

## MAN PLUS

by John McHale

The theme of our present discussion begs two critical questions. The first is how far we may indeed characterize our present world as being in a "runaway" state; and the second, whether man has been, is, or can be in control of his world.

Edmund Leach, in the opening paragraph of his 1967 Reith Lectures, states these questions in a slightly different form: "Men have become like gods. Isn't it about time that we understood our divinity? Science offers us total mastery over our environment and our destiny, yet instead of rejoicing we feel deeply afraid. Why should this be? How might these fears be resolved?"<sup>1</sup>

Apart from the tendency to enjoy the thrill of impending doom, of being on a collision course with destiny, the major problem here seems to be the fear and unease in itself. What are *its* origins in human development and how might we gain some perspective on those changes in the human environmental condition which we now characterize as being in a runaway state?

The key image is that of a breakdown in man's relationship to those aspects of his world which he himself has created. He is seen to be stressed, alienated, and overwhelmed by the complexities of his own technological growth—of his cities, organizations, industries, tools, and weapon systems—and the environmental deterioration which these are causing. Having created a man-made but "machine-dominated" world, he has lost control and mastery of its direction.

This apparent breakdown in control may be more explicable in terms of a failure to reexamine and reconceptualize the evolutionary relationship of man to the diverse technics, institutional and organizational forms, which have subtended his survival. Man was not more or less "in control" when his survival relationship to his envi-

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ronment was conducted via hunting and animal domestication techniques or the more physically elaborate technologies of the agricultural revolution.

What we refer to as specifically human, or humane, in man is that amalgam of instinctual and unconscious processes with the consciously reflective and intellectual capacities which transforms them into recognizably human actions. The quality and sensibility of the human condition seem to reside specifically in this arrested balance between man and animal. It is in the interplay between these aspects of himself that man defines and reaffirms his humanity.

Thou constrained by no limits, in accordance with thine own free will in whose hands we have placed thee, shall ordain for thyself the limits of thy nature. We have set thee at the world's center [so] thou mayest from thence more easily observe whatever is in the world. We have made thee neither of heaven nor of earth, neither mortal nor immortal, so that with freedom of choice and with honor, as though the maker and molder of thyself, thou mayest fashion thyself in whatever shape thou shalt prefer. Thou shalt have the power to degenerate unto the lower forms of life which are brutish. Thou shalt have the power, out of thy soul's judgment to be reborn into the higher forms, which are divine.<sup>2</sup>

As expressed by Pico della Mirandola in the fifteenth century, this half-divine image of man endowed with free will, choice, and the control of his own destiny, yet ever poised between lower and higher commitments, is still relevant today. We may speculate that man retains this human quality or allows its more paced development *only* by externalizing his various physical and intellectual capacities into autonomously evolving systems.

As much of the enormous growth of specifically machine (or inanimate energy) technologies and their ancillary organizational systems has occurred in the past 150 years, we have tended to assume that these are the atypical and threatening forms—and that man in the prescientific and preindustrial eras was more directly in control of his environment and free from the threats of “dehumanization” by the machine. Jacques Ellul, in his concern with these negative aspects of technology suggests: “The evolution of technology . . . is progressing almost without decisive intervention by man.”<sup>3</sup>

There is a larger, and perhaps unintentional, truth in this observation. Technological development may be as “natural” and as organic a part of human evolution as the differentiation of finger and thumb—and, in this sense, has until now been as little under man's conscious control.

## TECHNOLOGIES AS FACTORS OF MAN'S HUMANITY

The hypothesis could be advanced that rather than technologies being alien to man's human quality, his supporting technologies and organizational forms may be in effect one of the prime factors which *make him human*.

We may characterize these developments as the overlay of another evolutionary form through which man partially "sidestepped" the natural genetic process of adaptation to his environment.

He has not been forced to adapt his physical, or psychophysical, organism more than has been strictly necessary. He has avoided having to grow longer legs for speed by inventing wheels, has chosen to make telescopes and microscopes rather than evolve larger and more powerful eyes, has augmented the limited energy of the single individual through collaborative forms of organizations and institutional systems of multiindividuals.

In the evolutionary scale, then, man remains in a curiously arrested balance, or more slowly developing state, between animal and man. That balance has been achieved as man "sidesteps" the usual evolutionary process—and creates material and nonmaterial extensions of himself which amplify his organic capacities and evolve for him.

