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ENVIRONMENTAL DECAY AND INTERNATIONAL POLITICS: THE USES OF SOVEREIGNTY

By Linda P. Shields and Marvin C. Ott***

I. THE PROBLEM

Evidence accumulates daily that the production and consumption activities of contemporary civilization are leading to a significant deterioration of the natural environment which supports life on the planet. The authors will assume the reader shares the general conviction that there is an environmental problem, that it is the product of human activities, and that it is widespread, serious, and deeply rooted in our attitudes and social, economic, and political systems.

To an analyst of international affairs these assumptions raise basic questions. What are the implications of environmental decay for the international political system? Will it generate additional sources of international instability and instruments of conflict or, conversely, will it spur new forms of transnational cooperation and integration? What governmental policies, if any, promise to strengthen the latter possibility and weaken the former? Will an effective international effort to stem the tide of environmental abuse require the elimination of the nation state in favor of novel forms of supra-national authority? Given preliminary answers to the above, what political strategies recommend themselves to the concerned statesman? In short, our task is to enquire whether the existing international political system is compatible with an effective program of global environmental regeneration or, on the contrary, whether the fundamental restructuring of the system is a necessary prerequisite for such an effort.

To determine the potential impact of present and future environmental conditions on international politics it is necessary to understand something of the sources and manifestations of environmental impairment.

II. THE SOURCES AND SYMPTOMS OF ENVIRONMENTAL DECLINE

In general terms the deterioration of the physical environment can be traced to the advent of industrial and post-industrial technology coupled with the rapid growth in human numbers. Technology can be thought of as the skills and knowledge used by man to cope with his biological and psychological needs; the most notable aspect being the ability to utilize and control increasing amounts of energy through the substitution of other forms of energy for human and animal muscle, thereby making possible the creation of modern high-consumption societies.

Each application of knowledge and skill requires the input of some amount of resources from the environment. The genesis of an idea requires only the energy necessary to keep the brain functioning, but when that idea is applied resources and energy are utilized. Harvesting a crop, for example, requires cleared land, seed, fertilizer, artificially transported water, wood and iron for tools, and inputs of energy throughout the process. The more advanced the level of technology a society uses, "from the stone axe to the nuclear reactor, the greater the variety and quantity of resources" and energy it consumes.¹ The disquieting implications of this increasing resource use are heightened by the fact that technology not only fulfills human needs, it creates them. The present standard of technical capability tends to be institutionalized into a society's politics, economics, and culture; thus, the perceived needs of a community are based not so much on a rational assessment of requirements as on emotion and institutional precedent. The further advanced the technology and living standards of a country, the more likely the present levels will be seen as the irreducible minimum. They are simply not manipulable factors in the short run.²

The demographic explosion—the fact that the world's human population is increasing exponentially—is no longer news.³ At the present two percent rate of annual growth the global population will double in a mere thirty-five years from approximately 3.5 billion to 7.0 billion. Current projections envisage a doubling of the population of Latin America in 25 years and Africa in 28; the equivalent figures for North America and Europe are 87 and 99 years respectively.⁴

At a minimum, greater population means added organic pollution from human waste while increasing agricultural activity pressures the supporting ecosystem through soil and water degradation and the destruction of wilderness and species habitat. The most impor-

tant factor governing the environmental impact of population increase, however, is the level of technology and disposable income which accompanies it.⁵ While all productive processes consume resources and generate waste, modern industrial technology greatly intensifies the environmental impact as compared to preindustrial technologies. The sheer magnitude of resource use depletes ecological cycles and degrades the environment while the production and release of huge quantities of waste—much of it nonbiodegradable—can overload and disrupt natural recycling processes.

The most crucial factor, then, in any assessment of environmental realities is the level of technology (or income) available to a population. Yet it is upon industrial technology that the “less developed” states necessarily pin their hopes for overcoming their poverty and meeting the demands of rapidly expanding populations. The danger of ecological backlash in this situation is illustrated by the advent of new agricultural methods to augment the food supply of poor nations. Substantially increased yields have been achieved, but essential components of the new agriculture are intensive irrigation, fertilizer, pesticides and herbicides, all of which compound the environmental impact of traditional agriculture. In addition, like all systems which depend on high applications of external energy for their stability, the new agriculture is far more fragile than the traditional methods it has replaced. Under ideal conditions the new seeds and techniques yield much higher harvests than the traditional ones, but if any single component fails or if there is an ecological reaction against the artificially maintained system, it collapses.⁶ Already the vulnerability of the new agriculture, in combination with unfavorable weather and rising population, has raised the spectre of imminent mass starvation in South Asia and North Central Africa.

The highly publicized “energy crisis” of recent months has made much of the public in the U.S., Europe, and Japan particularly aware of one dimension of the environmental impact of technology—resource depletion.⁷ Nazli Choucri describes two trends concerning resource demand and supply which will have major international implications. The first is the magnitude of rising consumption in the industrialized nations. Figures for the United States are typical: since 1957 increases in the use of individual minerals have ranged from 54 percent for iron to 100 percent for nickel, 291 percent for bauxite and 1,845 percent for magnesium. In addition, there is a looming demand for resources in the less developed states which

have heretofore been basically suppliers but not consumers of these substances. As these countries begin to turn from economies based on primary production of raw materials to economies characterized by expanding processing and manufacturing sectors, their needs for basic resources ranging from petroleum and coal for energy to iron for tools and machinery will grow substantially. The probable result, in the case of at least some materials, will be to constrict the supply available to the presently industrialized world.

The second and related trend is the rising price of minerals resulting from accelerating consumption and declining rates of discovery and exploitation of new reserves. The dilemma of resource supply lies not so much in absolute limits to the availability of minerals and fuel as in the escalating costs of extraction and, in some cases, decreasing quality of those raw materials.

