economics textbook and classroom, "have nothing on."

Gottfried Leibniz, whose work of the 1671-1716 interval is the foundation of economic science, still today, supplies the key to the occurrence of such paradoxical flashes of competence from amid the horde of deranged hesychasts dominating today's economics classroom.[7] The term which Leibniz used to identify that point of difference between the, usual, academic quack, and the, rarer, insightful economic thinker, is that we cited at the outset, here: *Analysis Situs*. This references those fundamental principles of scientific method, earlier used by Plato, Leonardo da Vinci, and Johannes Kepler, which stand outside, and above the domain of all today's generally accepted classroom dogmas of deductive mathematics.

This notion of *Analysis Situs* is crucial for understanding the machine-tool principle. We now proceed with the outlining of that prerequisite conception.

In the past, the present author has, repeatedly, re-introduced two charts into sundry published locations.[8] The first of these, reintroduced here as **Figure 2,** is entitled "Growth of European Population, Population Density, and Life-Expectancy at Birth, Estimated for 100,000 B.C.-A.D. 1975." The second, reintroduced here as **Table 4,** is entitled "Development of Human Population, from Recent Research Estimates," covering evidence from the period 4,000,000-1,000,000 B.C. through A.D. 1970. There might be some improvement in the precision of the figures supplied by the present-day experts, but there is no possible rational objection to the representation of the orders of magnitude, and of shifts in the curve of improvement of the demographic characteristics of populations.

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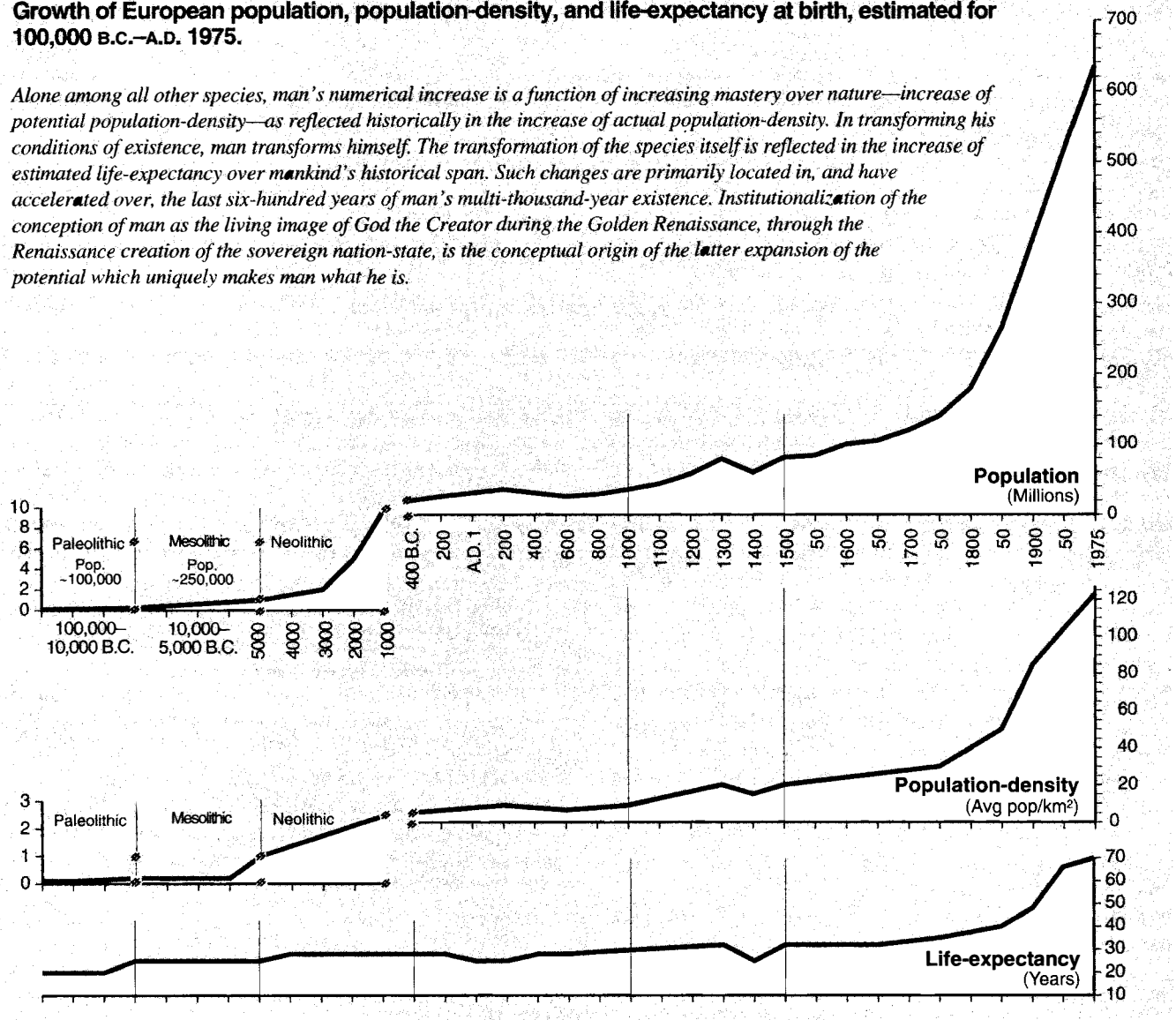
7. See Lyndon H. LaRouche, Jr., ***So, You Wish to Learn All About Economics?,*** Second Edition (Washington, D.C.: EIR News Service, 1995). Essential features of Leibniz's 1671-1716 development of the science of physical economy were incorporated in the anti-Locke U.S. 1776 Declaration of Independence and the 1787-1789 drafting of the anti-Locke U.S. Federal Constitution. Although ***the American System of political-economy*** of U.S. founder Benjamin Franklin, U.S. Treasury Secretary Alexander Hamilton, Mathew Carey, Henry C. Carey, the Henry Clay Whigs, President John Quincy Adams, and Germany's Friedrich List is consistent with the anti-empiricist principles of Leibniz's science, the revival of that science itself waited until the present author's original discoveries from the period 1948-1952. The core of those 1948-1952 discoveries is explicitly referenced here.