Since man's machines evolve now, not anatomical man, he has long since gone outside his own individual skin in his functional relatedness to the world. The real evolutionary unit now is not man's mere body; it is "all mankind's-brains-together-with-all-the-extrabodily-materials-that-come-under-the-manipulation-of-their-hands." Man's physical ego is expanded to encompass everything within reach of his manipulating hands, within sight of his searching eyes, and within the scope of his restless brain. An airplane is part of a large kinaesthetic and functional self . . . and airplanes are biologically cheap (as evolutionary devices). Without being, through specialization, a biological amputee, he attaches all sorts of prosthetic devices to his limbs. This evolution-by-prosthesis is uniquely human and uniquely freed from the slowness of reproduction and of evolutionary variation into blind alleys from which there is no retreat.<sup>4</sup>

The earliest uses of symbolic communication and tools mark a turning point when man became an active agent in his own development. His consciousness of participation in his own destiny did not occur until quite recently, and then in a groping manner, during the Renaissance. The idea of his possible control over his own future development has emerged only in the most recent period.

Given his uneasy and hybrid position in the evolutionary scale, man has tended to distrust his evolving technologies and has often given them mythological "robotic" forms, that is, as formed partially

in his own image. This alien quality has persisted in many ways and is, in effect, one of the central mythopoeic bases linking man and his gods—or man and those external forces on which he depended via his techniques of survival extension.

The early symbiotic relations of man to his life-sustaining animals are recalled in the centaur form. Using behavioral technologies to train and domesticate his sources of animal energy and food, he expresses this relation in series of totemic hybrid images which are part animal and part man (e.g., typically in the Egyptian, Mayan, and American Indian cultures). In the agricultural and sea-trading technology phases, man's god-figures are those of Demeter, Persephone, Neptune, etc.—creations made of earth, plant, fish, and marine-form energies.

Many of man's mythical god-hero figures have contained within themselves both the ineluctable dependence on the survival agency, animal, or artifact, which they represent—coupled with the dread that they may become the "Mr. Hyde" which may overwhelm him. This alienation in our own period has particularly crystallized around "the machine." To the degree that man allows his prevailing survival modes or technologies to automate and routinize himself—rather than his machines and support systems—the unease and dread is justified!

We should emphasize, at this point, that this evolutionary unity of *man plus* his extended amplifiers of organic capacities is not confined solely to the evolution of physical tools but includes also those "invisible" tools which have had as powerful an effect in transforming man's condition. Such invisible tools as language, numbers, symbols, and image systems are also extensions of human internal processing and have, through the larger conceptual systems—religion, philosophy, science, etc.—powerfully aided man's evolutionary survival. The growth of social institutions and organizational forms is also part of such "organic" extension. Almost every ordered aggregate of human actions whose effects modify man's world to his purposes is, in this sense, a form of psychophysical "technology." The application of the methodology of the physical sciences to the systematic scheduling of a series of operations—for example, in the systems approach—is often termed a "soft" technology. In the same regard, historically, so was a rain dance, or the ceremonies attending crop fertility, or a ritual socioreligious drama—all systems for attaining greater predictive understanding and extended control of the environment.

To underline the organic relevance and life qualities of man's

technologies and systems in this fashion is not simply to pose some technological determinism as accounting for human development and change. Rather, the purpose is to emphasize the integral nature of all human processes—whether labeled technological, biological, economic, cultural, or whatever. It is to emphasize also that, so far, much of our wider understanding of the larger patterns of human evolutionary transformation has been limited by our tendency to compartmentalize our knowledge into separate and unrelated views of the overall process. Our social, cultural, and educational institutions have reinforced this tendency by encouraging extreme specialization, by the limitation of social roles and the fragmentation of human functions within traditionally restricted bounds.

The feeling that our world is “runaway” has been growing steadily within the past hundred years and has been sharpened critically within the past few decades. It is no coincidence that in this relatively brief period man has also experienced the most accelerated series of changes in human history. Within roughly three generations, we have had a series of successive industrial, scientific, social, and economic revolutions pressing ever more closely one upon another.

#### MAN'S EMERGENCE INTO AN INTERDEPENDENT GLOBAL COMMUNITY

Historically accustomed to little or no apparent change, to geographic remoteness and relatively isolated local autonomy, man has suddenly emerged into a complexly interdependent global community—in which change has become the norm and in which the repercussions of any event affecting any part of that community are swiftly felt throughout the world.

