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Has Nature Any Right to Life?

By Earl Finbar Murphy*

I. The Birth of Autonomy

The world today is coming increasingly under the domination of a single ecumenopolis. It is a global city, leaving much of the land surface vacant but marking all open space as clearly subordinate to urban demands.

Historically, the power of the cities has been tenuous beside the vaster forces present among the rural areas or inherent in the larger nature lying beyond them both. Even in the mighty ages of Babylon or Rome, cities floated on the surface of the countryside, borne up by the surplus produced by a rural economy. They were luxuries, deriving population and wealth alike from the only available source: the countryside.

At their strongest, the ancient cities could only compete with the rural regions for people, revenues and political power. Their strength was brittle, being largely contingent on the leisure made available by the rural surplus. Whenever war or economic collapse destroyed the rural surplus, and thus the opportunity for trade, the countrydwellers were once again compelled to become self-sufficient. Without the surplus and the concomitant leisure so essential to city life, the reason for the cities vanished, their rivalry with their countryside ceased, and repeatedly the bereft cities passed into oblivion.

This, however, is fairly remote history. The cities that existed in western Europe at the beginning of the Renaissance acquired a patent on a process which gave them far more significance than their predecessors, enabling the culture which evolved to found or reorganize cities throughout the world. Describing the change is not simple, however, for like many processes, this one was composed of devices quite ancient and in no way innovative in themselves.

What proved important, though, was that these long-known de-

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vices—ranging from credit instruments to techniques for draining land—no longer functioned autonomously. Instead, learning, commerce, agriculture, craftsmanship, politics, one by one lost autonomy and opened up to poly-faced relationships with each of the others; it was their integration and simultaneous employment that stimulated the beginnings of the truly innovative.

A great movement for change, and yet initially, it scarcely seemed to produce any perceptible change at all. Only from hindsight and a large perspective can the transitions be seen, and the view is clouded by circumstances working against change of this sort. Europe was never a unity, and many parts of the continent fended off until the present century any perceptible alteration of relationships. Yet the time for isolation and pluralist societies had its term set no later than the 16th century. Thereafter new developments in technology and commerce, in science and industry, came ever more rapidly, without cessation.

Perhaps if the Turks had not been turned back at the gates of Vienna, or if some other catastrophe boiling out of Asia had occurred, the determined course of events might have been fatally interrupted. Such did not take place, however, and over the centuries a new society, a new economy, a new culture developed in western Europe whose essential qualities were to be accepted by the rest of the world.

The characteristics of this new culture had been roughed-in by the late 18th century, and as the next centuries passed it was to show itself capable of apparently limitless growth. Yet the essence of this new culture was hardly remarkable. Was it anything other than an industrialism generating revenues independently of agriculture, and an urban life capable of expanding itself without total dependence upon the rural dwellers? Cities before this had also been centers of manufacture and magnets to those falling within the reach of their influence. Indeed, what was actually happening in the 18th century was obscured by the successful repetition of these age-old phenomena.

London and Paris in the Age of Reason were marts of trade, magazines of goods, entrepots of commerce to be compared successfully to any ancient metropolis culled from the classics. Simultaneously, they were meccas for all the provinces, drawing populations to themselves in an array both glittering and tawdry. They were hailed as new Nineveh and Alexandrias. The whole culture of the time, even in its revolutionary moods, consciously saw what was happening as the rebirth of the classical age. The splendors of Greece and Rome, rediscovered by the Renaissance, were to be fully available once more with the revival of
commercial prosperity upon its antique scale and the burgeoning of cities to the kind of urban brilliance common to Hellenism and the Roman Empire.

It was a stimulating thought, sufficient to convince the culture of the time of its infallibility. Only in retrospect can the essential error in this interpretation be discerned. The classic world was not in a process of rebirth, and what was emerging was as foreign to Greece and Rome as it was to any of the world's other cultures. The classic cities, whatever their pride, had been utterly dependent upon their hinterlands. They were little more than transfer points and bastions in which safety and pleasure could be enjoyed by the merchants and landowners who derived their wealth from the outlying regions. When population declined in the hinterland, the ancient city suffered a blow to its wealth and power from which recovery was possible only as the surrounding territory revived. These were the rules which had always applied and the 18th century savant thought them still applicable.

