

Housing people in a 'post-industrial' U.S.A.

by Lyndon H. LaRouche, Jr.

Nov. 26, 1996

In a time of such perversities, that an ex-U.S. President is otherwise known as Britain's Sir George Bush, and is employed as a high-paid hustler for the Moonie cult, it must be said, that what public opinion deludes itself into believing, is more dangerous than its lapses into simple ignorance. As today's popular classroom delusions respecting both transcendental functions and prime numbers vanish, once we depart the mere virtual reality of the Euler-Lagrange mathematics for the experimental actuality of the Leibniz-Gauss-Riemann domain,¹ so, U.S. government policy-making is freed from the delusory virtual reality of today's university economics, when we depart the classroom's fantasy-life for the real-world science of physical economy,

For example, in a day when the Congress's Republican majority virtually punctuates its sentences with ritual allusions to "family values," why are those same Republicans continuing to push programs under which more and more working Americans are unable to afford the decent housing

1. Riemann's fundamental discoveries in physics, beginning his 1854 habilitation dissertation, demolished for once and for all any allowable return to the neo-Newtonian delusions of Frederick II's Euler-Lagrange coven, respecting both transcendental functions and a general theory of "prime numbers." Once we apprehend the physical significance of a succession of Riemannian physical-space-time manifolds, we can no longer tolerate the delusion that "transcendental functions" are an expression of "transcendental numbers." Also, the solution which Riemann derived for the so-called "prime number" domain, from such a principle of manifolds, is not, as some moderns delude themselves, an "approximate solution" for prime-number determination; it is the only solution: prime numbers do not exist as "natural numbers" of cabalist Leopold Kronecker's Babylonian domain; they are defined, in their very nature, by the manifold within which they are subsumed! This has direct conceptual relevance for the problem of housing addressed herein.

upon which family life axiomatically depends? To what went wrong with the U.S. government's housing policy, start with a time when the U.S. government's economic-policy-thinking was still more or less sane, about thirty years ago: See the difference between then and now through the eyes of the physical economist.

Take as a model of reference, the case of housing conditions in Boston, Massachusetts. The neo-Malthusian cult of post-industrial utopianism hit northern New England, early, fast, and hard. It began, during 1966-1967, with a wave of unemployment hitting aerospace-related scientists and engineers along Greater Boston's famous circumferential, suburban Route 128. Over the past three decades, the impact of deindustrialization has been cumulatively savage. The leading expression of the impact of deindustrialization upon that area's worsening social crisis in housing, is the relationship between an organization known as the Vault, and the way in which Federal and other programs, such as those of U.S. Department of Housing and Urban Development (HUD), are used, against the interests of both senior citizens and others, to the purpose of enriching immensely wealthy, essentially parasitical financier interests.

Politically, former Democratic Governor Michael Dukakis was an asset of the Vault's special interests. Republican Governor William Weld's financial connections to both the family of George Bush and to the Bank of Boston's interests, put him in the same Vault with Dukakis. To understand Greater Boston's social crisis, one must take those connections into account.

The kernel of the Greater Boston housing crisis is this. Once a formerly industrialized region, such as the New England environs centered upon Greater Boston, is virtually stripped of both its most modern and traditional sources of

productive employment, whence does state and local government derive the tax revenues upon which budgets for essential public services depend? Without the income directly and indirectly derived from productive employment, state and municipal governments, like the Federal government, are tempted more and more, like New York City, into the lure of usury, especially usury in the form of ground-rent. As the lemming-like lunacy of neo-Malthusian, "post-industrial" utopianism, plunges more and more communities around the nation over the cliff, into similar circumstances, HUD has been corrupted into serving as an accomplice of this dive onto rocks of ground-rent speculation.

The crux of the speculative real-estate binge is, that a municipality which is stripped of much of its places of productive employment, is degraded more and more into the logic of ground-rent. Its taxable revenues are measured in acreage; balancing budgets means, more and more, simply increasing the taxable rental, or analogous monetary flows which might be generated through the various plots of that acreage. Once the City Fathers have come around to that radically monetarist view, the question is, how do they foster the increased rates of taxable financial flow through the property-titles associated with the particular bit of acreage being considered? Up pops the Devil, straight from the Vault.

The scenario runs something like this.