The most crucial resources for industrial states are: (1) those that provide energy, principally coal, petroleum, and natural gas, and (2) the metals, notably iron, the ferro alloys (manganese, chromium, vanadium, tungsten, cobalt, zirconium, nickel, and molybdenum) and copper, lead, zinc, tin, aluminum and magnesium. Although most of the known coal reserves of the world are located within the industrialized world, the opposite is the case for petroleum and most of the metals.⁸

The present degree of dependency of industrialized states upon external mineral supplies ranges from almost 100 percent in the case of Japan to near self-sufficiency for the U.S.S.R. But, as a recent U.S. Bureau of Mines study concludes, the pattern of resource distribution in relation to consumption presages an increased reliance by all developed nations upon imports from the less-industrialized states.⁹

III. THE CONSEQUENCES OF ENVIRONMENTAL IMPAIRMENT FOR INTERNATIONAL POLITICS

We now return to a question posed earlier: on balance will the impact of environmental problems be in the direction of exacerbating or ameliorating international conflict? How can the former be minimized and the latter maximized? The most ambitious attempt to analyze the linkage between environmental phenomena and international conflict has been that of Robert North and Nazli Choucri. Focusing upon the interaction between resources, population, and technology, they have capsulized a plausible scenario.

A combination of growing population and developing technologies

places rapidly increasing demands upon resources, often resulting in internally generated pressures. The greater this pressure, the higher will be the likelihood of extending national activities outside territorial boundaries. To the extent that two or more countries with high capabilities and high pressure tendencies extend their interests and psychopolitical borders outward, there is a strong probability that eventually the two opposing spheres will intersect. The more intense the intersections, the greater will be the likelihood that competition will assume military dimensions.¹⁰

From this perspective the conflict potential among states which have reached a stage of economic "takeoff," i.e., with a high rate of industrial and technological advance characteristically accompanied by rapid population growth, would seem to be considerable. In an increasingly organized society, escalating needs and desires can be effectively translated into pressures on the government because of the ability of literate citizenry to make their individual and collective demands, and because of the existence in many cases of institutions designed to be sensitive to those demands. Moreover, large increments in the politically articulate population can swamp existing political institutions, with destabilizing consequences including an increasing response to radical or extreme nationalist proposals for meeting the society's needs. To the extent that technological advancement correlates with national power, such rising internal pressures are matched by capabilities for translating that pressure into aggressive foreign policies.

While the domestic tensions generated by rapid population growth are probably most severe in the poorest underdeveloped states, these societies lack the capacity to project them effectively into the international arena.¹¹ Ironically, population growth, while generating increasing pressures, further impairs national capabilities.¹² Nevertheless, domestic instability within the less-industrialized nations is not without consequences for international conflict. A state in constant turmoil is extremely vulnerable to outside penetration and manipulation.

States unable to make a go of statehood threaten international order, not so much by their policies as by their predicaments—not because of what they may do, but because of what other states may do to them, in them, and with them.¹³

A plausible example of such competitive interference by powerful states would involve an effort to secure control over some vital resource unavailable within their own boundaries.

In terms of the Choucri-North model, the likelihood of conflict involving the most advanced and highly industrialized states would seem to be relatively slight. Although they do exhibit rapidly escalating technologies, their rates of population growth tend to be quite low. Moreover, a variety of factors severely constrain any tendencies toward armed conflict among these states, including the presence of nuclear weapons, the evident benefits to be derived from cooperation and the equally evident costs of mutual antagonism, the demise of colonialism and the ideological and nationalistic barriers to its revival, and the tightening web of global interdependence. Many of these same considerations tend to militate against nonviolent forms of competitive expansion including economic warfare. Nevertheless, the possibility that steadily increasing pressure upon finite resources will translate into some form of aggressive foreign policy cannot be lightly dismissed. Secretary of State Kissinger has already expressed deep concern that spiraling energy costs and resulting "beggar-thy-neighbor" policies could contribute to an economic breakdown in the West analogous to that which spawned the Fascist regimes of the 1930's:

If we do not get a recognition of our interdependence, the Western civilization that we now have is almost certain to disintegrate because it will first lead to a series of rivalries in which each region will try to maximize its own special advantages. That inevitably will lead to tests of strength of one sort or another. These will magnify domestic crises in many countries, and they will then move more and more to authoritarian models.

I would expect then that we will certainly have crises which no leadership is able to deal with, and probably military confrontations. But even if you don't have military confrontations, you will certainly, in my view, have systematic crises similar to those of the twenties and thirties, but under conditions when world consciousness has become global.¹⁴

With these emerging realities—the increasing dependency of industrialized states upon external supplies of raw materials, the continued expansion of resource utilization, and the introduction of new demands by a developing Third World—the stage seems to be set for competition and conflict over mineral resources. At least three manifestations of this trend can be envisaged. First, as in the scenario suggested above, industrialized nations might seek to secure scarce resources by exploiting political instability within less developed nations. At the same time these resource trends offer some raw material producing countries unprecedented opportunities for international influence. The most obvious example concerns

the growing economic and political leverage of the Middle East oil-exporting states, which have begun to recognize and exploit the potentialities in the emerging configurations of world supply and demand—with at least some destabilizing results. Thus, the mere announcement of a selective export embargo by Arab oil producers was sufficient to generate deep political cleavages within the Atlantic Alliance.

A second arena of competition will involve those portions of the planet which hold the greatest potential of as yet unexplored and untapped sources of fuel and minerals—the continental shelves and deep sea bed. The potential for serious friction is already high as a result of rival claims among nations with the technological capabilities to exploit those sources, and between those states and less advanced coastal nations attempting to reserve their off-shore waters for their own use.

Finally, as the dependence of states upon external sources of raw materials increases, so will the importance of maintaining established trading networks. Political upheavals or disputes which disrupt trade patterns, even when not the result of competition for resources, could draw essentially neutral parties with no interest but the preservation of their resource supplies into the conflict.