They were not, of course. The new cities did far more than pass along goods or work a few changes on the produce of the fields. The looms of the 18th century suddenly began spinning enough cloth in little Lancashire to supply all of China and India. The smelters, for centuries satisfied with charcoal, had in a few decades consumed the forests of England and made significant a coal-mining industry that had existed with trifling importance since the 13th century. Factories at that date already existed, not for turning out some finished consumer product, but for making machinery to build other factories. The industrial revolution was well begun and already the cities which were booming under its impetus bore little similarity to any urban complex of Ikhnaton, Darius, Alexander, Augustus, Kubla Khan or Aurangzeb.

Even more important, these new cities in western Europe and North America became independent from their environs. Although they continued to attract rural dwellers, they also showed a capacity to replenish their populations without that immigration which the ancient cities had always required. Unlike their predecessors, the decline in population in the rural territories presaged not a decline in the cities' eminence but their unprecedented prosperity. While the 18th century city still appeared to be very much a part of its countryside, that generality already was breaking down with the building of the industrial towns of the English Midlands. These black expanses of slate and brick, perpetually clouded in soot, had none of the traditional contacts with the lonely moors from which they rose. Inhabitants, food, goods, the reason
to exist, all came from remote places; only the nearby presence of coal and ore gave them any contact with their environs. Ultimately, even these were to come from afar, so that the only local contacts between city and country dissolved, with few being aware of the final break.

II. The Growth of the New Master

To the new cities, the country represented open space into which expanding urban needs could move cheaply. It mattered not that the land nearest the cities, which had begun as market centers, was usually the best agricultural land. Even the best land, growing the most lucrative crops can never hope to produce profits comparable to what the same surface will return if used for city building lots. The only real expense has always seemed to be, not the loss of the land for agriculture, much less the loss of its open space, but the expenditures needed for city services and the cost of transport from the old city center. To the developer, the more vacant and derelict the land around a city, the riper it is for his purposes. It is to his economic advantage to encourage the pall every city throws out from itself, driving land out of agricultural use and encouraging urban growth to ribbon along highways, scattering patchworks of urban use in a countryside otherwise remote from any city.

Under such economic conditions, it is wisdom to simply hold land out of use, to wait passively in the country for the city's arrival, to evaluate land for its urban prospects and to despise its present uses. Estate owners about London even in the late 17th century entertained such notions, and fortunes since have been built by acting upon them. Whatever their ultimate worth, such practices have been possible only because a new type of city, representative of a new urban culture, had appeared in the midst of the 18th century's so-called classic revival. It was a fact which could not be concealed, regardless of how many Grecian fronts were thrown up in the frantic construction generated by the changing culture's new economy.

Means had been found to generate great wealth independently of farm production. Prior to this time, the importance of the most powerful Persian satrap, Roman senator or feudal noble was closely tied to his rent roll and the share of annual crops which it represented. Part of his income might come from trade ventures, city tenements or slaves, though even these were indirectly derived from the agriculture that dominated the ancient economy. But his essential wealth and power lay in the extent of his lands, his rural dependents, and the return in kind or cash which these brought to him.
It was in the 18th century that this economy began rapidly changing, so that the wise noble put his funds into stock shares, factories, city real estate, industrial mortgages, banks, insurance, canals, mines, debentures and other sources of city wealth remote from the ancestral seats of dynastic glory. Unless they were tied to the market by recycling forest practices, or the new scientific agriculture or, most hopeful of all, by the prospect of future incorporation within some growing municipality, the ancient family lands became, not sources of wealth, but a means for displaying wealth produced elsewhere. Those great families refusing to follow this pattern went swiftly to decay and either disappeared or involved their countries in the severe crises incident to a former upper class which has lost both function and independent means.

Land, by the end of the 18th century, was well on the way to being what it is today: a rural existence waiting to become an urban event. The most ruthless exploiter of land, whether he lumbers off the forests or mines the soil as a farmer or grazier, cannot wring from it but a fraction of what it will produce if brought within the compass of a city. From holding first place as the source of wealth, land has sunk to a secondary significance—to being proof of wealth instead of its origin. Whether generously used for a shopping center, a factory, a housing tract, a park or a millionaire's estate, land is now used for mere show or, at best, for a temporarily conspicuous consumption pending its rise in value due to the continual increase in the surrounding urban density.