Go back a couple of decades; the relevant Devil is speaking to a group from among the proverbial City Fathers: "Let us look at this area of tax-revenue here. You now have a concentration of multiple-dwelling structures here, with an average capital valuation of \$40,000 or so per family household. We propose to clear this land-area for high-rise structures which will command a leveraged market price of \$100,000 or more per dwelling unit." Today, the figure would often be nearer \$250,000, or higher. "Therefore," the Tempter continued, "if the City could make an arrangement with us, which reduces the tax rate per thousand of assessed valuation, after we take over this area, the city would reap a harvest of increased revenues by making new types of agreement for sharing part of the gross financial flows, which our redevelopment operations will bring to this area. This means, of course, that we must move the present families out to clear the way for our plans."

That, in short, is the underlying logic of the long-wave process of "Negro removal," and similar manner of corrupt fruits of the Yuppie age's so-called "gentrification" fad, the which are delivered to such localities as a post-industrial Boston. This is the key for understanding the nationwide epidemic of homelessness among the working and pensioner poor.

How to understand the unreal-estate business

So far, a sizeable ration of our citizens pretend, at least, to see nothing economically foolish, or even morally wrong in those forms of ground-rent speculation. The axioms responsible for the disorientation of such people, are of the

type associated with the Physiocratic dogma of the celebrated, Eighteenth-Century, pro-feudalist reactionary Dr. François Quesnay. That is the Quesnay whose dogma of *laissez-faire* was plagiarized as the doctrine of "free trade" by the British East India Company's Adam Smith, a dogma which Quesnay, in turn, had plagiarized from the pro-satanic recipe of Bernard Mandeville's "Fable of the Bees." Thus, present-day academia's ground-rent fanatics may be seen as in the intellectual company of those decayed old aristocrats to whose highly original dogmas they devote such affectionate attention. The evil Quesnay provides our inquiry a clinical benchmark.

The import of Quesnay's *Tableau Economique* is the fallacious presumption which Quesnay shares in common with the famous Twentieth-Century hoaxsters Norbert Wiener and John von Neumann, among others: the presumption that "commodities produce commodities": Quesnay's arbitrary claim, that it is the land itself (e.g., "nature," Gaea herself) which produces wealth, rather than mankind.²

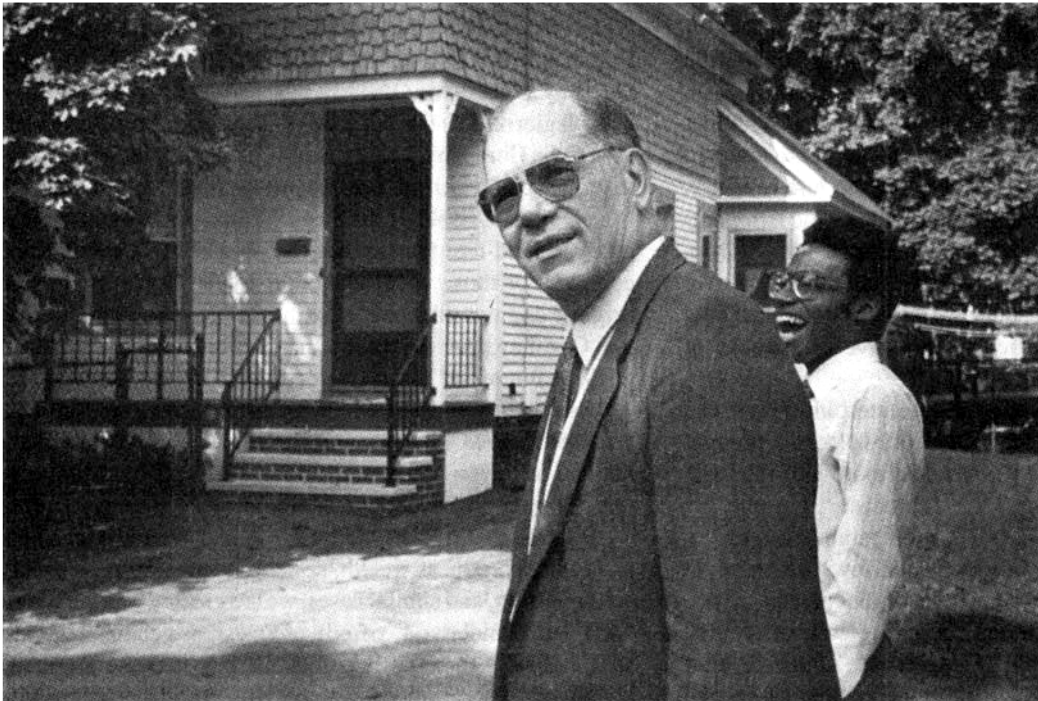
In Boston, and similar cases, we are greeted by a perverse, "Alice in Wonderland" parody of Quesnay's claim. The current, radically monetarist parody is, that it is the artificial, leveraged "market price," which a rigged market assigns to a mere title to real estate, rather than the real estate itself, which secretes the epiphenomenon called financial "wealth." This latter may be regarded, clinically, as but typical of the post-1966-1972 adult generation's increasing preference for "information-age virtual reality," rather than reality.³ This "New Age" monetarist version merely substitutes the variability of financial "virtual reality," in place of the pagan idea of nature in Quesnay's equation; but, the mathematical form of the argument is otherwise identical.