Once extracted and processed, resources create waste which must be disposed of; and it is this human and industrial refuse, in conjunction with such deliberate products of modern technology as insecticides and synthetic fertilizers, that creates pollution. Pollution or waste problems can take on international implications in three ways. First, local environmental disruption affects regional and global ecosystem quality as a result of the complex chain of relationships on which those ecosystems are built. For example, when runoff from an orchard or a rice paddy sprayed with an insecticide or herbicide enters a stream and disrupts the species diversity and natural balance, it has ramifications beyond the local absence of trout or fish-eating birds. Polluted ground-water means polluted water supplies and deterioration in larger rivers and estuaries. While the total ecosystem could undoubtedly function without one of the existing waterways, each one adds to the stable workings of the whole, and there is as yet little way of knowing how much perturbation the whole can withstand before its essential functions such as oxygen production and nutrient cycling are seriously disrupted. Ensuing disturbance would follow no national boundaries; amorphous and long range in impact, such deterioration would affect all earthbound communities to some degree.

There are numerous other illustrations of this threat. One of the most dramatic concerns the climatic changes brought about by the "greenhouse effect" discussed frequently in environmental literature. In the view of some scientists, the large amounts of carbon dioxide released into the atmosphere each year may come to form a layer enveloping the globe, through which the heat produced on earth by energy utilization and animal metabolism plus solar energy normally reflected back out into space cannot pass. If enough heat were trapped to raise the mean temperature of the atmosphere by four or five degrees, the ice caps of Antarctica and Greenland would melt, raising the levels of the oceans by at least forty feet. There is a contending argument that holds that a blanket of particulates and gaseous waste covering the planet would reflect the sun's energy away from the earth and cause a lowering of the mean temperature, instigating a new Ice Age. Each argument is imprecise and unproven, but they serve to illustrate the collective transnational impact of originally local environmental disturbances.

The second area of international significance involving environmental pollution follows obviously from the first. Pollution enters river basins and atmospheric and oceanic currents which cross international frontiers; not only do these contaminants precipitate general ecosystem change, they cause specific damage to the health, economy, and quality of life in the states which they enter. Examples of such inadvertent pollution of the air or water of neighboring states include the river basins of Europe such as the Danube, the Rhine, and the Meuse, all of which flow through and are industrially exploited by several states, much to the disadvantage of the downstream nations. Irrigation projects on the Colorado River within the territory of the United States have resulted in rising salinity of the waters available for agricultural use in Mexico. The acid rains of Sweden are a well-known case of the industrial activity of one country or countries, in this instance Britain and Central Europe, damaging the economic resources of another. Timber production and salmon processing are important sectors of the Swedish economy which are being affected by the increased acidity of precipitation and ground water.¹⁵

In each of these examples it is possible to identify the offending states and to instigate bilateral or multilateral discussions between interested governments to begin dealing with the problems, but many instances of transnational pollution have no clear source of origin, or no single victim. A regional example is the rainfall in Europe which has recently shown large increases in pesticide con-

tent, probably as a result of agricultural spraying in North Africa. But the oceans, a vital link in the world ecosystem, present the most important example of the interrelatedness of the states which cause the problem and those which suffer its consequences. Increased interest in the global ocean as a source of minerals and food has paralleled its rapid deterioration. Rivers add industrial and human wastes, resource exploitation on the continental shelves disrupts marine life, traditional fishing grounds and the stocks of migratory marine species such as whales are depleted, and ocean-going tankers and freighters spill oil; but the cumulative effects of these activities are impossible to gauge given the present state of our knowledge.

Transnational pollution, then, provides potentially novel definitions of aggression and difficult new issues of contention among states. But in addition to supplementing existing sources of conflict, environmental trends may create unprecedented instrumentalities for interstate violence and manipulation, e.g., geophysical warfare.

The key to geophysical warfare is the identification of the environmental instabilities to which the addition of a small amount of energy would release vastly greater amounts of energy. Environmental instability is a situation in which nature has stored energy in some part of the earth or its surroundings far in excess of that which is usual.¹⁶

Emerging possibilities for exploiting such "instabilities" include deliberate weather modification, both local and global, and control of earthquakes and tidal waves. If such scenarios seem implausible, the development of more specific weapons purposely designed to damage the ecosystem of an enemy state is well advanced. The herbicides widely used in Vietnam are one example; other means have been designed to contaminate food, water, or air and divert water supplies.

A final instance of environmental factors exacerbating tendencies toward interstate conflict involves the structure of the international political system. The basic configuration of that system can be characterized as both anarchical and oligarchical; anarchical because of the lack of central authority capable of reconciling or suppressing the inevitable conflicts which arise as each state pursues its own national interests, and oligarchical because within any decentralized system a rudimentary hierarchy forms which is a function of the power capabilities of its individual members. As Roger Masters points out in his comparison of world politics and primitive political systems, "If we speak of international 'anarchy,' it would be well to bear in mind that it is an 'ordered anarchy.'"¹⁷

While these attributes may remain essentially intact, the membership and structure of the hierarchy will clearly change. The new demands and requirements, the new areas of competition, and the new possibilities for aggression among states will alter existing patterns of power. Although the foundations of power will continue to be technology and its prerequisites, resources and energy, it is the very importance of technology that increases the influence of those who control access to any of its components, which in many future cases will be the nations of the Third World. Power will gravitate toward some states which have as yet had little impact on the international system. The present hierarchy will be subverted. To the extent to which that hierarchy serves as a stabilizing influence in international politics, its erosion must have disruptive consequences at least in the short term.