8. For example: Lyndon H. LaRouche, Jr., "Leibniz From Riemann's Standpoint," ***Fidelio,*** Fall 1996, pp. 37-38.

FIGURE 2

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

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




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

Note breaks and changes in scales.

Both sets of demographic data are essential to providing clarity for the crucial point to be made here. However, that noted, the immediately relevant of the two figures, is the unprecedented rate of improvements of the demographic characteristics of the entire population of this planet, over the period which began with the 1439-1440 sessions of the Council of Florence, and the consequent establishment of the first modern nation-state, Louis XI's France, until that downturn in conditions of life, the which began with the mid-1960s introduction of the neo-Malthusian cult of anti-scientific, "post-industrial" utopianism. It is the secret of the modern nation-state's incomparable, 1471-1966 achievements, in improvement of the demographic characteristics of life, and cultural standard of living, throughout nearly all of this planet, which generated the later role of the machine-tool principle as the dominant feature of leading instances of successful perfor-

TABLE 1

## Development of Human Population, from Recent Research Estimates

| | Life expectancy at birth (years) | Population density (per km²) | Comments | World population (millions) |
|---|---|---|---|---|
| **Primate Comparison** | | | | |
| Gorilla | | 1/km² | | .07 |
| Chimpanzee | | 3-4/km² | | 1+ |
| **Man** | | | | |
| **Australopithecines** B.C. 4,000,000-1,000,000 | **14-15** | **1/ 10 km²** | 68% die by age 14 | **.07-1** |
| **Homo Erectus** B.C. 900,000-400,000 | **14-15** | | | **1.7** |
| **Paleolithic** (hunter-gatherers) B.C. 100,000-15,000 | **18-20+** | **1/ 10 km²** | 55% die by age 14; average age 23 | |
| **Mesolithic** (proto-agricultural) B.C. 15,000-5,000 | **20-27** | | | **4** |
| **Neolithic,** B.C. 10,000-3,000 | **25** | **1/km²** | "Agricultural revolution" | **10** |
| **Bronze Age** B.C. 3,000-1,000 | **28** | **10/km²** | 50% die by age 14<br>Village dry-farming, Baluchistan, 5,000 B.C.: 9.61/km²<br>Development of cities: Sumer, 2000 B.C.: 19.16/km²<br>Early Bronze Age: Aegean, 3,000 B.C.: 7.5-13.8/km²<br>Late Bronze Age: Aegean, 1,000 B.C.: 12.4-31.3/km²<br>Shang Dynasty China, 1000 B.C.: 5/km² | **50** |
| **Iron Age,** B.C. 1,000- | **28** | | | **50** |
| **Mediterranean Classical Period** B.C. 500-A.D. 500 | **25-28** | **15+/km²** | Classical Greece, Peloponnese: 35/km²<br>Roman Empire:<br>Greece: 11/km² Italy: 24/km²<br>Asia: 30/km² Egypt: 179/km²*<br>Han Dynasty China, B.C. 200-A.D. 200: 19.27/km²<br>Shanxi: 28/km² Shaanxi: 24/km²<br>Henan: 97/km²* Shandong: 118/km²*<br>* Irrigated river-valley intensive agriculture | **100-190** |
| **European Medieval Period** A.D. 800-1300 | **30+** | **20+/km²** | 40% die by age 14<br>Italy, 1200: 24/km² Italy, 1340: 34/km²<br>Tuscany, 1340: 85/km² Brabant, 1374: 35/km² | **220-360** |
| **Europe, 17th Century** | **32-36** | | Italy, 1650: 37/km² France, 1650: 38/km²<br>Belgium, 1650: 50/km² | **545** |
| **Europe, 18th Century** | **34-38** | **30+/km²** | "Industrial Revolution"<br>Italy, 1750: 50/km² France, 1750: 44/km²<br>Belgium, 1750: 108/km² | **720** |
| Massachusetts, 1840 | **41** | | Life expectancies: "Industrialized," right; | |
| United Kingdom, 1861 | **43** | **90+/km²** | "Pre-industrialized," left | **1,200** |
| Guatemala, 1893 | **24** | | | |
| European Russia, 1896 | **32** | | | |
| Czechoslovakia, 1900 | **40** | | | |
| Japan, 1899 | **44** | | | |
| United States, 1900 | **48** | | | |
| Sweden, 1903 | **53** | | | |
| France, 1946 | **62** | | | |
| India, 1950 | **41** | | | **2,500** |
| Sweden, 1960 | **73** | | | |
| **1970** | | **1975** | | **3,900** |
| United States | **71** | 26/km² | | |
| West Germany | **70** | 248/km² | | |
| Japan | **73** | 297/km² | | |
| China | **59** | **180/km²** | | |
| India | **48** | 183/km² | | |
| Belgium | | **333/km²** | | |

mance among the Nineteenth and Twentieth Centuries' political economies.