This derivative value applies not only to agricultural and forest uses of land but also, though to a lesser extent, to land subjected to mineral exploitation. Substantial as the wealth extracted from such lands has been, bringing them into an urban orbit produces far greater returns. Anyone who has seen exhausted gravel pits at a city's edge converted into expensive "Lakeview Estates" has evidence for just such testimony. The conversion of worn-out strip-mining country to recreational ponds and reforested swatches of green across the slag are further evidence of the city's direct effect upon the value of land, increasing it beyond its value as a source of extracted wealth.

III. Economic Incentives

What has happened, after all, is the erasure of the demarcation between city and country. It had happened before, but then it was the cities that had shriveled up or disappeared. The result of the fall of Rome, that far-western extension of the synthetic Oriental culture called Hellenism, was the steady drying up of city life until over centuries the theaters became quarries, the aqueducts vagrant arches in the fields,
and the baths cisterns for watering the kine. Parallels are easy to find in Yucatan, India and central and southeastern Asia, and perhaps their causes are the same. But similar or not, they are of little concern to the patterns which have so plainly appeared since the 18th century. In the time since then, it has not been urban life which has disappeared. Instead, it has been the country.

True, the old core cities have often disintegrated in recent decades because of the desire of city masses to avoid high density living. Many have possessed the means, resulting from the economic processes of an industrial society, to indulge that desire. The little detached house in a pleasant country village near London, the retreat with sylvan air in the banlieu around Paris, were established before 1800 not only for the aristocracy but even for the richer merchants. Having an urban income and being near the delights of the city while enjoying the pleasures of the country was a luxury available to the early readers of both William Wordsworth and Madame de Staël. The 19th century opened it to many more, with its macadam roads over which the coaches could fly, its commuter railroads after 1850, its electric railroads after 1890, and coming swiftly upon these, the gasoline-engine auto. More important than this easy transport, however, was the growth of a middle class able to take advantage of it, with credit instruments endowing their incomes with a previously unknown purchasing power.

At first it was just suburban living which the aristocracy had to share, with every suburb becoming bourgeoisified before being lost in the indiscriminate growth of the city. But the process did not stop there. The staggered vacation, the long weekend, early retirement and pensions have all combined to maintain the momentum of change, so that the aristocracy finds itself everywhere pursued by the democracy. Remote places of seclusion for the wealthy are now platted into lots to provide the second homes for the urban middle class, who promptly have the government build a superhighway from the general fund, making a rapid connector between midtown and the primeval as advertised. What had been rural, or even more distant than rural, some region shut off from the market and from history, is now the exurban, a regional mass open to at least weekly commuting.

So rapid has the change become that the aristocracy has abandoned all efforts to build permanently ahead of it. Calling themselves the "Jet Set," they are satisfied now to determine the newest resort for only a single season. They blaze trails throughout the world as they have done, among other places, along the coasts of the Iberian peninsula; and in their wake, high rise apartments and hotels have sprung up like a
growth of dragon's teeth. Their trailblazing, however, even upon this tentative a basis, cannot go on indefinitely upon a planet as well-explored and filled-in as this one. When the last Himalayan peak has a ski lift or the final beach a cabana, they will be reduced to setting fashion trends in personal attire. At that moment, all the world will be merely some part or another of a single interlocking city.

It remains true that areas presently exist having no apparent connection with the urban industrial society. Rarely would it be other than a mistake, however, to regard these seemingly isolated places as detached from the urban industrial economy, even at this very instant when they seem so remote. Except for a few true isolates still living in the confines of a Stone Age culture, there are no areas lacking intimate connections with the urban society. The self-sustaining village economy has been unknown in western Europe since at least the 18th century, and it is equally absent elsewhere today. The currently remote villager produces goods for a distant market from which he acquires both the definitions of his desires and the material means of satisfying them. He is very much an integral part of a money-cum-credit economy, and his chief complaint is never that this is so, but that he is so poorly equipped to satisfy the desires this economy creates.

But being a part of a national or, more truly, an international market, is only one aspect of the village's connection to the urban industrial society; and viewed culturally, this is not the aspect having the greatest significance. There are fewer indigenous folk cultures; the local variants are homogenized into ever larger units. Television, radio, film, phonograph records, picture magazines, tabloids, have each in one degree or another seeped into every remote cranny. By so doing they have allowed comparison, spread dissatisfaction and pushed tradition aside. Everywhere in the past two hundred years it has been change that has emerged victorious, just as it did in 18th century England or France or the North American eastern seaboard.