Our conceptual awareness of the forces of this changed condition has not, however, kept pace with the actual changes themselves. Though we are now almost three-quarters of the way into the twentieth century, most of our ways of conducting our social, political, and economic affairs are still largely those of the preindustrial era. Though we refer to many of the world's “runaway” problems as particularly evidenced in the less developed countries, even the so-called advanced societies may also be viewed as undergoing a painful “three-generation” transition into modernity. The problems with which they are still dealing are those of craft-oriented agricultural societies in the first phases of emergence from their nineteenth-century origins, whose human systems and internal institutions are no longer adequate to the present context and are certainly constraining their future development.

In general, we may note that many of the so-called highly developed nations are faced with severe dislocation, deterioration, and obsolescence in critical areas of their socioeconomic and political structures. Their major internal institutions are archaic, strained toward breakdown and confined by nineteenth- and early twentieth-century concepts and practices. Their physical environments are now suffering from the backlash of their initial developmental phases of unrestrained industrial exploitation. Though we refer glibly to the Western scientific and technological societies, no one of these has yet approached the beginnings of what might be termed a "scientific" society, that is, one whose motivations, goals, and orientations are congruent with and permeated with the scientific outlook in the larger sense.

We have been thrust, however, into a world which has been made one—less by any specific political or ideological notions than by scientific and technological facts. Though we still have a multiplicity of political and national units, culturally, socially, and, to a degree, economically, world society has never presented such a relatively unified appearance. It is an emerging society which we may characterize not only as international but rather more precisely as transnational.

The trends which now force us collectively into one planetary community are not the old bonds and agreements between nations but rather forces which operate across national frontiers and with little regard for local territorial sovereignty. In less than three generations, man's world has shrunk from a vast planet whose surface was still relatively unknown and whose societies were relatively remote from one another to a continuous neighborhood in which no man is more than a few hours distant from all other men and on which global communications may be almost instantaneous.

The planet as conceptual "life space" begins to be accepted as naturally as were the earlier conceptual extensions of hometown, region, or country.

The more advanced a large-scale technology or industry, the more pronounced its trend toward global service—telephones, airlines, television satellites are inherently global and minimally require world interlinkage for their efficient operation. Few countries can wholly manufacture aircraft, telecommunications, or the advanced electronic systems necessary for the maintenance of such services, but all countries depend, in varying degree, on their use.

In similar fashion, the scale of our global systems of production, distribution, and transportation has now gone beyond the capacities

of any single nation or group of nations to sustain and wholly operate. These systems require, and are dependent upon, the resource range of the entire planet for metals and materials of which they are built and the energies to run them—in which no single nation is now self-sufficient. The whole planetary “life-support system” is also increasingly dependent on the global interchange not only of physical resources and finished products but of the “knowledge pool”—of research, development, technical and managerial expertise, and the highly trained personnel who sustain and expand this.

The scale and range of our technological intrusions into the planetary biosphere are now such that all large-scale technoindustrial undertakings need to be gauged in terms of their long-range consequences and implications for the global community. In these combined senses, and at this scale, there are few wholly “local” problems anymore—such as may be left to the short-range expediency or temporal ideological preference of any exclusively national orientation.

We are all poised in the transition from the “old” world to the new—literally on the hinge of the greatest evolutionary transformation in the human condition. In many cases, therefore, much of what we now perceive as manifestations of chaos and disorder is indeed the struggle toward emergence of newly evolving forms of order.

#### NEW COMPLEXITIES OF ETHICAL CONTROL

When we turn to questions of conscious “ethical” control of our developed capacities on the planetary scale, our historical experience is of little value. The local socioethical attitudes which manifestly controlled the development of most preindustrial societies and all early industrializing societies in the West were largely based on marginal and competitive survival. Resources were limited and inequally distributed, and access to them lay mainly through the exercise of physical power or other coercive means.

Individuals, institutions, and communities were considered as relatively autonomous and self-sufficient. Their survival was predicated on the freedom and ingenuity with which they modified and exploited the social and physical environment to their self-determined ends.

Ethical values in such societies tended to confirm the prevailing survival mode and to be constrained within its limited possibilities for choice and action.

Questions regarding the quality of human life, and of the environment, were relegated to individual concern, measured within the short-range criteria of institutional and commercial needs, or subsumed under the prior requirements of local national security.