The crux of the matter, is the inextricable interdependency among: 1) the spread of a Classical humanist mode of universal cognitive education, extended, as compulsory under the authority of the state, for all young persons;[9] 2) the fostering, by the same state, of both development of basic economic infrastructure and fostering of investment in increase of the productive powers of labor through capital-intensive, power-intensive modes of scientific and technological progress;[10] 3) the transmission of discovered principles of nature from experimental science and Classical humanist education, to the design of products and processes of production, through the mediation of what is sometimes identified as the "strategic" component of the machine-tool sector. This interdependency emerged to become a characteristic feature of the most successful national cultures, as part of the spread of the institution of the modern European mode of sovereign nation-state, since that new institution's appearance in France and elsewhere, following the A.D. 1439-1440 sessions of the "Golden Renaissance's" great ecumenical Council of Florence.

In earlier locations, the author and his associates have examined the pre-history and history of the Fifteenth-Century emergence and development of the modern, European model of sovereign nation-state. We have shown that that process of emergence reflects the central feature of human history: which earlier pre-history and history yearned toward, and by which all present and subsequent history must be judged. The central, axiomatic feature, which sets the modern sovereign form of nation-state apart from, and above, all earlier and contrastable forms of society, is the axiomatic authority over statecraft, attributed to the Mosaic principle of ***Genesis*** 1, that man and woman are each made, alike, in the image of the Creator, that our species might exert domination over nature as a whole.

This axiomatic, Mosaic principle is situated, for the notions of both natural law and general practices of statecraft, within the scientific principle of "simultaneity of all."[11] That, although each mortal life appears within the passage of time, carrying on the work of predecessors, and building the foundation for the future, that work which the mortal individual does, during the brief passage through mortal life, must be judged for its service to the heritage of all past, present, and future humanity.

For the purposes of statecraft, and the application of natural law to statecraft, the goal of statecraft is to foster the benefit, expressible as our Constitution's notion of "general welfare . . . to ourselves and our posterity," of fostering the development and work of persons who are encouraged and assisted to become as men and women of Providence, individuals whose coming, from birth to death, is as the passage of a stranger among us, a stranger whose passing-through may be regarded as a blessing afforded by the Hand of Providence.

This potential for good, which is inborn in all human individuals, is that power of reason which sets the human species absolutely apart from, and above all beasts, a power expressed as the capacity to discover valid principles of nature, principles which each overturn all previously established opinions. Knowledge of these principles, may be passed from one individual, to another, not as intellectually sterile, linear "information," but, rather, by a cognitive process fairly described as reenactment of the original mental act of discovery.

That "non-informational," cognitive discovery and transmission, is the sole means by which mankind is enabled to increase its power over nature, as that increase is expressed in terms of the notion, that potential relative population-density is measured not only in terms of population-density, but in standard of cultural life per capita, and per household, throughout that society as a whole. It is precisely here, that we must locate the indispensable interrelationship among Classical humanist forms of education, the development of the machine-tool sector, and the production of a labor-force which is capable, generally, of assimilating, and projecting the progress mediated through the machine-tool sector.

Thus, the essence of that Fifteenth-Century founding of the modern nation-state, is, that, for the first time in all earlier political history of peoples of this planet, the generality of individual personalities was elevated from the status of sub-

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9. The modern type of Classical humanist education is exemplified by the program of humanist secondary education, rooted in the principles of Friedrich Schiller, which Schiller's student, Wilhelm von Humboldt, established as the Classical secondary educational program of modern Germany (before and after Hitler, until this educational program was destroyed by the so-called Brandt reforms). The distinctive functional feature of such forms of education, is emphasis upon the student's reenacting key valid discoveries of principle within the sovereign precincts of the individual mind, as opposed to so-called "textbook," or presently updated versions of the old "blab school" pedagogy. Humboldt's is also the model for the system of Classical high-school education established in the United States, by Benjamin Franklin's great-grandson, the collaborator of Carl F. Gauss and Alexander von Humboldt (Wilhelm's brother), Alexander Dallas Bache. This mode of education, is to be seen as opposed to the "blab school" tradition of Professor Newton "Eisenbart" Gingrich, which has taken over U.S. education since the mid-1960s. It takes its roots from the Platonic tradition of the medieval and modern Christian teaching orders, such as the Brothers of the Common Life.

10. On the subject of the measurement of what Leibniz and his followers, such as U.S. Treasury Secretary Alexander Hamilton, identify as "increase of the productive powers of labor," see LaRouche, op cit. Productive power of labor, is to be measured in terms of a characteristic potential relative population-density of a society at a certain level of sustained cultural development: e.g., in a sense analogous to the classroom notion of "energy of the system." This is measured, approximately, in terms of input and output 1) per capita, of labor-force, in 2) per square kilometer of relevant land-area. On Hamilton's views, see his December 1791 ***Report to the U.S. Congress: On The Subject of Manufactures;*** see Nancy Spannaus & Christopher White, ***The Political Economy of the American Revolution,*** second edition (Washington, D.C.: ***Executive Intelligence Review,*** 1995). pp. ix-49, 390-454.