Given the chance, people have opted for the urban industrial society, voting with their feet most enthusiastically of all. The countryside has been depopulated in region after region. Whole towns in Greece fall into unregarded ruin today as they did in the Ireland of Goldsmith's Deserted Village. Finding an empty, once inhabited site to muse and wander through is for today's traveler no remarkable task, despite the population explosion. The growth in population has not been evenly distributed, and the people have left the country for the cities as they once fled to them for safety. It no longer is safety they find there, of course, though in the city services, the health facilities,
the welfare programs and the city incomes they find a security that their idyllic villages never provided, even at their most integrated, organic stage.

Still, the fact remains that as these country people pour into the city, right into its emptying core, those who have been there longer are taking the wealth earned in the urban industrial society and carrying it into the countryside, where they make suburbs and exurbs for the burgeoning, magnetizing, exalted city. The city as asphalt and concrete is not sufficient. But the city as modified country is, and the efforts of the urban industrial economy are directed toward reshaping the world for that purpose. Indeed, so far has it progressed as an attained goal that the regional planner C. A. Doxiadis has already mentioned heliopolis—the city dominant throughout the solar system.

IV. Environmental Isolation: Security or Death?

This is not to deny that there have been resistances to the urban devouring of the country. The reactions toward national, tribal, ethnic, religious or class origins all have been powerful. But industrial urbanization has been a convulsive power. At no point in its exercise, except perhaps for a few brief moments in 1945 when it seemed that neither Europe nor China nor southeast Asia would be able to resume the pace, has the development flagged toward the furtherance of a world-wide urban industrial civilization. The lag in 1945 proved only a passing fear, and by one means or another the urbanization process has expanded and accelerated the velocity of its progress, overcoming all natural resistances to the contrary.

Everywhere the percentage of rural to urban population is in decline, and the decline is pantingly anticipated. The only lamentations to be heard with feeling are those relating to the low growth statistics of the gross national product. In many places the fall in extramunicipal population has not been relative but absolute. The movement goes on even when forbidden, as exemplified in Russia, which has repeatedly set a limit on the growth of Moscow; and even when actively worked against, as in China, which has resettled its people out of the coastal cities into interior communes. It has occurred also when the city offered no economic opportunities, as in New York, with a relief roll that had grown by 1970 to include one in eight residents, or when the city could show only desperate circumstances waiting, as has been true in Calcutta, whose sidewalks have been teeming with residents for decades.

Whatever the governmental policy, the economic situation or the cultural or psychic resistances struggling for control, the movement of
people from country to city, of urban patterns to previously rural areas, has continued unabated. Perhaps the explanation for the strength of this force is neither economic, nor cultural, nor psychological. It may be biologic, subsisting at a human level underlying all of the above. Professor Leakey, in his examination of the hominids in the Olduvai gorge, noticed that these beings, who flourished about 1 3/4 million years B.C., built low walls of rough stone, apparently to crouch behind as some protection against the wind and the other elements. If this hypothesis is correct, it means that even in these obscure beginnings the human race attempted to find either security or comfort by divorcing itself from the nature that lay all about.

Apart from an example so highly problematic, the one action common to man everywhere has been his effort to separate himself from the food chains, the ecumenes, of which he would otherwise be a part. At first it was the major predators and the rougher elements from whom separation was sought. Later, freedom was sought from the general behavior of nature itself through deforestation, irrigation, and the replacement of indigenous plants with specimens more humanly useful. It is a process which has seen no cessation. Man is immunized now against many bacteria, protected against others by antibiotics, and is able to smother with pesticides the living areas of the vectors of hemorrhagic viruses. He has hunted some game populations to the point of extinction and threatens the existence of others with the effluence of his urban industrial processes.

To call man the universal predator is not really accurate, for he goes far beyond that role and spreads lethal doses not only for provender but for isolation. And to a degree which would have amazed his most intelligent ancestors at their most ambitiously optimistic, man has attained an isolation from others in the ecumenes in which he has found himself. Now, in the security of the modern city, he has found the ideal place to practice such isolation, and the expansion of urban industrial civilization is swiftly increasing the long-sought opportunity for complete freedom from nature.