As this writer has emphasized, consistently, during more than four decades to date, the sole source of sustainable "macro-economic" profit of a society, is "the productive powers of labor."⁴ This construction is represented in the following way.

2. See Lyndon H. LaRouche, Jr., "While Monetarism Dies," *Executive Intelligence Review (EIR)*, Oct. 25, 1996; and, "Russia's Relation to Universal History," *EIR*, Nov. 30, 1996. On the subject of Wiener as a hoaxster, Göttingen's Richard Courant and David Hilbert may be cited. On von Neumann, see also, "The Descent to Bush from Man," *EIR*, Nov. 15, 1996.

3. The mathematically fastidious reader will wish to be informed, that the use of "virtual reality" as a simulation of actual phenomena, is an extrapolation of the absurd axiomatic presumptions of simple mathematical continuity which underlie the heritage of the Euler-Lagrange hoaxes respecting both infinite series and hereditarily related notions of analytical functions. In short, "virtual reality" hangs upon the presumption of linearization in the very, very small. As soon as a scientist becomes sufficiently literate to acknowledge the principle of the Riemannian series of physical-space-time manifolds, he or she will exclude the delusion of the Euler-Lagrange construct, and the derived absurdities of "information theory," from his, or her practice.

4. Cf. U.S. Treasury Secretary Alexander Hamilton, *Report to the U.S. Congress: On the Subject of Manufactures*, December 1791. See Nancy Spannaus and Christopher White, eds., *The Political-Economy of the American Revolution*, 2nd edition (Washington, D.C.: EIR News Service, 1996).



Lyndon LaRouche (left) and associate Dennis Speed outside LaRouche's birthplace, in Rochester, New Hampshire, during the Presidential election campaign in 1987. "To the occasionally returning former native of the region, the tempo and outcome of the physical, economic, and intellectual degeneration of that area since the 1967 phase-down of the Route 128 aerospace sector, has been stunning."

First, measure the relevant inputs of the society's productive cycle in market-baskets. Define such market-baskets for labor-force, family households, basic economic infrastructure, agriculture and related, industrial production and related, for education, for health-care, and for essential science and technology services such as scientific research. Measure these market-baskets in terms of per capita of labor-force, per family household, and per square-kilometer of relevant area.⁵ Include in these market-baskets only three categories of professional services, in addition to physical goods requirements: health-care, education, and science and technology services.

Second, map the flows of these goods, as inputs, and as outputs, in terms of applying corresponding bills of materials and process sheets to a grid-system representing the national economy.

Third, estimate the variability of the relationship between contents of market-baskets and per-capita physical-productive powers of labor, discounting for inhering "technological attrition."⁶ Estimate the associated power-intensity and (physical) capital-intensity, as expressed in market-basket equivalents, for the current level of technology and physical productivity.

5. On the shrinking of U.S. market-baskets, see "EIR Special Report," *Executive Intelligence Review*, Sept. 27, 1996, pp. 12-37.

6. The various aspects of marginalization of physical cost of materials, arising through increased use of "raw materials," can be offset only through technological progress. Also, as technology advances, a new round of further advances in technology becomes necessary. Such combined, and related effects are classed under the rubric of "technological attrition."

Fourth, define all necessary market-basket costs of input for the total economy as the physical-economic process's relative "energy of the system." Power-intensity and capital-intensity to be maintained are included. The excess of output of the content of market-baskets over required input, is treated as the relative "free energy" of the process. The not-entropic precondition for assigning "profit" to the relative "free energy," is the requirement, that the ratio of "free energy" to "energy of the system" must not decline, despite the required increase in the relative energy of the system per capita of labor force and per square kilometer of relevant area.

Whence the increase of the sum of the outputs of all productive nodes of the economy's network, over the sum of all of the inputs? How is the transformation of the inputs into a gain in output accomplished, by what agency? Here, as we have noted in locations referenced above, is the point on which all of today's generally accepted university classroom versions of economics descend into babbling quackery.

Now, make the following statements with an eye to the assumptions underlying a deductive, deterministic type of mathematical representation of the considerations just sketched.