11. On the relativity of time, see Lyndon H. LaRouche, Jr., "The Essential Role of 'Time-Reversal' in Mathematical Economics," ***EIR,*** Oct. 11, 1996.

ject, to citizen, this according to an *axiomatic principle*. That axiom is, that society must be constituted and self-governed according to the famous principle of ***Genesis*** 1: that man and woman are made in the image of the Creator, set above the beasts to the effect that mankind must effect dominion over nature and the beasts, through the nurture and employment of that unique, cognitive distinction, of potential for valid, original discoveries of principle, through creative reason, which is common to newborn human individuals.

That principle is the only basis for rational use of the term "equal" respecting a universality of individual persons; that principle is a kind of "modulus," in Gauss's sense of that term for both common and higher arithmetic, which measures, the commonality—the congruence, of persons, as members of a species, as a quality which underlies their differences as individuals.

This commonality is the political equality of each and all persons. The right which the individual person must enjoy, is not, as the immoral empiricists argue today, the right of a passing majority to impose its capricious opinions, tyrannically, upon the minority. That perverted notion of a "democracy" of mere opinions, is the mother of all tyrannies, including those horrid dictatorships which are spawned by the characteristic excesses to which democratic arbitrariness is prone. The modern nation-state's durability depends upon a people's submission to those certain immutable principles of universal law, the which take into account the rights of the future generations of citizens, with even greater emphasis than those of the presently living ones. It is the kind of immutable, constitutional principle of law, in which the right granted, by such law, to the individual person, must be defended even contrary to the opinion of an overwhelming political majority. Without a nation under such law, rather than under the capriciously passing whims of accidental majorities, no person has, in fact, any rights at all.

Without the existence and enforcement of such law, the clock is turned back to the great gambling casino of law called barbarism, in which the individual is subject to the inherently capricious perversities of decisions issued for the convenience of the reigning imperial Pontifex Maximus, as conditioned only by the tyrant's cautious concern to avoid the appearance of offending too loudly, not law, but the current opinion of mere religious and other custom among the victims of the imperial will.[12]

The axiomatic principle to which we have referred, thus, is not to be deprecated as "merely" some specific religious body's arbitrary choice of ethic; it is a demonstrable principle of experimental physical science, a principle characteristic of known human pre-history and history, in the sense that Plato, Leonardo da Vinci, Johannes Kepler, Gottfried Leibniz, Carl F. Gauss, and Bernhard Riemann, among others, understood the principle of experimental physical science. Figures 2 and 3 illustrate the nature of the physical evidence to this effect. The raw beginning of the experimental-physics argument to this effect, is, that the combination, of increases in potential relative population-density, and improvement of demogaphic characteristics of populations and their households, is the product of a voluntary principle of man's willful, cognitive (not "informational") dominion over nature, absent in all lower forms of life.

The notion of man and woman as each made in the image of the Creator, is, in short, like the legendary principle of gravity, a universal principle of natural law, to which all nations, peoples, and persons are equally subject, a principle which they may violate only at natural risk, whether they choose to recognize its authority, or not. Thus, is true law situated, as it must be located in the simultaneity of all: *Analysis Situs,* yet once more; so, the leaders in the creation of the young American republic of 1776-1789, followers of Leibniz, and adversaries of the pro-slavery John Locke on precisely these accounts, framed a Declaration of Independence which features "Life, liberty, and the pursuit of happiness," Leibniz's rejoinder against Locke, in preference to the slave-holder's and Confederate sophistry of "Life, liberty, and property." So, the Leibnizian notion of "general welfare" came to be featured as integral to the fundamental law of our Federal Republic, the Preamble of its Constitution.

To understand the causes for the inevitable, onrushing doom of the world's present international monetary and financial institutions, we must examine the present-day issues of generally taught economics from the vantage-point just stated. It is the generally accepted philosophies of economic and related social policy, of today's university classrooms, the which represent the axiomatic root of the galloping moral and intellectual decadence, and onrushing doom, of the U.S.A.'s and the world's economy today.

That axiomatic issue is the irreconcilable difference between two irreconcilably opposing conceptions of the individual personality. On the one side, the notion associated with Plato and Christianity, the principle strongly affirmed by the founding of the Golden Renaissance: the principle, that man and woman are each made in the image of God, to exert increasing dominion over nature. The opposing principle, is the mechanistic notion of man, as a talking beast. This mechanistic perversion is the characteristic of all thought properly filed under the rubric "Enlightenment": its (empiricist, materialist, logical positivist) dogmas in history, economics, political science generally, and modern empiricist and positivist teachings of anthropology, sociology, psychology, and even mathematics.[13] This is the dogma of the followers of the neo-

12. For the view of the revolutionary moral impact of the modern nation-state, over morally inferior earlier forms of culture, see Friedrich von der Heydte, ***Die Geburtsstunde des Souveraenen Staates*** (Regensburg, Germany: Druck und Verlag Josef Habbel, 1952).

13. On mathematics, see below.

*Smith, Marx and Euler were assets in the Venetian Party's war to destroy the work and influence of Gottfried Leibniz.*

*Adam Smith (1723-90)*

*Karl Marx (1818-83)*

*Leonhard Euler (1707-83)*

Aristoteleans William of Ockham and Pietro Pomponazzi, led by Paolo Sarpi, and such among Sarpi's lackeys and followers as Galileo Galilei, Francis Bacon, Thomas Hobbes, John Locke, Bernard Mandeville, the feudalist Dr. François Quesnay, Voltaire, Adam Smith, Leonhard Euler, Jeremy Bentham, Immanuel Kant, and so on.