The modern city, for all its pollutants of noise, smog and tension, is not the high-density concentration which characterized all the ancient cities from Sumer to medieval London. The contemporary city encourages isolation from disease, from the cutting edges of nature, and from other human beings. Some find this isolation lamentable; others proclaim it as a liberating privacy. In either event, it is an opening of chance and choice not previously available. To the city men are drawn; and to the urban industrial society men surrender up their open
countryside, along with whatever attributes it had as rural, forest or game land. At best, the remaining open space will survive as an asset of agricultural corporations or as social parks for mass recreation in a nature carefully held at a safe distance from man. In the urbanized world, man will be an isolated being even though there are such numbers of him that they jostle each other in the passing.

Unfortunately for the unalloyed perfection of such a state, absolute security for man comes perilously close to being death. James Thurber once drew a cartoon of a man intent on personal safety: he had shut himself in a box, in a closet, in a windowless room, in some large structure. Truly, this Thurberean personage had achieved a thorough isolation from his ecumene and had attained a security which only starvation, suffocation, or some wasting disease of atrophication could affect. In doing so much for security, however, he had eliminated nearly all else; nor, aside from willing himself toward total safety, had he retained many significant human attributes.

This perhaps overstates the argument, because until now the city, with its encompassing industry, has brought not a reduction in choice but so rapid an expansion of choices that human aspiration has been strained in keeping ahead of them. Nevertheless, the expansion of choice has required massive drafts upon the renewing environment of air, water, and living organisms, compelling these to serve as both a source of supply and as a receptacle for the cast-off wastes of the industrial process. Now, however, the withering of choice seems imminent. There may be a long way yet to the stark options of the man in Thurber's box, but a rigorous insistence on the isolation of man from nature seems to point in that direction. It is, in the final judgment, only the slight margin between life and death that determines whether a container is a place of safety or a tomb.

V. Culture—Rudiments of Isolation?

Many attribute this passion for human isolation from nature to the Judeo-Christian tradition, wherever that tradition has penetrated. These nature-philosophers observe that the Greco-Roman pagans asserted their oneness with nature—a unity emphasized by the pantheistic character of their religion. For them, nature was a fixed composite; there was a long golden day in which man came and went, and somehow it was a day without prospect of change, or of mastery for man over nature, or of conclusion. For the pagans, runs the thesis, man simply existed in the world, and the world ran on in sublime disregard.

This preeminent role of nature is what the Judeo-Christian tradi-
tion is supposed to have irredeemably destroyed. First the Jewish tradi-
tion introduced a God who offered man dominance over the heavens
and the earth. Out of the lonely desert that later produced Islamic hu-
mility and fatalism came a religion of human pride and contempt for
the forces of nature. To this was added the apocalyptic vision of the
Christian message, which supplemented contempt with rejection.
"Yes, man can master nature, but why bother? Everything of the flesh
is a penance anyway, so whether there be mastery or abuse of such sub-
stance is of little consequence except insofar as its lure imperils the
immortal." Thus, the nature-philosophers insist, western man could only
produce a disaster in his relations with his environment, since his spirit-
ual views were dominated by double traditions of arrogance towards
and loathing for nature. With such a heritage, failing the personal in-
tervention of Jehovah or the Messiah, nothing else could have occurred.

Yet how true is this theory? As to the sharp break between
paganism and the Judeo-Christian tradition, the evidence is scarce.
The paganism of the late Roman Empire is a very different set of ideas
from earlier ages and is far closer to Christianity. The followers of
Isis, Attis, and Mithra wanted as much mastery over the universe as any
Jew or Christian; the disciples of Plotinus and Mani had as much con-
tempt for this world; and the promises of Julian the Apostate to those
who would further the pagan cause are ironically close to the induce-
ments of the religion he despised.

Nor is there evidence that the Jewish or Christian communities
wasted nature. Jewish literature is filled with exhortations to careful
husbandmen, and the rules of the Benedictines and Cistercians are quite
conserving of soil, water, grass and trees. Simply to mention St. Francis
of Assisi is to show that a Christian can feel oneness with nature.

