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THE INSTITUTIONAL DIMENSION OF
THE AMAZONIAN ECOLOGICAL DISORDER:
BUREAUCRACY, DIPLOMACY AND ECOPOLITICS IN BRAZIL */

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CONTENTS

	<u>Page</u>
Summary	v
I. INTRODUCTION	1
II. AN ECOPOLITICAL APPROACH TO ECOLOGICAL DISORDER	4
1. "Ecopolitics", this troubled relationship between humans and nature	4
2. The abolition of the environment: The incorporation of nature into human culture	6
3. The abolition of the human race: Carrying capacity and the environmental crisis	8
III. ECOLOGICAL DISORDER IN BRAZIL (1): SOCIAL FORMATION AND ECOPOLITICS	10
1. The "paradox" of the Brazilian social formation	10
2. The Brazilian State, a Portuguese Oedipus?	12
3. What Sophocles did not see, the technobureaucracy ..	14
IV. ECOLOGICAL DISORDER IN BRAZIL (2): WHEN "RESPONSIBLE PRAGMATISM" SPELLS DISASTER	16
1. A view from the periphery: Brazil at Stockholm	16
2. The primacy of national sovereignty over international cooperation	19
3. The logic of Orwellian authoritarianism	21
V. ECOLOGICAL DISORDER IN BRAZIL (3): THE BUREAUCRATIC POLITICS OF ENVIRONMENTAL POLICY	23
1. If you can't find a deodorizer, create an agency ...	23
2. Competing political forces and the context of ecopolicies	25
3. The bureaucratic politics of environmental policy formation	28
VI. EPILOGUE: POLITICAL DEVELOPMENT, DIPLOMACY, BUREAUCRATIC POLITICS AND ECOLOGICAL DISORDER	31
1. Brazil in the 1990s: Hope or despair?	31
2. Improving our ecopolitical understanding about ecological disorder in Brazil	34
Notes	37

Summary

We are definitely in an age of scarcity. Scarcity of resources, scarcity of places to dispose of our wastes, and, above all, scarcity of adequate institutions to face the challenges of the current environmental crisis. Ecopolitics represents thus the most immediate recognition that, in order to understand the basic dimensions of this crisis one must make an attempt to grasp concrete social processes. One must look at a particular national and historical situation and attempt to unveil the patterns of relationships amongst human beings, individually, in social groups and classes, as well as through their institutions.

An ecopolitical approach to study specific situations, such as the ecological disorder in the Amazon, amounts to a study of politics. It represents also an analysis of the bureaucratic politics of environmental policy formation in Brazil. This means to say that only through historical analysis can one pursue an evaluation of whether Brazil's present environmental (pollution) and ecological (depletion of the resource base) problems have emerged from sheer economic growth and industrialization, or whether they have been produced by the inadequacies of an institutional (bureaucratic) and political (social stratification and distribution of power) nature, or both. In short, this is a study about the bureaucratic dimensions of ecopolitics in Brazil, but it is not an analysis of specific policies concerning the Amazon. The intention is not to explain, for example, the socioeconomic and ecological impacts of the occupation of the Amazon, but, rather, to unveil the kinds of ecological challenges brought up by the political development of Brazil.

The paper opens with a summary review of what would constitute an ecopolitical approach to analyze ecological disorder. It proceeds then to propose that ecological disorder in Brazil should be viewed through three complementary dimensions: the characteristics of the process of formation of Brazilian society and political system; the key tenets of the government stand on environmental issues, as revealed in its participation in the 1972 U.N. Conference on the Human Environment.; and the bureaucratic politics involved in environmental policy formation and implementation. The final section of this paper introduces a prospective view of ecopolitics in Brazil, integrating these three dimensions, and suggesting also some ways of improving our understanding of ecological disorder.

For love of an insignificant profit the population destroys one of the greatest resources that could assure its subsistence and the good fortune of coming generations.

João M. da Silva Coutinho, Military Engineer and Explorer, writing on the Amazon (1868).

Everything indicates that future generations will have the right to criticize us severely if we sacrifice per capita income growth for other priorities.

Mário H. Simonsen, Finance (1974-79) and Planning (1979) Minister, writing on development (1972).