In political-economy, the Enlightenment's bestialized misconception of individual human nature, is the universal characteristic of every "main scream" economics and related teaching today. *To wit:*

The crucial point of departure for the present writer's crucial, original, 1948-1952 discoveries of principle in the science of physical economy, was a simultaneous attack on the characteristic fallacy of Marx's economics as well as the "information theory" hoax of Norbert Wiener and the perversion called "systems analysis," as typified by Wiener's associate John von Neumann.

Just as Marx insists, in sundry locations within his four-volume ***Capital:*** in constructing his deterministic model of capitalist reproduction, he has left technological progress out of account. Marx ignores all of the then-available authorities in economic science, to follow in the footsteps of the authorities from which he, aided by British foreign intelligence's David Urquhart, selected his grounding in economics. Marx based himself on the previous arguments of Enlightenment ideologues such as François Quesnay, Giammaria Ortes, Adam Smith, and David Ricardo. Despite Marx's occasional differences with these wretched predecessors, he never departed from those crucial fallacious axiomatic assumptions of the Enlightenment, the which he shared in common with all of them, from Hobbes through John Stuart Mill, Bertrand Russell, and John von Neumann. Thus, as relevant figures from among leading figures of both Britain's Cambridge "Systems Analysis" circles, and Soviet specialists, observed, it is quite feasible to freely substitute Marx, or Leon Walras, or John Maynard Keynes, or the mathematical constructs of von Neumann, for one another in the same recipe for servings of academic economics stew. No such model actually works, but, to whatever passes for the taste-buds of the department's relevant virtual-reality center, the computer, they all share in common the same permeating flavor of *papier-mâché.*

As Cambridge University's Piero Sraffa sums the matter up, in his 1960 ***The Production of Commodities by Commodities,*** all of today's generally accepted, formalist representations of academic economic dogma, can be reduced to the assumption that some correlation between the abstract inputs and outputs of a system of simultaneous linear inequalities, can be stated for either prices or some other scalar metric, without considering the possibility that some determining sort of functional relationship exists between cognitive powers of the operative's mind, and variation in the qualities of product and productive powers of labor. Just as mathematician Thomas Hobbes' model of society anticipates a crude approximation of Ludwig Boltzmann's mathematical model for any unpleasantly aromatic collection of gas-particles, so, all other generally accepted attempts at deterministic, academic models of economy, Adam Smith's concoction and others, degrade man to a mere colligation of interacting, sinful appetites.

Thus, Norbert Wiener represents societies by reference to

Boltzmann's H-theorem. So, John von Neumann constructed his economic models of systems analysis, and professed to have redesigned the human mind, by "retro-fitting" it with those qualities of "artificial intelligence" which would bring psychology into less imperfect conformity with Thomas Hobbes' perversions, and von Neumann's own.

Notably, the civilian side of the Soviet economy tended toward the entropic perfection of Marx's and von Neumann's models, of solutions for sets of simultaneous linear inequalities; as we have witnessed since *perestroika* was introduced, only the substitution of Adam Smith for Marx could produce a worse result. However, in the actual practice of the Soviet military-industrial complex, we find a far less entropic model of economic behavior, a model, densely echoing the role of the machine-tool-design sector of the pre-1966 U.S.A. and German economy. The ability of the Soviet economy to challenge the military technological capabilities of the combined force of the U.S.A. and its allies for as long as it did, is reflected in the high density of scientists and engineers in the Soviet economy's strategic "machine-tool design" sector. The contrast of the advanced technology of the Soviet military sector with the dismal performance of the more technologically stagnant civilian-goods sector, highlights the role of the machine-tool sector within the military economy.

The same pattern is found among the Soviets' former adversaries. During the Twentieth Century, most emphatically, the U.S. economy has been in either an embittering recession or depression during all periods except those of large-scale, pre-war or war-time military mobilization. A related pattern has always been characteristic of the British Empire, since about the time of the 1714 accession of William of Orange's tamed Welf, George I, to the throne. So, also, in western continental Europe.

## How to measure economic performance

As this author has elaborated his 1948-52 original discoveries in economic science in numerous earlier ***EIR*** and other locations,[14] the specific difference between human beings and apes, is the ability of the human individual to generate valid *metaphors:* ideas which have no possible existence in language as presently used, but which nonetheless represent efficient principles of our universe. Thus, any artistic work, in any medium, is not truly art except as it meets that standard of metaphor. In Classical science, since Plato's founding of his Academy at Athens, all scientific ideas come into existence as human knowledge, through this process of metaphor.

To sum up those accounts, very briefly, here: This principle of metaphor came under systematic scrutiny by Leibniz. The present author came to understand this principle during mid-adolescence, through study of Leibniz's attacks on Descartes, his writings in the Leibniz-Clarke correspondence, and the Leibniz writing published under the title of ***The Monadology.*** It was chiefly through the present author's late-adolescent elaboration of a rigorous defense of Leibniz's ***Monadology,*** against the attack featured within I. Kant's ***Critique of Pure Reason,*** that this writer was prepared, a decade later, to attack the fraud of neo-Kantian Norbert Wiener's "information theory." The result of this assault against Wiener's and John von Neumann's systems-analysis hoaxes, produced the writer's 1948-1951 original discoveries concerning the relationship between the individual's metaphor-generating, sovereign cognitive processes and the gains in productive powers of labor through scientific progress. It was the subsequent, 1952, examination of relevant discoveries by mathematician Georg Cantor and Bernhard Riemann, which showed this writer the approach which must be adopted for the measurement of this effect.