IV. FUNCTIONALIST AND RELATED REMEDIES

Despite the potentialities for conflict in the impact of environmental trends upon international politics, there is another side to the coin. The fact that the environment is no respecter of national boundaries strongly suggests that ecological deterioration must be attacked on an international, not to say global, basis if ameliorative steps are to be effective. This in turn gives rise to basic questions concerning the viability of nationalism, sovereignty, or any other potential barriers to international action. It can be argued that the environmental crisis is of such seriousness as to raise real doubt concerning the long term survival of the human species. In its starkest (and still conjectural) terms it poses to mankind the imperative: take vigorous cooperative measures—or die. At a minimum it would appear that only international collaboration can forestall a serious erosion of the quality of life stemming from environmental decline.

In the view of many, the cooperative mandate inherent in environmental problems provides fertile ground for an implantation of functionalist theory. Representative of this conviction is F. H. Knelman:

Each day the evidence accumulates that pollution knows no boundaries, national or regional, and this principle of indivisibility, central to ecology, creates the need for national interdependencies. David Mitrany has written prophetically that "sovereignty cannot in fact be transferred effectively through a formula, only through a function." I believe that new functions exist which transcend all possible reasons for resisting the transfer of sovereignty. The most important of these is the need for world control of pollution to avert a breakdown of the environment and

the ensuing catastrophic effects. The nature of the global threat transcends ideological and political boundaries. Its analysis and control therefore require international cooperation. Functionalism has had mixed success in the past, but the novel situation prevailing in the second half of the twentieth century offers a new basis for using this approach.¹⁸

In short, these proponents see in global environmental protection the ultimate functional activity.

David Mitrany, the primary spokesman for functionalism, has said, "I do not represent a theory. I represent an anxiety."¹⁹ This attitude is prevalent throughout the functionalist literature which, as a result, is sometimes contradictory and often vague. Nevertheless, the basic argument is clear. Functionalism is essentially an approach to world order, a method of establishing world peace through the creation of transnational and international agencies charged with performing specific economic and social tasks. Man is seen as basically peaceloving but societal "diseases" such as poverty, ill health, illiteracy, economic insecurity, social injustice, and exploitation subvert his natural inclinations and lead to war. International functional agencies promise to eliminate war by attacking these problems and in the process gradually undermining the jealous sovereignties that fragment and divide the community of man. The state system cannot assure a durable peace because it has proven itself incapable of eliminating the societal defects mentioned above. While the nation-state has sovereignty over only a limited territory, the diseases of mankind, literally as well as metaphorically, know only their own ecological boundaries. Consequently, the state has increasingly lost the ability to deal with the real problems of its own citizens; sovereignty stands indicted as a barrier to international stability. But the political problem posed by the nation-state must be approached indirectly, by concentrating energies on the social and economic tasks.

Sovereignty cannot in fact be transferred effectively through a formula, only through a function. By entrusting an authority with a certain task, carrying with it command over the requisite powers and means, a slice of sovereignty is transferred from the old authority to the new; and the accumulation of such partial transfers in time brings about a translation of the true seat of authority.

[Functionalism is a method] which would . . . overlay political divisions with a spreading web of international activities and agencies, in which and through which the interests and life of all nations would be gradually integrated.²⁰

This achievement rests on two closely related processes: task expansion and loyalty transfer. Theoretically, success in one area of functional endeavor will generate similar approaches in other fields "like the gradual functional subdivision of organic cells."²¹ At the same time, human loyalties will gradually be attracted to the emerging international agencies as these prove their capacity to solve these problems which the territorially bounded state cannot.

Men will recognize international organizations as the giver of good gifts which their states are no longer able to provide; they will cease to regard the derogation of sovereignty as a dubiously permissible national sacrifice, and come to think of it as a transfer of authority which is essential to the attainment of desirable results, a profitable investment in the good life.²²

Thus, the functionalist program for world order depends on the identification of relatively nonpolitical problems and the creation of functional agencies empowered and designed to cope with them. Solving these problems would eradicate war by eliminating its root causes and by creating a widespread feeling of community which would transcend national boundaries. Eventually these trends would eliminate the nation-state altogether and replace it with a network of authoritative global institutions responsible for coordinating the activities of the functional agencies.

It is not surprising that those who embrace the functionalist perspective have recently shown considerable interest in environmental problems. The critical importance of these issues would suggest them as potentially powerful agents of functionalist transformation. The functionalist, then, would answer the question posed earlier concerning the relationship between the environment and international politics by asserting that the environment could be an important influence in dampening international conflict if: (1) it is used to demonstrate the obsolescence of the nation-state and to build an alternative network of functional international organizations and (2) these international institutions prove effective in reversing the process of environmental deterioration.

Functionalism constitutes a very attractive set of propositions, but serious reservations are justified nevertheless. First, there is the empirical observation that after nearly three decades of experience with the United Nations and a multitude of related international organizations, the functionalist vision seems almost as far from fruition as ever. Second, the priorities of the functionalist are not those of the environmentalist. Functionalism is mainly concerned with

the liquidation of the nation-state system; the solution of environmental problems is valued to the extent it facilitates that endeavor. Third, is the time factor. As Inis Claude has put it,

Functionalism is not in a hurry, and its claim to offer hope to the world is implicitly based upon the supposition that a long period is both necessary and available for working out solutions to the problems.²³

This gradualist approach is both explicit in functionalist writings and implicit in the argument that sovereignty can only be weakened and replaced by the erosion of its functions through strengthened economic and social linkages growing organically as needs arise. This attitude clearly does not do justice to the immediacy of environmental problems. Solutions cannot be allowed to evolve over time but must be instigated expeditiously, based on clearly perceived needs and plans.

The fourth problem with functionalism is its insistence on the separability of political and technical spheres of activity. One of the primary characteristics of environmental trends is their inseparability from politics; the ecological manifestations of the problem cannot be disjoined from their economic, societal, and political roots. If the environmental crisis is to be overcome, it must be approached from as many directions—politics included—as can offer hope of solution.