In the mid-twentieth century, the large-scale development of scientific and technological means has changed almost all of the ethical "ground rules" upon which human society has operated. The use of such means has not only created a new kind of reality but permits the coexistence, and choice, of many different "realities."

Socioethical decisions regarding the human condition need no longer be phrased in terms of what we *can* do—but in terms of what we *choose* to do, both individually and collectively.

Such choices, in terms of the conscious control of what has hitherto been a largely unconscious and locally controlled enterprise, will require a radical reconceptualization of the degree to which man chooses individually and the ways in which these individual choices are subsumed within the larger evolutionary pattern.

To what extent can man master the complexity of control on the planetary scale when it apparently eludes his grasp at the less complex local and national levels?

The answer may be explored in a variety of ways.

An initial hypothesis might be advanced that the thrust of evolutionary trending has been toward that more conscious awareness and capacity for control which might *only* emerge when mankind reached the present stage of global interlinkage and interdependence. As one scientist suggests, "the human race (now) represents a self-steering system composed of 3.6 billion personalities in different phases of biological and cultural evolution. As in similar cybernetic systems, homeostasis of a biological system such as the human race is conditioned by a quality and quantity of information uniting a self-steering mechanism."<sup>5</sup>

One may develop this further—in that the mastery of complexity and degree of conscious control of human affairs now necessary at the global level could *not* have been reached at any of the previously localized and dispersed stages of human existence. In order for the system to become consciously self-steering, it *had* to attain to an "optimal critical mass" of globally interacting individuals, ideas, and organizations.

As man in isolation, and in small community groups, could only develop conceptual and physical control of his environment to a particular level, so also his successive interlinkage in larger units, for example, from tribe to city to city-state and nation, has been accom-



panied by his progressive conceptual enlargement and control of more complex systems.

This hypothesis of physical and conceptual enlargement toward an optimal population and “ideo-mass” as prerequisites for various levels of human developmental control has been particularly explored by the biologist John B. Calhoun, who states:

Man fully emerged as the cultural *Homo sapiens* some forty thousand years ago when he perfected his ability to elaborate conceptual space. Since then, each doubling of conceptual space has permitted an accompanying doubling of population in a very orderly manner. So effective became the ability to develop conceptual space that each successive doubling of population required only half the time as for the prior doubling. Imbedded in this process of accelerating human progression lies the striving for, and realisation of ever enlarging networks of communication and interdependence. From bands to clans, to tribes, to nations, to empires, to leagues in ascending magnitude of mutual identity, support and sovereignty the web enlarges. Completion of this historic process, this first era of human evolution, will see the web of all humanity finally become a single accepted network before another century passes.<sup>6</sup>

We might also underline here that the “homeostasis of the human race,” as dependent upon reaching a critically interlinked network of ideas and actions on the world scale, was first elaborated by Teilhard de Chardin in his concept of the global noosphere as a critical stage in human evolution.

The noosphere, or film of organized intelligence, around the earth is now becoming more visibly evident as the sociospheres, econospheres, and technospheres—all the complex and interrelated networks of individuals, institutions, organizations, and interdependent technological systems—begin to form a remarkably unifying pattern of human service systems around the planet.

World communications provide commonly shared cultural experiences in a manner unparalleled in human history. Within this network movies, television, radio, magazines, and newspapers are increasingly a common cultural environment sharing and transmitting man’s symbolic needs and expressions on a world scale.

Swift global transportation carries around the world the diverse products of mass production and provides common cultural artifacts which engender, in turn, shared attitudes in their requirement and use.

Accompanying these has been the almost invisible development of international regulatory agencies whose functions and growth have been little interrupted by any of the surface wars and tensions. Among such agencies are the international postal union, which we

all take for granted as a world public utility; the allocation of wave bands and frequencies for telecommunications; the regulation of air, sea, and other world transport with elaborate sets of transnationally enforced codes and standards; the world health agencies, which monitor and control plague, smallpox, cholera, etc., on a global scale. Agencies such as the latter, apprized of potential epidemic hazards to global health, can, potentially, close a frontier, seal off a city, and even divert passenger and cargo flights in the air.