We summarize here as much of those discoveries as are indispensable for defining that machine-tool principle upon which all successfully sustained (e.g., profitable) performance of agro-industrial economies depends.

The approach to measurement of economic progress depends upon the mastery of Plato's conception of hypothesis, especially as this conception applies to the distinction between Euclidean and non-Euclidean geometries. Riemann was the first to solve the crucial epistemological and formal issues of such distinctions.

Summarily, the application of the Socratic dialectical method to any mutually not-inconsistent array of propositions in geometry, leads to adducing an underlying set of definitions, axioms, and postulates. All possible propositions which are not inconsistent with each and all of the set of definitions, axioms, and postulates, constitute a *theorem-lattice;* the set of definitions, axioms, and postulates, so employed, constitutes an *hypothesis.* There is no system of mathematical, or other thought, which is not determined, so, by an efficiently determining, underlying hypothesis.

In economics, as in experimental physics generally, any fact of nature which can not be made efficiently consistent with existing generally accepted physical assumptions, constitutes a paradox: the fact exists, in stubborn defiance of pre-existing opinion's most hysterical efforts to deny the very possibility of its existence. Such paradoxes are the stuff of which valid experimental physics, and economics, is made.

In the history of experimental physics, each such paradox has the following general form. According to existing physics doctrine, the fact is an impossibility. Yet, even though the fact ridicules that aspect of existing opinion, existing opinion also contains a lot of efficient truth. Thus, physics (or economics) progresses through two most indispensable steps. The first step, is to define the principle of nature which the paradox expresses. The second step, once an experimentally valid principle has been adduced, is to create a new hypothesis, to supersede the hypothesis underlying the old scientific knowledge. We can not simply add the new principle to the old

14. e.g., Lyndon H. LaRouche, Jr., "The Essential Role of 'Time Reversal' in Mathematical Economics," ***Fidelio*** Winter 1996 (also, ***EIR,*** Oct. 11, 1996).

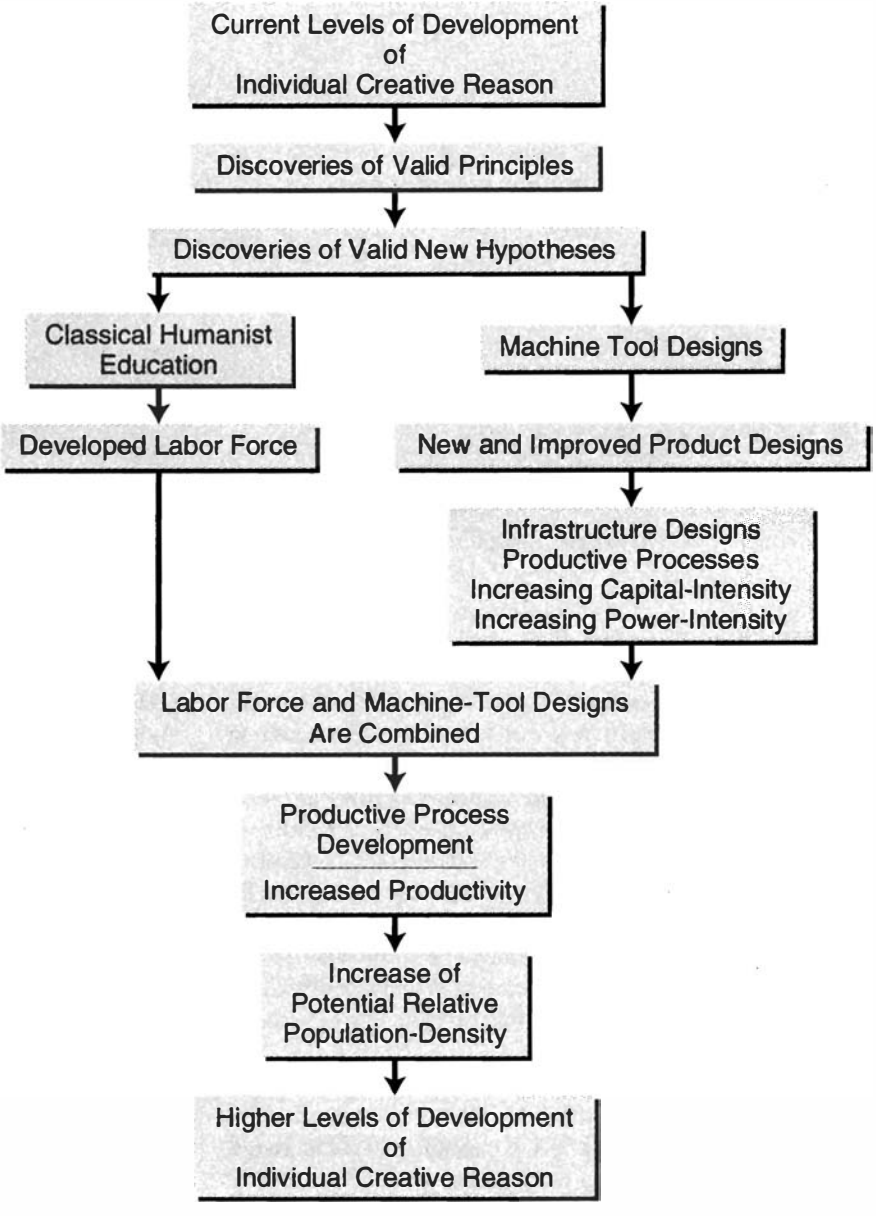
hypothesis, we must generate an entirely new hypothesis, in consideration of the way in which the newly discovered principle impacts each and every item of definition, axiom, and postulate of the superseded hypothesis.