The sole agency of "cause" for increase of output over input, in an attempted mathematical description of the physical-economic input-output process, would be the productive powers of labor of the employed labor-force. The only available mathematical representation of the specific action by that labor of individuals which produces this desired outcome, is the Riemann model of a sequence of physical-space-time manifolds. This Riemannian model, employed to represent

the relationship of the developed cognitive processes of employed labor to the productive process, defines the characteristic feature of the physical-economic profit function.⁷

Other physical considerations, excepting this cognitive function of employed labor, are not regarded as “causes,” but as constraints imposed upon the conditions of production. These constraints represent values which must be satisfied as a precondition for effective employment of the productive potential of the employed labor-force. The development of the land-area, i.e., its infrastructural characteristics, is an example of this. Similarly, tools do not work; people do.

Look at the economic history before and after the recent thirty years’ degeneration of the productivity and culture of the Greater Boston area, and immediately adjoining areas, in light of the physical-economic principles just identified.

Apart from the opium-traffickers

The selection of the Boston area for this case-method treatment of the housing crisis, has much to do with the fact that the writer was born in Rochester, New Hampshire, about 70 miles north of Boston, in 1922, and moved to Lynn, Massachusetts, a few miles north of Boston, in 1932, where he was schooled and domiciled until moving to New York City in 1954. During the 1950s, and later, he visited the area not infrequently. To the occasionally returning former native of the region, the tempo and outcome of the physical, economic, and intellectual degeneration of that area since the 1967 phase-down of the Route 128 aerospace sector, has been stunning. The writer is situated thus, to provide relevant insights into the case-history of that region, which most other reporters would lack the professional qualifications to develop, and to note facts whose significance most residents of the area would tend to overlook unless prompted to examine the history of the locality in a fresh light.

Acknowledge the fact, that Boston’s area, like Yale’s, has been dominated by what has been apparently a genetically treasonous pack of wealthy parasites associated with the descendants of old Judge Lowell, the Perkins Syndicate, and Russell & Company opium-traffickers. Those “Boston Brahmins” aside, there used to be a good side to the identification of Boston as “the Athens of America.”

This good side had a great deal to do with Boston’s role as a center of relatively good secondary education and higher education, musical culture and the practice of medicine notably included.⁸ This good side of Boston is exemplified by the

7. Lyndon H. LaRouche, Jr., “While Monetarism Dies,” op. cit.

8. It is not irrelevant, or otherwise inappropriate to note, that in late 1940s Boston, the writer considered it a reasonable proposition, to canvass Boston circles on behalf of supporting those who proposed to bring the world’s leading conductor of that time, Wilhelm Furtwängler, to head the Boston Symphony Orchestra. Earlier, at the close of World War II, in coming back to India from northern Burma, the writer had reached the replacement depot with a ravenous appetite for music. What could be scavenged from the Red Cross center outside Calcutta was an HMV recording of Furtwängler con-

influence of Benjamin Franklin’s great-grandson, Alexander Dallas Bache of Philadelphia, on pre-Eliot Harvard University. Bache was the most direct link of the United States to the world’s center of scientific progress, the Germany of Carl F. Gauss and Alexander von Humboldt. Until President Eliot’s subversion, Harvard was a leading U.S. center for those scientific and related Classical connections. Discounting the fact, that the Massachusetts Institute of Technology (MIT) was set up by members of the Lowell family’s tribe as a countergang to Bache’s influence at Harvard, the greater Boston area was a key concentration of scientific and related education and activities. It was the impact of Boston’s quality as a center of education with those kinds of Nineteenth-Century continental connections, which imbued the labor-force of the area with a relatively high quality of productive potentials. The Route 128 aerospace development of the 1950s and 1960s, and the temporary, but nationally celebrated business success of the writer’s old chessboard acquaintance, Lynn’s Izzy Bakalar, typified the benefit.

The “New Age” hit the Boston area hard. Already, by the late 1960s, the writer’s one-time home city of Lynn was a disaster on the way to becoming a catastrophe. In his more recent visits to old haunts in New Hampshire and the Boston area, his emotion was one of combative sadness: How could this have been allowed to happen, as it did?

Against that background: that region of New England was formerly a great center of wealth-creation through production. Through affinities with a major General Electric plant there, Lynn once bragged of being “the best lighted city in the world.” In that region, citizens who were assembled as labor-force, to work the facilities located on some plot of land, produced wealth. Now, relatively speaking, many subsist in reduced circumstances, in ways which suggest “taking in one another’s laundry,” ways euphemistically described as the “service economy of the information age.”