How relevant, then, are the spiritual views of any culture in estab-
lishing a harmony between man and his environment? In India, where
even the mouth is masked by Jains to keep from killing the mites with
which man is at one, there has been precious little evidence of soil con-
servation. And in China, the homeland of the tao, ruthless deforesta-
tion has been continuous. It is not that India or China have been more
harsh to nature than western Europe, but only that they have been no
less so. Their spiritual beliefs in the unity between man and nature had
no greater effect than the contrary beliefs of Europe in producing a bal-
ance between man and his environment.

Today Islam appears supremely indifferent to soil values, and the
Israeli example seems to provoke no responsive competition among
Islamic people. Yet agricultural practices of Arabic countries long were
a model to the west, and many claim it was the expulsion of the Moors and Moriscoes from Spain which ruined that country's land by replacing competent agriculturalists with the incompetent. Still, whatever the source of Spain's striking inability to come to viable terms with nature in her peninsula—an inability she is charged with having exported to the New World—it does not stem purely from this act of religious intolerance. The water tribunals the Moors founded, building upon Visigothic as well as Arabic law, have had an uninterrupted existence, which is true of few institutions there. Grapes and citrus continue to be produced in Valencia and Granada in the same places and by the same means that the Moors used. The very real decay there has had some different causes, at least, than the substitution of Christianity for Islam. If a man doubts it, let him compare the wretched lands of southern Spain with those of Morocco; were religion relevant in this situation it would not be Islam which would prevail.

In cultural history, as in scientific research, students seek to reduce all complex problems to one simple explanation, looking with Ockham's sharp disdain on those who find only greater complexity emerging the longer they search for answers. Yet in studies of culture, as in the techniques of science, the subject of inquiry turns out to be like a block of mica from which one transluscent layer after another can be slivered without ever making the remainder transparent. This has been especially true in the regulation of nature, where a problem's solution has rarely terminated difficulties. Instead, the solution to one problem has frequently revealed previously unsuspected difficulties of even greater complexity. Investigation has not served to reduce problems but instead has brought to emergence a provokingly endless possibility of them.

Absolute knowledge is possible only if the extent and the depth of research are narrowly enough defined. Within that limited range, the investigator who is himself neither shallow nor narrow when conducting his inquiry may emerge with total knowledge. But the resulting knowledge is then merely a fragment of the whole and, more often than not, a fragment which reflects doubt and inadequacy from every facet of its obviously sharp corners.

In a situation so clouded, so broken up, so incapable of any but small-scale, intense penetration, the broad generalizations of the nature-philosopher serve only as additional cloud cover. When fragments of intensely sought facts accumulate, the theories of the various nature-philosophies prove false, or inadequate, or simply verbiage. Malraux has intimated that to a man under sentence of death even the Gospel of
John is banal. In the acid light of emerging scientific fact, the same has been charged to nature-philosophies which, one by one, have revealed speculative structures enjoyable for their vapory appearance but unable to bear strong illumination.

Nothing seriously considered, of course, is likely to be without redemptive qualities, just as past experience in a time of revolutionary innovation is never without pertinency. It would be erroneous, however, to look for more than small assistance from history or the speculations of nature-philosophers in attempting to determine the cause of man's isolation from his environment. About the time of the 18th century, though an earlier date legitimately might be selected, the way of transacting life began a marked change, and did so with unprecedented celerity. This process of urban industrialization has brought incessant change, both widespread and profound, at an ever-quickening tempo. It has, for the present, stripped away much of the relevance that history, authority and past speculation might otherwise have had.

VI. Isolation—The Seeds of Self-Destruction

Man has been isolated from his ecumene as never before and has created a civilization which cannot live within nature. Henceforward, a viable balance between man and his environment means a nature which must live within man's urban industrial society. The task of making that kind of balance is not for the natural forces to accomplish, but for specific human planning. All the old struggles have been or are being absorbed in the consequences of this relationship. Only catastrophe can ensue, first for living nature and then for human society, if there is stubborn refusal to accept the reversal of roles between man and his environment, for it is now man who dominates nature rather than nature limiting him.

Man's predominance, like all mastery, produces resistance in that which is dominated, and this opposition is capable of terminating the master's overlordship. The resistances within nature are piling up at an alarming rate. In the presence of man's accelerating demands, the superiority he has acquired over nature's power of renewal both overwhelms existing natural orders and provokes erratic reactions dangerous to everything about them. Having fragmented its power with his demands upon it, man now has the obligation to restore nature's renewability, if humanity itself is not to be terminally discounted in the accounts of its own urban-industrial economy.