Thus, from an environmental point of view, the objectives of the functionalist program are too political while the means are not political enough. If functionalism is not conducive to an effective attack upon environmental problems, the tendency of these problems to generate and exacerbate international conflict will remain until more productive strategies are employed.

The functionalists are not alone in their view that the state system stands as the principal barrier to coping with the multiplicity of problems which afflict increasingly technologized modern societies. In his important book, *THIS ENDANGERED PLANET*, Richard Falk identifies and analyzes four dimensions of planetary danger in which he sees fundamental threats to man's future. The components of this fourfold peril are the war system, population pressure, the insufficiency of resources, and environmental overload. "In essence," Falk says, "the threats are all outgrowths of the underlying circumstances of a mismanaged environment that is an inevitable result of a defective set of political institutions." The defective set of institutions is, of course, the nation-state system.

It should hardly occasion surprise that the sovereign state—suitable for

a simpler world of more nearly autonomous units—cannot be expected to cope with the tasks of our world. The scope of modern problems clearly overwhelms the jurisdiction of many national governments; but also the nationalist way of doing things is becoming outmoded, given the circumstances of the endangered planet.²⁴

Unlike the functionalists, Falk urges an immediate and direct effort to make basic alterations in the international political system at the expense of national sovereignty. But is the underlying postulate, that the nation-state stands as an irremediable barrier to effective environmental action, a correct one? Falk and the functionalists posit a relationship between three variables: sovereignty, international conflict, and environmental decline. Sovereignty is identified as the root cause of international conflict and the principal obstacle to its amelioration and to environmental regeneration. The characterization of the relationship between sovereignty and international strife is well-founded.²⁵ But does the analysis of the linkage between sovereignty and environmental stress rest on equally solid ground? Is sovereignty the fundamental barrier to the control of environmental deterioration, as well as international conflict, making the elimination or transformation of the nation-state the onerous but unavoidable task of contemporary statesmen?

V. AN ALTERNATIVE APPROACH

There can be no doubt that over the *long term* a satisfactory solution of environmental and other rapidly developing global problems will necessitate a radical restructuring of international politics away from the state system toward various forms of international authority. But there is little prospect that this transformation can be effected before the end of the century. As Harold and Margaret Sprout observe, "The earth has become more fragmented politically in our era than ever previously since the formal emergence of the state system in the 1600s. Nationalism—expressing the demand for political identity and self-determination, as well as persistent distrust of things foreign—is a value held with fanatical intensity by elites in the new nations and in most of the older ones too."²⁶ And to make matters worse: "Social structures often persist long after they have become potentially unviable, even a menace to the welfare of those who ostensibly derive benefit from them."²⁷ Mitrany, in fact, identifies the consolidation of new states under new nationalisms as one of the two major political trends in the contemporary world. At the same time, the fragmentation of global politics has tended to erode that fragile and rudimentary approximation to uni-

versal morality which underlies international law. Nothing remotely resembling world government is in prospect. Moreover, blueprints and proposals for world order systems tend to be viewed by policy-makers as unrealistic and infeasible. The aversion of the Anglo-American political ethos to grand theoretical schemes is a truism. Instead, in efforts to achieve international stability reliance is placed on bilateral and multilateral agreements amongst the great powers. As for the U.S.S.R., non-Marxist schemes for global authority are seen as threatening to the prerogatives of the Soviet state and the promise of the October Revolution. And the post-colonial nations of Africa and Asia greet with understandable suspicion calls that they subordinate their nationalistic ambitions of matching the power and wealth of the West to environmental and global order considerations. Every state has powerful domestic special interests (e.g., the military) which are similarly hostile to internationalism. Consequently, as Harold Lasswell, Richard Falk, and others have unhappily concluded, the present prospect that any world leader will give "effect to any counsel of reasonableness that involved a drastic change in international relations" for the purpose of global survival is dismally poor.²⁸

As a result those, like Falk, who see the transmutation of the state system as the *sine qua non* of effective environmental action are placed in a difficult position. They recognize that the initial impetus for change must come at the national level, that the design and development of new "world order systems" remain under the control of state governments, and that "if there is a failure to achieve any reorientation on critical national levels, then almost any other effort at transformation will be nullified."²⁹ In other words, "The prospects for adaptive change depend on transforming existing values, attitudes, and institutions by bending them to new realities rather than starting fresh."³⁰ But how is a commitment to such a radical, and to some degree self-liquidating, step to be generated amongst national regimes? Will governments participate in their own dissolution? Falk answers:

They have no choice, if the basic line of analysis is correct. The available choice is whether governments will assist the process of dissolution and guide the outcome in a constructive direction or will resist dissolution and help induce a catastrophic breakdown in world affairs.³¹

In light of the previous discussion the latter pessimistic option would seem most probable. The avoidance of catastrophe, or coercive solutions on the brink of catastrophe, depends on initiating massive programs to cope with environmental stress in the near

future. The first law of ecological politics is "the sooner the better."³² Yet the tenacity of nationalisms and the obstacles arrayed against programs based upon blueprints for supranational authority offer little hope that perceptions of environmental deterioration or visions of international stability will provide the impetus for a breakthrough toward an environmentally sound world order system.

Yet, in their eagerness to pronounce the death knell of the nation-state and power politics, the proponents of supra national authority fail to perceive the potentialities for positive action inherent in the state system. They argue that the nation-state is obsolete and that the only valid levels on which to deal with environmental realities are the local sphere where the consequences are most acutely felt, and the global level where, unhampered by artificially created national boundaries, an ecological perspective can be applied. However, keeping in mind that the deterioration of the environment continues, even while the political difficulties are being debated, the national governments emerge as the only level of organization with the resources, experience, and organization to act upon environmental information as it is gathered and analyzed. The functionalists acknowledge that nationalism can give rise to internationally constructive behavior but they do not seem to appreciate the dimensions of this possibility. Rather than condemn outright such tenacious and prominent realities as national interest, nationalism, and power politics, surely the course of wisdom is to determine how these phenomena can be harnessed in the cause of environmental protection and international stability.