Similarly, today, the U.S. economy as a whole produces no net physical-economic profit. It has not done so for about twenty-five years. All talk of “net growth” in the U.S. economy, is hoax, or merely hype. Measured in market-baskets, as that approach is outlined above, the U.S. physical economy has been contracting at a rate in excess of 2% per year, throughout the 1971-1996 interval. Exemplary: two to three jobs are needed to afford today’s family household a real income significantly less than that of a comparable family twenty-five to thirty years ago.

In the Greater Boston area, the “gentrification” is a mere facade, the show of prosperity, that of a “Potemkin Village.”

ducting Tchaikowsky, a selection which did not greatly please this writer, until he heard the performance under Furtwängler, and knew, at that first hearing of a Furtwängler performance, that he was meeting the world’s greatest conductor. In the late 1940s, the idea that an ordinary citizen would fight, in that or kindred ways, to build up Boston’s role as a world center of science and art, was still an entertainable proposition, given what Boston was otherwise, Brahmins and all.

Behind the facade, all is tawdry and downright mean, and becoming worse by the season.

Ah, but some people are still enjoying profit! None of the lower sixty percent of the income-brackets, certainly. Actually, taking into account interest accumulated on credit-card debt, none of those in the lower eighty percent are doing better than holding some of their former ground. Perhaps, the top five percent is better off financially than a decade or so ago? Certainly, the top one-half of one percent has not yet felt its oncoming moment of great pain. From whence is the gain of those small percentiles of the society derived, while the national economy as a whole has not seen a net physical profit in more than twenty-five years? Obviously, one man's profit must come chiefly out of a lot of other people's hides.

Ground-rent speculation, by wealthy parasites, working in conjunction with state, local, and Federal elected officials and bureaucrats, is typical of the means by which some increase the increased misery of the many, to eke out thus the profits of a few. Other tricks of the financier pirates included the hoax called "Outcome Based Education" and the swindle called "Attention Deficit Disorder." The hottest swindle on the financial market-place today, is the actuarially mass-murderous scheme called "Health Management." A common name for all such swindles, combined, is the argument that "lowering the tax-rate on financial capital gains" will be good for the economy. A generic name for that, is "Pass the balanced-budget amendment."

Who are the perpetrators who should be consigned to the tumbrils? The blame for allowing this, lies, not so much with the relative handful of the useless Yuppie rich, but those ordinary U.S. eligible voters, the victims, who, have gone along, year after year, for now about thirty years, with that "post-industrial" agenda which has destroyed most of the wealth-producing base of our national economy.

From the founding of the United States as a Federal constitutional republic, until thirty years ago, the conditions of life in the Greater Boston Area were still tolerable for ordinary family households. Until thirty years ago, during every period of the successful economic growth of the United States, the axiomatic principles guiding national economy policy were those of Alexander Hamilton's 1791 Report to the U.S. Congress *On the Subject of Manufactures*. The vast superiority of U.S. productivity, over that of the imperial United Kingdom's parasite-economy, for example, was located in the fact, that most of us, putting slave-owners and kindred degenerates to one side, were committed to government's leading responsibility for promoting investment and maintenance of basic economic infrastructure. We were committed to fostering investment in scientific and technological progress, as the means for increasing the productive powers of labor. We were committed to policies of public and higher education which aimed at developing the intellectual character of future citizens, as well as their potential for participating in scientific and technological progress.

We were a nation which abhorred "recreational" use of drugs, because we recognized that general happiness depended upon promoting the mental states associated with that practice of Classical art and scientific progress which is the difference of man from the beasts. We enjoyed living within our minds, and had good reasons to do so. We lived in a society where people "got a head by using it properly."

In short, the blame for the suffering of the majority of our people is essentially, that until most Americans recognize that the cultural paradigm-shift induced, first, among college-age youth, thirty years ago, was the root of all of the disasters now coming down upon our collective heads, matters will only become worse. Let those who do not wish to correct that mistake cease to complain: whatever their suffering, they have brought it all upon themselves, and many others, innocent victims, besides. The housing crisis is like the venereal disease the man brought home to his family; he did not invent the disease, but he fostered its spread. The citizens do not need to know whom to blame, as much as to clear their own heads of the "New Age" slop and delusions which caused them to allow the cult of "post-industrial society" to wreck our national economy during the past thirty years.