Why not? We have a lot left to pollute. They don't.

J.P. dos Reis Velloso, Planning Minister (1969-79), explaining Japanese investments in Brazil (1972).

I. INTRODUCTION 1/

Celso Furtado once stated that the dynamism of the Brazilian economy could not be explained without reference to the sacrifice that has been imposed upon the majority of the population and to the intensified use of its natural resources. 2/ Exploitation of the Amazon constitutes a paradigmatic example of that fact. Its penetration dates back to colonial times, intensifying in the first decades of this century. It turned, however, into a large-scale enterprise during the military regime of the years 1964-1985, thanks in part to the construction of the Transamazon Highway but, more important, also to fiscal incentives. These had the undisguised goal of favouring the big conglomerates of the South, especially those representing multinational interests. Some of the largest explorations established through this scheme of "fiscal incentives" belong to Volkswagen, Nestlé, Mitsubishi, and others. 3/ This has meant, in ecological terms, the specialization or otherwise simplification of natural ecosystems which, in the long run, led to destruction and desertification--in addition, of course, to the disruption of native populations.

International interests have a large history in the Amazon. In the nineteenth century, several scientists began exploring and mapping out the riches of Brazilian flora and fauna. German botanist Friedrich Phillip Von Martius travelled throughout the country, including the Amazon, between 1817 and 1820, producing one of the first and best accounts of Brazilian species, the fifteen volume Florae Brasiliensis (1840). French botanist Auguste Saint-Hilaire, in his Viagem à Provincia de São Paulo e Resumo das viagens ao Brasil, Provincia Cisplatina e Missões do Paraguay (1833), documents the extensive devastation of natural forests, writing perhaps the first manifesto against what we today call Brazil's "savage capitalism." The economic interest of foreigners for the Amazon followed suit, particularly during the extractive cycles that characterized the economy of Brazil until

the end of the nineteenth century and the first decades of the twentieth. Significant in this respect was the costly 1927 adventure of Henry Ford, in his ill-fated attempt to revive rubber production. Its subsequent collapse underscored something that North American tycoon Daniel Ludwig painfully experienced fifty years later in his Jari Project: an absolute ignorance with respect to the ecology of the region. 4/ In this case, ignorance cost another 2 million ha. of forest to the Amazon. International interests have been in the forefront of destruction as well. Making use of fiscal incentives Volkswagen, for example, was responsible for the largest devastation of the Amazon in one single property, burning down 140,000 ha. of forest (half of the state of Rhode Island, or as much as the city of São Paulo). This was done to feed only 46,000 livestock, or one cow to every 7 acres. 5/ Brazilians have also contributed to much destruction of the Amazon. Only the lake of the Tucuruí hydroelectric plant, in which it was used the same type of defoliant deployed in Vietnam, destroyed an area of 240,000 ha.

However, it is indeed ironic to see the international outcry against the lack of constructive policies of the Brazilian government towards the Amazon, when in fact the interests of the same governments that now cry for conservation have been behind most of the ecological havoc provoked in the region. Japan, for example, is often heralded for its environmental policies. But few note, as Redclift does, 6/ that for a long time it has been possible for the Japanese to lock away their own hardwood forests because there were abundant supplies of hardwood in nearby Southeast Asia. Now that these forests approach exhaustion, Japan is avidly turning to the available reserves of Central America, West Africa and the Amazon. 7/

There is no doubt that the occupation of the Amazon has intensified over the past two decades. Population growth in the Amazon has been an astonishing 6 percent during the past ten years. Rondonia alone, which had 100,000 inhabitants twenty years ago, now counts over 1 million people in its borders. This has brought with it the destruction of large tracts of forest, and Rondonia itself lost one-sixth of its natural cover during this period. If by 1975 some estimates indicated that 3.1 million hectares, the equivalent to the area of Massachusetts, had been already deforested, in 1987 alone another 7.7 million ha., or the area of Maine, went up in flames. This trend indicates that the deforested area increased to 12.5 million ha. in 1980, and jumped over 4.5 times as much by 1988 (or 12 percent of the forest, equivalent to the total area of California and all of New England combined). As a matter of fact, over four-fifths of total deforestation in the area has occurred since 1980. 8/