Already the opportunity for retreat to past practice has gone by. Even if every existing practice of the urban-industrial process were to
cease, a return to the old relationship of natural dominance would be prevented by those who possessed any of the current tools and knowledge. The North American Indians, who by the mid-19th century were few in number and who had not yet assimilated much of the new culture assaulting them, still possessed with a few firearms and limited markets the power to create havoc among game populations. What these few semi-primitives did then would likely be exceeded by any future human remnant.

So profound have just the 20th century changes been that merely ceasing to employ the current processes would be insufficient to restore the natural order. Lake Erie has been brought to a condition where its existence could terminate without further human activity. The ground water mined from now impermeable aquifers, the valleys gouged into skeletal formations by hydraulic mining, the prairies swept clean of perennial grasses and soil, are not likely to recover when man moves elsewhere in his quest for satisfying humanity's self-generated demands.

To cease present practices and become passive, or to go backward to a past pattern, even if possible, is not adequate. Avoiding the potentially catastrophic consequences to the environment formulated by human demands over the past two centuries will require not traditional but as innovative means as human ingenuity is capable of devising. Artifice of the most technical sort will be required, rather than some emotionally predicated organicism. There is too little renewability remaining in nature, and too much growth yet to come in human demand, for there to be a chance of some easy organic relation between man and nature.

The electric utility industry in the United States claims it must increase its output seven times by the year 2000 in order to meet the projected demands of an ever-increasing population. Biologists argue against this expansion, contending that ecologic considerations dictate the restriction of electrical power output to the present American level. The utilities, however, in meeting present demands—whatever the character of their reality—are pushing to the limits of existing capacity with such pressure that the future will see blackouts or rationing unless the extant sources are enlarged.

Perhaps clearing the neon jungles of American cities, and regulating interior temperatures for less luxuriantly cool summers and warm winters would be beneficial, if not very popular. But putting the popularity of such asceticism aside, the one economic fact clearly known is that modern business will languish without ample electric power; and that to languish means to cease the growth rates which two centuries'
experience have proven vital to an urban industrial civilization. In order to protect some part of that growth, no absolute limit can be established. This is true whether one refers to power, water, air, labor force, consumer markets or some other aspect of the production and consumption systems composing the present worldwide urban industrial patterns. It is, of course, this constant pressure for growth on which the utilities rely to overcome opposition to further expansion and usage of power supplies.

Still, limitations on electrical power cannot be the final answer since the pressure from the urban industrial civilization for survival on its own terms is the penultimate fact. The ultimate truth is that the world is a closed system, shrinking in significance alongside the spectacle of the urban industrial culture's demands for resources and for sites to receive the effluence of manufacture and use. Under the impact of these demands, the earth's resources must continually diminish, until at last they become extinct.

What is needed is a drastic and immediate reevaluation of the relationship between man and his ecumene. Before man circumscribes his hopes, the very least that he can do is to describe this closed system, to measure its operation, to check the effect on it of human activity, to consider the possibility of replacing natural functions with artificial regimes, and to study the means of incorporating within the urban industrial economy the costs and practices of life survival.

Already people speak blithely about the employment of systems analysis to do these jobs. But equations cannot substitute for the requisite knowledge, and all too often the little black data boxes are empty. Basic descriptions and the monitoring of activity are essential to any effective systems analysis, and these will require enormous investments of capital that initially cannot come from the price structure of the economy. Instead, the costs must come from taxes, just as the infra-structure costs of the urban industrial economy itself—highways, airplanes, police, to mention only a few—come in one form or another from the public fisc.

Since it is possibly the existence of life which is at stake, and incidentally, of urban industrial civilization, the costs seem bearable even in that form, particularly when the full range of present public expenditure is considered. Yet the irony is that to the myth-makers of the present world culture, the threat to all life appears only incidental to the jeopardy confronting urban industrial civilization. So successful has been the isolation of humanity from its ecumene, so dominant has urban existence become, and so masterful the demands of industry, that
everything else is an intrusion, an extra cost, a matter of mere excrescence rather than an issue integral to future survival.