This paper has emphasized the potentialities for increased international conflict inherent in environmental developments. To the degree to which it generates new sources and instruments of warfare and disrupts the existing hierarchy of international power, environmental decline strikes at the heartland of state interest, i.e., national security—not to mention the effect upon living standards of rising costs associated with pollution and resource scarcity. The more serious these problems and the more interdependent the international system the more directly state interests are engaged. Observing the deleterious effect of competitive national drives for wealth and power upon the environment, Falk concludes that the nation-state must be effectively abolished. But alternatively it can be argued that since national interests are threatened by environmental change, the more realistic short term requirement is for adaptive change in state policies.

What all this suggests is that the antithetical relationship so often

posited between the competitive politics of state interest and the cooperative politics of international organization is misleading. For the functionalists and others it is almost axiomatic that progress concerning environmental and world order goals will be achieved in direct proportion to the extent to which *realpolitik* is superseded by the politics of cooperation. Little thought is given to the possibility that the former can be harnessed in the service of the latter, i.e., *that power politics and the state system can be eroded, and environmental deterioration contained, by appealing directly to national interest and the concerns of power.* This possibility is all the more important because, as previously contended, there is little prospect that any other considerations will motivate governments to instigate the thorough reevaluation of national priorities that is required. The rhetoric of apocalypse tends, over time, to deaden the nerves and paralyze the will of individuals and governments, even if the prognoses are well-founded. At the same time it is a dangerous strategy to wait for a crisis to validate the danger and precipitate action; the situation may already have deteriorated beyond remedy, or change under conditions of great stress may prove uncontrollable.

Given the conflict potential inherent in environmental developments, it should be possible to articulate the need for radical environmental action in terms of the value conventionally accorded highest priority in the state system, that of national security. The critics of functionalism are largely correct in their contention that political and technical issues are not readily separable, but this need not be a source of despair. Rather, the political consequences of ecological change can be exploited to speak to governments in terms which motivate policy.

Specifically, statesmen must comprehend that a failure to deal resolutely with transnational pollution, resource and food scarcities, and population pressures may well precipitate (1) increasing tensions conceivably including armed conflict between developed and less-developed nations, (2) growing and mutually destructive rivalries among the affluent nations of the West with corrosive effects upon the Atlantic Alliance, (3) a deterioration of the international monetary system and trading network, (4) a resurrection of the cold war as new areas of rivalry and vulnerability supplant outdated ideological divisions and (5) a worsening of even such previously close relationships as those between the United States and Canada or the United States and Mexico. All this is in addition to the potential corrosion of the domestic political and economic order previously noted. In sum, environmental deterioration imperils the

fabric of international relationships and domestic stability upon which national security rests.

Policymakers must perceive this new dimension of security to be fully as salient as the more traditional military one. Looking ahead, the greatest threats to United States national security lie not in Communist aggression, or disruption of the Eurasian balance of power, or even the spread of radical revolutions in the Third World; but in the catalogue of macropolitical phenomena comprising energy, natural resources, food, population, pollution, and related issues. If we see the future at all clearly, these matters will be an increasingly important factor in shaping bilateral and alliance relationships. They will assume growing significance in U.S.-Soviet detente and in American relations with the developing nations. The recent speeches of Secretary Kissinger suggest a substantial and rapid evolution of his own views in this direction.³³ However, the greater test of Washington's understanding and commitment will be whether oratory is made credible by changes in budgetary allocations and by political and financial commitments to international institutions, conferences, and law designed to facilitate a global approach to one or another aspect of the environmental threat.

Such a reorientation of policy on the part of the United States or any other state will not be easily achieved. The meager results of the World Population Conference in Bucharest and the World Food Conference in Rome provide evidence on this point. Yet the inability to achieve greater progress at the Conferences may be attributed to the fact that, with some exceptions, governments still do not perceive rapid population growth as a threat to their national security. Energy, however, is increasingly perceived in these terms. Thus Mr. Kissinger's recent emphasis upon interdependence and the need for a qualitatively new level of cooperation among the industrialized states has been unmistakably related to, and motivated by, the rise in the world market price of petroleum. In short, the disappointments at Bucharest and Rome tends to support the thesis that it is only when environmental issues can be credibly articulated in terms of vital national interests that governments will generate the political commitment to deal effectively with them.

Thus, instead of viewing the preoccupation with national security as an obstacle to constructive action, we should see it as a potential asset. It is significant that historically the only regular occasions when states have initiated drastic changes in established patterns of foreign policy and international cooperation have been during wartime—when the question of security is most sharply posed. The

traditional concern of functionalists and others interested in world order systems has been the elimination of war, and in this context nationalism has understandably been viewed as a major obstacle. However, when the focus shifts to confronting the environmental crisis, national egoism assumes a less threatening dimension.

VI. CONCLUSION

When states begin to assess their long-range security in terms of emerging environmental realities, the primary policy options available to them will include increasing degrees of interstate collaboration, both bilaterally and multilaterally. The same interrelatedness of environmental issues which catches each state up in an increasing web of conflict makes it clear, in many cases, that only transnational solutions can deal adequately with the complexity of the problem. The immediate goal of such international cooperation would not be the subversion of the nation-state, but the solution to environmental deterioration and the threat it poses. Where it is most efficient and feasible for this purpose to utilize international institutions, they will be developed, but the basis of such cooperation would remain a calculated assessment of national security.