To these transnational regulatory agencies, we may add the extraordinary growth of international meetings, conferences, and working projects. The first international congresses and meetings started only about one hundred years ago. Today the annual average of such conferences runs to about four thousand, involving over two million active participants. The rise of international, professional, nongovernmental organizations parallels this: from approximately one thousand in 1950 to two thousand by 1960 and almost four thousand today. These are only some of the growing invisible networks which now link world society in myriad ways.

The role of the large transnational or multinational corporations in world affairs is also growing swiftly. As commercial undertakings, they are unprecedented in their size, globally diffused production, and relative autonomy from constraining national boundaries. They may typically use the capital of several nations, the territories of another group, and the labor force of many more. In terms of gross revenues, size, and influence many now outrank most of the lesser sovereign nations.

It is interesting to note that the chairman of one of these companies recently declared that they should be allowed to escape the control of individual nations and come under international treaties. He stated, "Only thus can global enterprises avoid the stifling restrictions imposed upon commerce by the archaic limits of nation states and realise their potential to use the world's resources with maximal efficiency,"<sup>7</sup> adding that we may only do so when national boundaries no longer play a critical role in defining economic horizons.

The nation-state today is at best a laggard partner in the global community, often contributing more to the disorder than to the control of world events, through clinging to its illusions of earlier physical and sovereign autonomy. In effect, though we continue to talk and act as though it were indeed possible, no single nation today, however large and powerful, can "go it alone." It cannot even wage war unilaterally without access to the cooperative networks of global technologies, materials, and services. And, of course, para-

doxically, as the latter grow in importance and become more complexly interdependent, they begin to militate against such disturbances.

We may well reflect, in terms of real world control, that if all access to such transnationally sustained networks such as telecommunications, airlines, world weather, health information, etc., were cut off, no developed nation could survive for more than a few days. This is amply illustrated in the disorder caused by even local power failures, airline strikes, and so on. It is also particularly noteworthy that in the recent Middle East hijackings, the one most powerful sanction which the international community was reluctant to employ was the withdrawal of air services to the disaffected nations!

These webs of international services and interlocked organizations represent a trend and commitment whose real effectiveness in asserting control over "runaway" world problems is as yet not wholly realized. But there is a growing awareness that the path toward stable global integration lies via the strengthening of such transnational regulatory agencies.

The world scientific community, whose large-scale global ventures such as the International Geophysical Year and International Biological Program form one of the most swiftly growing aspects of the noosphere, has also begun to question its ethical accountability for the uses to which world scientific development is put. Such uses have, hitherto, been determined almost wholly by the attitudes and circumstances of local nation-states. Many scientists increasingly recognize that their central allegiance to the larger human system and to the maintenance of the global ecological matrix may take priority over the more transient, and possibly dangerous, predilections of local national interests.

It is important that we qualify, somewhat, this "one-world" theme. Given the trend toward global unity, most people then assume a one-world order—a stable blueprint for a future society in which want will disappear, war will be abolished, and men will work together for unselfish and harmonious ends. We tend to project into the future (or the past) the order, consistency, and predictability that is rarely available in the present. But even if such a society were wholly possible, it is doubtful if it would be humanly desirable—or even palatable. Man is characterized not only by his search for order but also by his tolerance and need for a measure of inconsistency and disorder.

Our most pressing and "runaway" problems, however, now occur

within a relatively small ecological system in which humanity has reached one of the most critical points in its evolution. The explosive rises in population, the pressures on food, land, and other resources, and the disorganization and pestilence now accompanying our local wars are also linked in due measure to a worldwide revolution in human expectations.

At the time, then, when we suddenly possess the developed skills and resources with which to solve many of our major human problems, some unexpected ones have become seemingly intractable—and the recurring crises accompanying delay in providing solutions lead to frustration and conflict in major sectors of society. Disillusionment with rational means is encouraged, and an antiscientific and antitechnological bias begins to affect even the allocation of resources to those directions in which problem solutions may be sought.

Much of our malaise and the widespread feeling of a “world out of control” arises from the inadequacy of our traditional institutions, attitudes, and values. These were, in the main, formed in other periods in conditions of marginal survival and economies of scarcity whose constraining premises are no longer relevant. Faced with potential abundance, they are productive of unease and insecurity—confronted with freedom, they will often assume new forms of slavery.

The full significance of our newly evolving scientific, social, and industrial capabilities is still barely understood—even by those who have invented its components and organized its productive capacities and who are responsible for its expansion. Its basic implications run counter to almost every past survival strategy which we have so painfully accumulated.