VII. A Plea for Survival

Critics have expended much energy attacking *homo economicus* or *homo Faber* as the origin of the problem. "If only man would cease to think economically, or as an engineer, or as some kind of technical specialist, then all would be well." Yet it is doubtful if anything would be at all well. Since the current trouble is not that man has been any of these creatures, but that he has been so narrow, so superficial, so short-sighted in being any one of them, the solution does not lie in his ceasing to be an economist, or an engineer, or any other sort of technician. Rather he must become profoundly—and generally, too—each one of them.

What has spread over the globe from western Europe, spread alike by disciples of Adam Smith and Karl Marx, have been practices that compose a system, or an order, even though a malfunctioning one. Contrary views and practices, whether DeMaistre's or Proudhon's, Bakunin's or J. C. Calhoun's, have all fallen to one side, leaving their exponents in chronic minorities. A civilization, a culture, a society, and an economy have been created in the past two centuries different from anything previously known. The immutable relationships between man and nature, contemplated by all prior thinkers from at least Aristotle and Confucius, were the first casualties. These eternal verities were cast in plain view into a universe of chance, and precious little has been done since to redress the ensuing instability.

Some effort in the direction of salvation is long past due if everything is not to go under in a giddy whirl. Not only values, upon which much has been written, are at issue; it is the living world itself upon which these values operate. Continued existence has been drawn into question by the past two centuries of urban industrial practice, not only by what such practice has wrought in the past but by what it promises to produce in the immediate future. Here is comprised for thinking men the urgent and the physical present, for humanity itself has moved apocalypse from the spiritual to the profane in a way probably most pleasing to St. John the Divine.

If ends are influenced by intermediate procedures, there seems to be forming out of nature a kind of entelechy implying a term to all things. A civilization disregardful of the bases for its survival is already threatened. When this disregard is an integral part of a behavior that
undermines the operation of life processes, and when much of that behavior is regarded as essential by the civilization's dominant cultural elements, then the threat has the awesome quality of a purpose encompassed in a dire teleology. Under such circumstances, the predicted future cannot be iренic, except it be as a deathly hush. There is, after all, no right to life divorced from a possibility of existence.

Throughout the world, and regardless of traditional cultures or spiritual attitudes toward man's role in nature, there has penetrated the single unifying force of the ecumenopolis, the city whose demands dominate the nature of this planet and from it reach out for the universe. It is a unifying force, since it defines so plainly the closed character of the natural system and pushes against these limits at every point. The pressure is boundless in ambition and terminable only with nature's exhaustion.

Such a civilization may generate spastic reactions against itself within unhappy portions of the human will. These, however, can have little effect in reducing the unremitting pressure, and plainly will not alleviate any of the force pushing the current urban industrial civilization deeper and deeper into the life processes. This pressure seems bent on continuing until it severs all connections composing the world's natural ecumene.

The present ecumenopolis, the promise of heliopolis, are very fragile. Despite certain solid appearances, they have much of the insubstantiality of a Berkeleian object of vision, existing only in the mind of the beholder. Even as nature is rent apart to supply urban industry's products and to receive its wastes, it is evident that such a civilization is before all else a cultural concept, an economic goal, a purpose justifying humanity's life. It is, in its perceptions, a civilization more concerned with the annual dividend than with eternity, more interested in the chairman's year-end report than with immortality. In its unconcern, however, it may find terminal mortality, the future's infinite promise discounted for a brief and merely glittering series of present moments.

Though this conclusion need not be, the continued and accelerating intervention in natural processes constitutes a single grand insult which will produce its own outcome. In the failure to either cut back on human demand or to replace natural functions with artificial regimes, the consequence toward which ecologists see events hastening must occur. There is here the inevitable logic of an event for which every preceding occurrence has prepared.

Some will find in nature's demise the majesty of the preordained. In actuality, it may matter little whether events of this scope are infused
with majesty or charged only with the cheap substances of carelessness, indifference or stupidity. In any event, in whose mind will it have been criminal misconduct?

Perhaps it may be in the mind of Bishop Berkeley's God, wherein all true existence ultimately is carried on. Indeed, unless the residents of ecumenopolis awaken to their power to harm, to control, and yet still to redeem and salvage the nature of the world in which they must either live or perish, the only place for living matter will be within the mind of an entity much like Berkeley's God. If so, the ultimate death of life will be the result of a failure of human reason to have returned the greatness of living matter to the inchoate state of the divine mind.