Since Riemann's 1854 habilitation dissertation,[15] the difference between two successive such hypotheses of experimental physics is considered as a change in the "curvature" of physical space-time. For example, one might say, that any individual act taken upon a flat Earth's surface, would have a different characteristic result than the same apparent action taken on the surface of the ellipsoid Earth; we would also say, with Kepler, Carl Gauss, and Riemann, that the preference for elliptic, rather than circular solar orbits, references a relative difference in every action taken within the solar system. Such, roughly, are the implications of the same form of work performed by an individual in a national economy characterized by one set of technologies, and the same form of work, by the same individual, in a national economy characterized by a different set of technologies. The fact that the individual action's significance varies according to the context in which it occurs, is a notion belonging to the domain of *Analysis Situs.*

The economic requirement that every young person in modern society must enjoy a Classical humanist form of education, rather than that "textbook" education generally employed in schools today, is that knowledge of a valid principle of nature can be imparted to a person *in no other way* than the method central to such a humanist education. The student must be confronted by a paradox, which confounds what the student has believed up to that moment. The student must overcome that paradox by generating the solution to the paradox, not through receipt of "information," but only through reenacting a relevant original discoverer's original act of discovery within the sovereign cognitive processes of the student's own, utterly private mental processes. What a student has learned in that way, the student actually knows; what he has learned to identify by textbook methods of education, he does not actually know. In the latter case, he, or she, is merely gossiping about what they read, or heard some place.

If a student comes to know a succession of many valid conceptions of discovered principles in a Classical-humanist way, the student also knows something much more fundamental than any of those learned principles. The student whose education has been centered on privately reenacting a succession of valid solutions

FIGURE 3
**How the Machine-Tool Principle is situated**




15. Bernhard Riemann, *"Über die Hypothesen, welche der Geometrie zu Grunde liegen"*, ***Bernhard Riemanns Gesammelte Mathematische Werke,*** H. Weber, ed., second edition (New York: Dover Publications, 1953).

*A summer-camp science class with nuclear scientist Dr. Robert Moon, who helped the students re-create some of the fundamental electrodynamic experiments of nineteenth-century French scientist André-Marie Ampère, including the making of the experimental equipment. "If a student comes to know a succession of many valid conceptions of discovered principles in a Classical-humanist way, the student also knows something much more fundamental than any of those learned principles."*

to crucial paradoxes—as if, thus, to reexperience much of the history of human knowledge, has come to master the use of that principle of his, or her own private mental life, a principle whose common quality is that it is the efficient means by which a succession of valid original discoveries of principle was reenacted. This principle is identified by Plato as *higher hypothesis.* In Riemannian physics, this *higher hypothesis* corresponds to the ordering-principle underlying a succession of valid discoveries of principle, an ordering-principle in the changing curvature of physical space-time, for example. This training of the student, is the production of the adult person capable of assimilating and generating valid principled solutions to problems with which that student has never been confronted before.[16]

Classical humanist education in reexperiencing many of the most important valid, original discoveries of past history, up to the present; it is the key to competence in comprehending history itself; and, it is the prerequisite for the aptitudes qualifying the matured student for employment in an environment of technologically progressive production. This is also the method for developing those moral qualities of the individual person which reflect the fact that he, or she is made in the image of the Creator. Any other form of education, or very little education, is a cruel, very un-American cheating of the individual by the society.

This quality of education is the companion of Classical forms of scientific and artistic progress (as opposed to the grunt, sweat, screech, and howl alternatives). Such education is associated with scientific progress; from such a symbiosis of education and science, society obtains the principles which revolutionize the strategic machine-tool sector, and the labor-force which is qualified to assimilate those revolutionary changes in an efficient way.

It is those directions of change in the technological environment of education and production, which increase the net productive powers of labor, per capita, per household, and per square kilometer. Without those changes, reversing the entropy of technological attrition, the economic process would be as characteristically an "entropic zero-sum game" as the quackery of systems analysis presumes. It is those creative powers of the individual human mind, the same which define man as in the image of the Creator, which are the sole source of sustainable profit (e.g., sustainable not-entropy) in economies.

Thus, the rate of improvement in the characteristic conditions of life-in-general of entire societies, is in proportion to the extent and quality of compulsory universal education, and to the fostering of scientific and technological progress (and, also, related Classical forms of artistic progress) in development of the preconditions for increases of the productive powers of labor. Those preconditions feature basic economic infrastructure (itself chiefly the responsibility of government), the fostering of investment in capital-intensive, power-inten-

16. For example, in a competently run classroom, no written or oral examination fails to feature demanded answers for questions in which the student has had no preparation during the relevant preceding classes, or within the textbooks and other references assigned during those classes. The question is not how much the student retains from education degraded into a mere rehearsal for filling-out multiple-choice questionnaires; the question is, how well has the student's mind been developed for solving specific classes of problems which the student has not confronted earlier? That is the difference between the student who knows, and the parrot-like drudge, who has virtually memorized the algorithms in textbook and class notes.

sive modes of scientific and technological progress, and the ratio of the number of persons employed in the strategic sector of the machine-tool industry, relative to the total number of well-educated operatives employed in agriculture and industry.