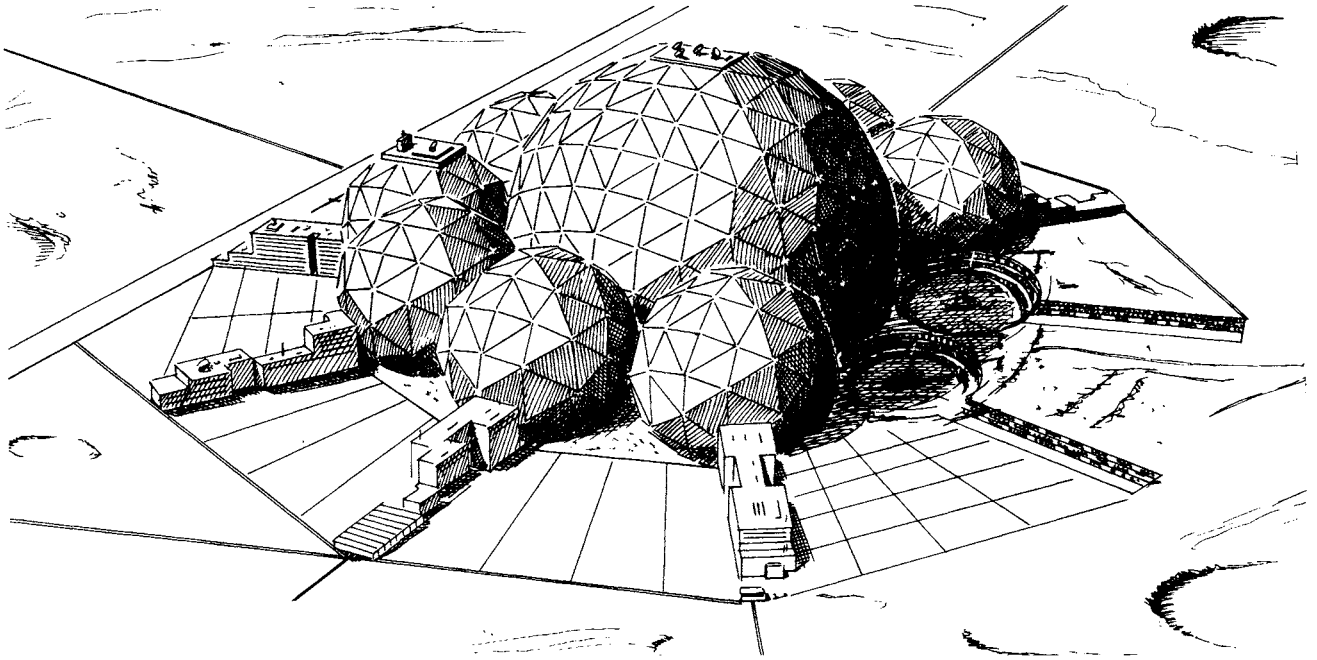
Meanwhile, on housing as such

This brings us to the crucial issue underlying the social crisis in housing in the U.S.A. today. The horrifying human failure of the past thirty years' trends in real-estate policy and practice compels us to examine afresh a point recently raised in Russia. We live in times, not only in Russia, during which we must reconsider the need for reforms in those conceptions of real-estate policy to which we have been habituated by generations of life under the recently failed economies, such as the former Soviet Union, and also the U.S.A. today. We require, as Russia's Academician Lvov has noted for the case of Russia, a fresh, functional approach to the notion of property-rights in land-use.⁹ Have we learned nothing, on this account, from the experience of this century?

To understand the physical-economic reality of the real estate of the planet Earth, let your imagination look a half-century ahead, to a time when scientists and others are traveling in significant numbers, from Earth-orbiting space-stations, toward scientific colonies, under artificial "domes," on Mars. In your imagination, turn your thoughts back, to compare the development of colonies on Mars—and who knows where else beyond, to come?—with the use of real estate on Earth.

To make short of the matter, your point of view is shifted, away from petty notions of real estate on either Earth or Mars colonies; you are forced to abandon all the nitty-gritty nonsense associated with popular thinking about real estate today. You are forced to think of man creating and developing the

9. Academician D. Lvov, "Toward a Scientific Grounding for Economic Reforms in Russia," *EIR*, Aug. 25, 1995.



An artist's conception of a colony on Mars, shown here in the construction stage. "To understand the physical-economic reality of the real estate of the planet Earth, let your imagination look a half-century ahead, to a time when scientists and others are travelling in significant numbers, from Earth-orbiting space-stations, toward scientific colonies, under artificial 'domes,' on Mars."

preconditions for human life and activity in the universe at large. As you think of doing just that in the universe beyond Earth's biosphere, you are forced to adopt a fresh, healthier view of man's development of Earth itself, as the rehearsal of a principle essential to the exploration and colonization of space. That healthier view, is key to solving the social crisis in housing here on Earth today.