We have, then, a paradox—or more precisely two paradoxes—by which conflict becomes a potential source of international peace and national interest of international organization. These positive linkages have many possible dimensions as governments react in diverse ways to the various manifestations of the environmental threat. The risk of conflict stemming from competition for vital natural resources and energy supplies is particularly critical because it concerns elements which, combined with technological capabilities, now largely define a nation's power potential. One response, manifested in the current round of U.N. conferences regarding the law of the sea, will be attempts to strengthen the fabric of international law and organization. But because of the wide-ranging implications of energy and resources for state interests, the principal trend may be towards internalizing national sources and supplies where possible—a process which has apparently already begun, as evidenced by "Operation Independence."³⁴ It is conceivable that in the future sovereignty will be substantially defined in terms of the autonomy of a nation's energy supply.

The limitations of this approach are obvious. For the vast majority of nations, including such major economic powers as Japan, energy independence is simply unattainable, at least in the foresee-

able future. Even for those few states for which it is a credible aspiration, the achievement of self-sufficiency in energy would not alter the fact of dependence upon imports for a growing list of raw materials. It may be helpful, however, if the adjustment of some major powers to the vulnerabilities of interdependence can be eased by the realization of partial independence in one major sphere of national activity.

Current developments in the international petroleum market suggest an alternative scenario. The recent successful coordination of production and export policies by the oil-producing countries, and the preliminary steps toward a united approach by the consuming nations, suggest at least the possibility that the conflict potential inherent in resource problems may be diverted into successful multilateral diplomacy.³⁵

That this outcome is far from assured is suggested by continuing differences within OPEC concerning pricing policies and the reluctance of France to relinquish its freedom of action in the interest of solidarity among the consumer nations. Moreover, we cannot dismiss the possibility that successful cooperation among producers on the one hand and consumers on the other will be merely a prelude to more intense conflict between the two groups. But again, if the constructive, rather than the destructive, possibilities of this situation are to be realized, it will be because both producer and consumer nations will perceive their physical security and economic well-being, i.e. their vital national interests, to be imperiled by conflict and safeguarded by cooperation.

There can be no doubt that security concerns must ultimately be translated into effective international cooperation of a degree which will require drastic curtailment of state sovereignty. This is particularly evident with regard to that dimension of the environmental threat involving the amorphous and unplanned accumulation of environmental stress, especially in the form of pollution and population growth. While these pressures have definite destabilizing consequences, their root causes are not traceable to specific conflict-producing intent on the part of any one country. Because of the universality of cause, and the extent to which the effects are suffused throughout the globe by air and ocean currents and international waterways, this aspect of environmental deterioration is most adequately handled through international organizations. There are no defenses which individual states can establish against widespread environmental deterioration except through coordinated international action, no aggressor except that each state is a

polluter and depletor, and no victims except that every state is dependent on the biosphere. But any initiative for cooperation will come primarily from the realization on the part of individual states of the extent to which their security is threatened in the absence of cooperation.

While states will bear the major burden in mobilizing a response to environmental deterioration and its consequences, nothing will prevent the application where politically acceptable of functionalist or other approaches which envisage a direct translation of environmental decline into supra national institutional building, i.e., the transfer of the locus of political authority from the state to regional and global organizations. All the elements in the functionalist program—the emphasis upon technical problems, international civil servants, expertise, international organizations, spillover, etc.—will remain relevant, as will emphasis upon the global dimensions of the environmental threat. In sum, there is no long-term incompatibility between functionalist and national interest approaches; each envisages the eventual emergence of an international political system in which supra national institutions capable of coping with global problems are preeminent. The two differ only in regard to the time frame involved and the proper strategy for the short and medium term. It is our contention that a national interest approach will prove the more productive during that period.

For centuries, Niccolo Machiavelli has been the symbol of political realism. His attitudes are represented wherever decisions are being made to secure national interests.

For where the very safety of the country depends upon the resolution to be taken, no considerations of justice or injustice, humanity or cruelty, nor of glory and shame, should be allowed to prevail. But putting all other considerations aside, the only question should be, what course will save the life and liberty of the country?³⁶

The relevance and strength of the environmental perspective lies in the ability to couch its arguments in these terms. The “life and liberty” of the modern state is synonymous with environmentally enlightened political action.



FOOTNOTES

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¹ Choucri, N.M., and Robert C. North, *Dynamics of International Conflict*, 24 *WORLD POLITICS*, at 87-88 (Spring 1972 Supplement).

² Their manipulability over the long term remains to be determined and is one of the crucial questions in environmental problems.

³ For a controversial elaboration of exponential growth curves see Meadows, D. H. *et al.*, (eds.), *LIMITS TO GROWTH* (New York: Universe Books, 1972).

⁴ Population Reference Bureau (PRB), 1973 *World Population Data Sheet* (Washington, D.C.: PRB, 1973).

⁵ Strictly speaking the level of technology need not correlate positively with rates of resource use and waste creation. In fact, some newer technologies are characterized by reduced stress upon the environment in this regard. But the general picture up to the present is quite to the contrary. The expanding technologies which have made possible the emergence of industrial and post-industrial societies have historically harnessed ever increasing amounts of energy at the cost of rising resource consumption and waste generation. Similarly, affluence in theory need not necessarily correlate with the development of technology, but historically it has done so. Thus we find in the modern era a positive correlation between technological advance, growth of disposable income, and environmental deterioration.

⁶ See Farvar, M., and John P. Milton, (eds.), *THE CARELESS TECHNOLOGY* (New York: Doubleday & Co., 1972) for a more complete documentation of the problems involved in a widescale transference of Western technology to the Third World.

⁷ A perception of resources as infinitely expandable precipitates a fundamentally different approach to resource use than one based on finite limits. If the resources necessary to sustain the global population and to provide it with the benefits of technology are considered inexhaustible, the nation-states will pursue a course of action described by Kenneth Boulding as the "cowboy economy." In this view of the world the problem lies in distribution, not in overall supply, and the struggle centers around each nation's ability to secure the proper channels of supply. If, however, resources are seen as finite, the realization must change patterns of behavior from high to low consumption with efficient recycling of used materials. If the finite quality of resources is seen in zero-sum terms, i.e., if an increase in the quantity obtained by State A is seen as a decrease in

the amount available to States B and C, the result will be an increase in the internal pressures and the external interactions between states and therefore more potential for violence.