#### MAN'S ROLE IN SHAPING HIS OWN DESTINY

Man is now potentially free, in the material sense, for the first time in human history. To the extent that he has now evolved his physical technologies and life-support services, progressively less human lifetime, effort, and imputed value need now be attached to his material production systems.

Our more critical questions are now nontechnological in the physical sense. The future of human society is less centrally dependent on further technological elaboration but, rather more on social innovation. As we have consciously learned in the past few decades how to organize scientific and technical development on the largest scale, so now we must orient ourselves to the conscious process of

*social invention*, to the remolding and reshaping of our institutions, organizations, and value systems.

Most of our preindustrial value attitudes and institutions rested ultimately on final authorities *external* to individual man himself. In the arts, aesthetic values drew their strength from some set of eternally enduring canons of truth and verity. In the social and political sphere, the authority and goal-setting agency was the collectivity: the state or society. In religion, the gods or godhead was the ultimate value authority. When technologies suddenly expanded to new magnitudes, again these were seen as dominant and deterministic external forces. Much of this was understandable in earlier periods in which individual life was fleeting and impermanent compared with the overriding requirements of group survival.

But this subservience of human needs and desires to some externally validating agency still lingers on in many of our currently advanced notions of "systems" thinking, where individual human needs and desires as variable are constrained to conform to the requirements of the system, or to the procedure, or to the necessary scheme of priorities! The image of man in social change is still delineated as a passive agent mechanically responding to immutable forces.

The questions we now need to ask about man's relation to his world cannot be phrased without the knowledge that man makes himself—or he is not made at all! Humanity and its evolving destiny are, in this sense, supererogative to any system devised by man. Relieved of the earlier survival pressures, which forced social cohesion on the basis of a necessarily collective uniformity of directions, many alternate modes of individual and group directions and life styles become feasible. The tolerance of individual deviance of various kinds no longer threatening to the survival of society becomes not only possible but probably necessary, to ensure the range of evolutionary diversity.

Our models of human society, of our institutions, and of our social capabilities tend to restrict much of our thinking within obsolete conditions of a former stage of history. When many of our societies can produce material goods far beyond immediate necessity and have elaborated their organizational capabilities far beyond those necessary for mere group survival and security, our outdated models still generate the same sets of "dilemma" and "crisis" responses to most of our social problems. The constraining myths and values that bind us to obsolete forms, old fears, and insecurities may be our most dangerous "deterrents" in the modern world. Our

traditional ideologies are inadequate guides to the future, serving mainly to perpetuate old inequities and rivalries and through them to create new wars and tensions.

Our present generation now faces the future with globally developed physical capabilities which may free man, for the first time in history, from the age-old "fear" constraints of material scarcity, individual and group insecurity, and competition for life survival through access to limited resources. Man may be freed for the first time to confront the larger questions of what it means to be truly human.

The way toward the future lies neither with a corrosive pessimism which accepts the premise of a runaway world nor with the equally evasive optimism that we may continue to muddle through with business as usual. It requires, rather, a renewed reconceptualization of man himself, of his ideas and beliefs, and the recognition that he is now in charge of his own destiny. The future of our future will be determined not only by what we are told may be possible, or even probable, but by what we consciously *assert* to be necessary, allowable, and ultimately desirable in terms of our new perceptions of the realities of human potentials within the potentials of our environment.

#### NOTES

1. Edmund Leach, *A Runaway World* (London: Oxford University Press, 1968), p. 1.
2. Giovanni Pico della Mirandola, "Oration on the Dignity of Man" [1486], trans. E. L. Forbes, in *The Renaissance Philosophy of Man*, ed. Ernst Cassirer (Chicago: University of Chicago Press, 1948), p. 225.
3. Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Alfred A. Knopf, Inc., 1964).
4. Weston LaBarre, *The Human Animal* (Chicago: University of Chicago Press, 1954), p. 92.
5. Julian Aleksandrowicz to U.N. Secretary-General U Thant, July 30, 1970.
6. John B. Calhoun, "Promotion of Man" (paper presented at the symposium on "Global Systems Dynamics," University of Virginia, Charlottesville, June 17-19, 1969), p. 1.
7. Remarks by George W. Ball at the annual dinner of the British National Committee of the International Chamber of Commerce, London, October 18, 1967.