Had the Greater Boston Area of this century not suffered that reversed cultural evolution manifest there today: What general principle of the past, present, and future history of the human species, might the folk of that region rightly adduce from space-age experience, respecting some functional principle underlying the mortal individual's transient occupation and use, or ownership, of land? What should we say of the relevance of the opinions of actual, or would-be policy-makers, who lack a notion of the relevance of such a principle? Once we have acknowledged the manifest lunacy, and unnecessary cruelty of the presently worsening, past thirty years' trends in U.S. economic and real-estate policy, how is that principle to be applied to effects bearing upon today's U.S. social crisis in housing?

If we combine what science and history show us to be the essential, functional distinction, unlike that of any animal species, of man's relationship to the universe, the fact that mankind has begun to enter nearby space obliges us to recognize, however belatedly, the functional role of use of Earth's land-area to the successfully continued existence of our species.

For reasons of scientific principle which we have indi-

cated in earlier locations, the test and the practical effect of progress in human knowledge, is the increase in mankind's relative domination of nature, man's increased power, both as a species, and per capita, in the universe at large.¹⁰ In the language of the King James' Authorized Version's *Genesis* 1, man's dominion over nature, as man's first landing on the Moon enriches our knowledge of the relevant principle.

When we consider the functional transition of the actions of our species, from man on Earth within the universe, to man from Earth acting upon the universe, we do not abandon any principle which was true for man as no more than an inhabitant of the Earth; but, we may be impelled to refine our appreciation of that principle. Specifically:

1. For mankind as a species whose willful efficient relationship to the universe is confined to actions upon Earth, the functional measure of human cultural development, is potential relative population-density.

2. For a mankind which, as a species, is transforming Earth into a platform from which to extend the principle of human dominion into the universe beyond our biosphere, the degree of mankind's potential relative population-density relative to, rather than merely on Earth, assumes the form of an implied measure of man's potential dominion in the universe at large.

The second vantage-point obliges us to view man's relationship to nature on Earth, as subsumed by the principle

10. e.g., Lyndon H. LaRouche, Jr., "The Descent to Bush from Man," op. cit.

governing man's relationship to nature in the universe at large. Effecting that shift in viewpoint now, rather than later, has very significant implied benefits for life on Earth.

During the years 1985-1988, this writer designed and elaborated a forty-year program for establishing the first science-city colonies on Mars. The superiority of that program over any other which appeared during that period, or later, lay in the uniqueness of the appreciation, incorporated axiomatically into that design, of certain social and scientific principles. For example, the forty-year program was premised upon an adopted assignment of mission, governing space-exploration and colonization in general. This included the application of principles which Leibniz located under *Analysis Situs*, to the design of the scientific missions.¹¹ It also included emphasis on the social principles necessary for an Earth which is oriented toward science-driver modes of space-colonization. That social principle was typified by stress upon the fact, that solving the challenge of designing science cities to be constructed on Mars, providing the confined artificial climates required, provides, as a by-product, the technology needed for improved forms of habitation on any part of Earth.¹²

The problem on which such views of the by-product benefits of space-exploration may be focussed, is the following.

During the past fifty years, since refugees from the ground-rent speculators' wasting of New York City, were dumped into the first Levittown, and especially since crafty financiers turned the Eisenhower period's national defense highway-system into a real-estate "developers'" shopping-mall bonanza, but more especially since the mid-1960s shift to "post-industrial" utopianism, the United States has been dominated by an unconscionable degeneration in land-use policy: destroying our urban centers, the most efficient economic machines yet invented, for the delights of a costly, grossly inefficient misuse of "suburban sprawl."

For people, especially those who walk, or travel in personal vehicles, increase of distance from residence to essential services and workplaces costs time and money. The economic efficiency of Japan, prior to the destruction wrought by the "bubble economy," was a curious benefit of the fact that land-use in Japan is highly concentrated by geographic necessity. Stretch the distances between two functions frequently employed by some members of the household during the week or month, and the cost-efficiency and quality of life are depleted accordingly. To be within (safe) walking-distance of "virtually everything,"—schools, libraries, alternate places of employment, and so on—is the modern, technologically progres-

sive, and clean urban industrial center's great contribution to economy and to quality of personal life. The point is to make such urban centers as cleanly, and as technologically and culturally progressive as they can be. Thinking about designing science-cities on Mars, brings all of the principled questions for Earth's urban-development policies sharply into focus.