Those latter, summary considerations show us why the economy associated with the A.D. 1471-1966 development of the modern European form of nation-state, had, despite all contrary, negative features of European civilization, improved the demographic conditions of life of the world's population more than all forms of culture before it, each and all taken together. The core of this superiority of that form of national economy is located predominantly within the principles of: 1) universally compulsory Classical humanist education; 2) fostering of investment in capital-intensive, power-intensive modes of increase in the productive powers of labor; 3) fostering of high rates of transmission of valid new discoveries of principle into the productive process and product designs at the relatively highest rate, as through a high-density role of the strategic machine-tool design-sector in respect to per-capita productive output.

## What went awry

Since the 1471-1966 development of nation-state economy, such as the United States and Germany, and Meiji Restoration Japan, Sun Yat-sen's community of followers on Taiwan, and so on, has performed so well, why should any sane person have wished to impede the spread and acceleration of these benefits to all mankind? Briefly, the modern nation-state, as it emerged in western Europe during the Fifteenth Century, occurred within a world at large which was dominated by an incumbent set of ruling oligarchies, both landed aristocracies and financier nobilities such as those of ancient Tyre and medieval Venice. The subsequent five and a half centuries, since the Great Council of Florence, have been a bloody war, fought upon a planet-wide stage, between two irreconcilably opposing principles: the society belonging to the citizen, versus a rule over mankind by the entrenched, landed, and especially, the financier oligarchies.

During the Seventeenth and Eighteenth Centuries, the emerging center of oligarchical power was shifted from Venice and the Habsburgs, to the maritime financier oligarchies of William of Orange's Netherlands and London. This latter, oligarchical faction was known throughout Europe of those centuries, as "the Venetian Party."

Exemplary of the war which the Venetian Party fought in the attempt to destroy the work of Leibniz, is the Europe-wide network of salons, known as the Enlightenment, established under the direction of Venice's Paris-based spy-master Antonio Conti. Voltaire is exemplary of Conti's assets. One of the key centers of the Conti network's efforts to eradicate the influence of its leading adversary of the time, Gottfried Leibniz, was an institution established by Leibniz himself, the Academy of Science in Frederick the Great's Berlin. From the arrival of the Swiss mathematician and fanatical Newtoncultist, Leonhard Euler, at this Academy, in 1741, through the death of Frederick and the 1787 departure of Euler's successor, Joseph Lagrange, this Academy was the center of production of a series of gigantic hoaxes, mostly directed against Leibniz and Leibniz's co-thinkers. Through a hoax perpetrated against Leibniz's ***Monadology,*** and against science, by Euler himself, Euler's ***Letters to a German Princess,*** all modern science was set back since, through a doctrine enshrined in Lagrange's dogma respecting analytical functions, the fraudulent presumption that physics is mathematically linear in the very small.

The influence of Euler on the doctrine of his contemporary, Immanuel Kant, was enormous. The entirety of the famous four *Critiques* of Immanuel Kant, is derived from the tautological fraud at the center of Euler's ***Letters to a German Princess.*** Thus, it was the writer's adolescent battling against Kant which provided the training for attacking the neo-Kantian frauds at the center of the hoaxes of Norbert Wiener and John von Neumann.

The essential, common fraud of Euler, Lagrange, Kant, Bertrand Russell, and Russell's students Wiener and von Neumann, is the assumption, that any valid discovery in physical science might be derived from the kind of mathematical formalism consistent with the assumptions of Eulerian infinite series: linearization in the very small. In this kind of mathematics, the real world of Carl F. Gauss and Bernhard Riemann is presumed to be non-existent. No principle of hypothesis is allowed. In short, the kind of mathematics associated with the Conti-Euler-Kant tradition substitutes for the real universe, a fictitious, mathematical universe, a mere *virtual reality.* For these empiricists, as for Thomas Hobbes before them, metaphor is not permitted; valid cognitive discoveries of principles of nature, are denied, as Kant denies them.

The included outcome is the absurdity which passes for economic theory in the classroom and boardroom today, a virtual-reality economic process, in which the role of the cognitive powers of the individual person is allowed no efficient functional expression in the account given.

The centuries-long issue is simply this. To have a progressing form of modern nation-state economy, it is indispensable to provide compulsory and universal, Classical humanist forms of education, and to provide the vocations and circumstances in society suited to the needs of those young and matured persons who are products of such education. In such a society a parasitical oligarchy of the "Venetian Party" type ruling London and Wall Street today, would not be tolerated. The leading oligarchical intelligentsia are not so ignorant as to believe, themselves, what they would have our Congress, and you, to believe. They know that our form of economy has worked brilliantly, and would do so again; they know that their neo-Malthusian model is an economic catastrophe; but, they also know, that under a successful society, the power of parasitical oligarchies to rule the nation and and world would soon come to an end. They would prefer "to reign in Hell, than be a mere citizen in Heaven."