⁸ Recent estimates concerning the global distribution of known mineral reserves are as follows: (1) Coal: North America 39%, Asia including the U.S.S.R. and China 44%, Europe 13%, Africa 4%, Australia 1%, and South America less than 0.05%. (2) Petroleum: Middle East 66.72%, North America 18%, South America 7%, U.S.S.R. small reserves. (3) Iron: percentages uncertain but in probable descending order of importance: Africa, North America, Central and South America, non-Soviet Asia, Europe, and the U.S.S.R. See Huberty, M., and Warren L. Flock, (eds.), *NATURAL RESOURCES*, at 419 (New York: McGraw-Hill, 1959).

⁹ Choucri, N.M., *Population Resources and Technology: Political Implications of the Environmental Crisis*, in Kay, D.A. and Eugene B. Skolnikoff, (eds.), *WORLD ECO-CRISIS*, at 29 (Madison: The University of Wisconsin Press, 1972).

¹⁰ Choucri and North, *supra* n.1, at 86.

¹¹ The emerging situation of global resource scarcity will enable certain less-industrialized but well-endowed states to exercise considerable leverage in international politics and thus project some domestic pressures outward. However, states blessed with such assets are unlikely to be overpopulated in any usual sense of population-resource ratios.

¹² Clearly the severity of those pressures and the consequences for national capabilities will depend upon the extent to which population increase strains a country's existing resources; *i.e.*, equal rates of population growth will create a "population problem" of differing dimensions from one country to another.

¹³ Claude, I.L., *SWORDS INTO PLOWSHARES*, at 406. (New York: Random House, (1956).

¹⁴ *NEW YORK TIMES*, October 13, 1974 at 34.

¹⁵ See Sweden, Royal Ministry for Foreign Affairs and Royal Ministry of Agriculture, *AIR POLLUTION ACROSS NATIONAL BOUNDARIES: THE IMPACT ON THE ENVIRONMENT OF SULFUR IN AIR AND PRECIPITATION* (Stockholm 1972).

¹⁶ MacDonald, G., *How to Wreck the Environment* in Calder, N. (ed.), *UNLESS PEACE COMES*, at 183 (New York: The Viking Press, 1968).

¹⁷ Masters, R., *World Politics as a Primitive Political System*, in Rosenbaum, N. (ed.), *READINGS ON THE INTERNATIONAL POLITICAL SYSTEM*, at 362 (New Jersey: Prentice-Hall, Inc., 1970).

¹⁸ Knelman, F.H., *What Happened at Stockholm*, 28 INTERNATIONAL JOURNAL (Winter 1972-73).

¹⁹ Sewell, J.P., FUNCTIONALISM AND WORLD POLITICS, at 8 (Princeton: Princeton University Press, 1966).

²⁰ David Mitrany, as quoted in Claude, *supra* n. 13, at 380.

²¹ Mitrany, D., A WORKING PEACE SYSTEM, at 21 (London: The Royal Institute of International Affairs, Oxford University Press, 1943). For a more recent exposition of his views on functionalism, see Mitrany, D., *The Functional Approach in Historical Perspective*, 47 INTERNATIONAL AFFAIRS No. 3, (July 1971).

²² Claude, *supra* n. 13, at 383.

²³ *Id.* at 389.

²⁴ Falk, R., THIS ENDANGERED PLANET, at 98 (New York: Vintage Books, 1971).

²⁵ There is, moreover, a reciprocal relationship between international conflict and environmental impairment. We have argued that environmental problems carry with them more than a serious threat to international peace. At the same time war itself, with its resource stockpiling and depletion, its herbicides and other chemical and biological weapons, its potentially catastrophic destructiveness, is both a diversion of monetary resources and human energy better used to solve the environmental threat itself. See Gofman, J., *The Existence of Nuclear Weapons: A Prime Environmental Threat*, I ENVIRONMENTAL AFFAIRS 782, and Arthur H. Westing, *Herbicides as Agents of Chemical Warfare: Their Impact in Relation to the Geneva Protocol of 1925*. I ENVIRONMENTAL AFFAIRS 578.

²⁶ Sprout, H., and Margaret Sprout, TOWARD A POLITICS OF THE PLANET EARTH, at 463 (New York: Van Nostrand Reinhold Co., 1971).

²⁷ *Id.* at 424.

²⁸ See Falk, *supra* n. 24, at 417.

²⁹ *Id.* at 341.

³⁰ *Id.* at 296.

³¹ *Id.* at 347.

³² *Id.* at 353.

³³ See, e.g., "Challenges of Interdependence" (before the Sixth Special Session of the UN General Assembly, April 15, 1974); "Maintaining the Momentum Toward Peace" (before the Twenty-ninth Session of the UN General Assembly, September 23, 1974.) These two speeches may be found in U.S. State Department Bureau of Public Affairs *News Releases* for those dates. See also, "Challenge to America's Purpose" (before the Annual Dinner of the Alfred E.

Smith Memorial Foundation, New York) found in *The Secretary of State*, (Washington, D.C.: October 16, 1974); and *see also* NEW YORK TIMES, October 13, 1974, 34-36.

³⁴ *See, e.g.*, former President Nixon's April 18, 1974 energy message to the Congress calling for programs to reduce United States' dependence upon foreign energy sources. *See also* NEW YORK TIMES, September 9, 1973.

³⁵ This outcome is far from assured as differences within OPEC concerning pricing policies and termination of the U.S. embargo attest.

³⁶ Niccolo Machiavelli, *THE CHIEF WORKS AND OTHERS*, Volume I, at 529, translated by Allan Gilbert (Durham, North Carolina: Duke University Press, 1965).