For example, turning attention again to Japan. Tokyo is much too big, at least a Tokyo relying upon existing technologies. Cities, like good industrial products, are each produced in "economical-lot quantities." An urban area should be designed not to exceed some specific number of resident households; an optimum balance should be built into the design of such a city, a balance which should foresee a millennium to come. With modern methods of magnetic levitation, times between urban centers, or from the center to an agro-industrial periphery, and return, can be reduced to a relatively minimal lapsed time, comparable to that of movement within the city, and a relatively trivial incurred physical cost. With water management and new-city development according to space-oriented principles, the vast wastelands of the United States' "Great American Desert" could be sprinkled with prosperous such new cities, each designed for a maximum specific lot-size, ranging from a 100,000 resident households, upwards.

The proverbial "catch" in designing such urban centers, is not cost of operation, but, rather, the required per-capita capital investment. It is like the problem of designing a family automobile with a life of twenty-five years of low-cost repair; it is not the upkeep, but the original capital investment, which is the hurdle we must leap. Our attention is returned, thus, to the "not-entropic" principle referenced above. That reference implicitly exposes the leading economic issues of long-range urban policy, with which the United States must now confront itself.

Recall the referenced "not-entropic" principle of physical economy. The ratio of "free energy" to "energy of the system," must not decline, although the per-capita ration of "energy of the system" must increase. The latter increase, as in the instance of future cities, is chiefly for reason of capital factors. In the instance of the city, as in the economy's productive sectors, the increase of (physical-economic) capital-intensity is not merely allowable, but required, since the gains in productivity permitted by that investment are greater, by the yardstick of the "not-entropic" principle, than the costs of maintaining that capital improvement.

Think of the days when there was some semblance of reason for referring to the Greater Boston area as an "Athens of America." Put the emphasis, thus, upon urban cities whose primary economic function is the development of a population of households typified by a cognitively highly developed labor-force. Thus, that area would require urban policies centered around a density of educational institutions typified by certain parameters. First, a Classical humanist method of edu-

11. The relevant *Analysis Situs* is discussed in locations such as Lyndon H. LaRouche, Jr., "Russia's Relation to Universal History," op. cit.

12. "The Science and Technology Needed to Colonize Mars," *Fusion*, November/December 1986, pp. 36-61; "Designing Cities in the Age of Mars Colonization," *21st Century Science & Technology*, November/December 1988, pp. 26-48.



Boston's Quincy Shipyards, closed since 1986. "Once a formerly industrialized region, such as the New England environs centered upon Greater Boston, is virtually stripped of both its most modern and traditional sources of productive employment, whence does state and local government derive the tax revenues upon which budgets for essential public services depend?"

cation, as typified by the Schiller-Humboldt model for Germany, and Alexander Dallas Bache's model for U.S. secondary schools. Second, teachers, qualified in that Classical humanist method, in those classrooms, whose classroom teaching duties do not exceed three to four hours of a working day. There must be emphasized a goal of fifteen to eighteen pupils, modally, per class, so that cognitive interaction among teacher and class members may be optimized. Third, secondary schools and universities must be enriched by the presence of advanced research institutions, and suitable forms of employment opportunities for the cognitively developed, in that locality. Fourth, the educational programs must be situated in a local environment featuring not only scientific achievement, but also exemplary representation of Classical art-forms. The development of the cognitive potentials of the individual and household, is the primary economic goal of a good city. Once that primary goal is established, the choices for a cohering form of work-places for industrial and related production and development, are readily selected.

The source of the means for amortization of the increased capital investment, is the increase of the productive powers of labor made realizable through that capital investment. That well-spring of the potential for that increase, lies in the development and motivation of the households of the community, especially those representing the development ages under twenty-five years of age.

The abuses our nation suffers as a consequence of the

morally corrupt practices of ground-rent speculation, are quite literally mass-murderous, and otherwise monstrous. However, it would be a delusion to think that we could remedy the social evils the speculators have fostered, without eliminating the conditions which fostered the cancerous spread of such speculation. We must not evade the distinction between alleviating even potentially fatal symptoms, and destroying the disease which produces those symptoms.

The disease of our cities is the product of a set of interacting co-factors. During the past fifty years, especially the most recent thirty years, government at all levels appears to have lost all sense of rational land-use and of urban-centered economic development. In both urban centers and sprawling suburbia, the waste and other lack of simple governmental rationality are fairly described as of a lunatic quality. The summary conclusion which might be drawn by an intelligent observer from outer space, is that Americans today greatly overprice, but even more greatly undervalue land-area.

Let man's continuing first steps into space-exploration provide a spur to resumption of sanity in U.S. urban policy. Let us once again think of modern cities as the greatest engines ever devised for fostering the development of the productive potential and other most desirable qualities of their people. A commitment to placing priority on capital investment in urban centers so dedicated, will foster the increased wealth wanted to warrant the capital investment incurred. We require, urgently, a new commitment for our cities.