It is also impressive to compare the area of the Legal Amazon, close to 500 million ha., and the total area of the Brazilian territory set aside for preservation. The Amazon would

represent roughly 60 percent of Brazil, whereas only 1.5 percent of the Brazilian territory has been legally protected in national and state parks, reserves and ecological stations. Japan, for example, with roughly the same population as Brazil and with less than one-twentieth of the Brazilian territory, has 13.5 percent of its surface permanently protected. The United States, slightly larger than Brazil in territory, but with a population almost twice as large, has 17 percent. And in Sweden, about the size of Japan, but much less densely populated, the total protected area reaches 60 percent. ^{9/} In short, if the proportion of Brazil's territory currently protected is extremely low by international standards, and even more so if we take into account the size of the Amazon, still, what has been destroyed of the forest only in the present decade (47 million ha. according to the World Bank estimates mentioned in note 8 above) represents almost four times as much as what has been legally protected so far.

Notwithstanding the need to improve our knowledge about the situation, it must be noted that it is not the purpose of this paper to study the ecological disorder of the Amazon in and of itself. There are undoubtedly important repercussions of the policies of occupation of the Amazon for the integrity of its ecosystems, as well as for the overall carrying capacity of the region. However, other, more competent experts will surely contribute their expertise to the understanding these issues.^{10/} Our purpose here is to focus on the institutional dimensions of ecological disorder, on how the political development of Brazil, and its bureaucratic politics in the environmental arena, composes the difficulties of facing the ecological challenges posed by the careless occupation of the Amazon.

This approach assumes, as John Passmore points out, that an ecological problem cannot be confused with "a problem in ecology". The latter is essentially a scientific problem, a question of understanding some particular ecological phenomena. Conversely, an ecological problem, is fundamentally a social problem. It is not a question that presents obstacles to scientifically reckon with the laws of the natural world, but rather a problem that we believe society would be better off without it in the first place. ^{11/} As a matter of fact, an adequate understanding of ecological disorder requires the recognition that the ecological outcomes of the way people use the earth's resources are ultimately related to the modes of relationships amongst people themselves.

II. AN ECOPOLITICAL APPROACH TO ECOLOGICAL DISORDER

In 1970, 300,000 persons died in Bangladesh when a cyclone drove a huge wave over the Ganges delta, in what has been described as the greatest natural disaster in history. In 1984 the world was struck by the image of millions of Ethiopians dying of starvation. How many North Americans will perish when the San Andreas Fault moves once again sometime at the turn of the century? All of these situations can be predicted well in advance. The Ganges delta is a flat lowland known for its climatic instability. At the beginning of the seventies Africa, which was essentially self-sufficient in food, began to show increasing signs of declining per capita grain production. And in 1906 San Francisco was literally destroyed by a major earthquake.

Notwithstanding the fact that two of these examples refer to natural disasters beyond human control, they all show a dramatic failure to cope with the laws of nature. Even in the case of San Francisco and Bangladesh, one may argue that in allowing human concentration in such highly unstable environments we actually help those natural occurrences to become disasters. There are undoubtedly social and political variables that may explain this "failure," but the truth is that there has been a persistent disregard, both by social scientists and by decisionmakers, of the rules that regulate the world surrounding us. These matters deserve our utmost attention in years to come, for, as Kenneth Boulding says, "No one is going to repeal the second law of thermodynamics, not even the Democrats." ^{12/} Full appreciation of the present crisis thus demands some knowledge of the basic principles of ecology. For our purposes, we should focus our attention in the concepts of equilibrium and of carrying capacity, resiliency and diversity, since they apply more closely to the environmental situation of Brazil and of to the Amazon.

1. "Ecopolitics", this troubled relationship between humans and nature

Ecopolitics, both as a discipline and as a specific arena of politics, truly belongs to the society of the late twentieth century. How many centuries has humankind had to travel to discover that ecopolitics has been with us since the dawn of

time. Ever since Adam and Eve left the Garden of Eden, for an ostensibly ecological act, human beings have had to struggle with the blessings and the curse also of ecopolitics. Yet, we still ignore the laws of ecology. We are particularly ignorant of the range of interconnections between human activities and the cycles of nature. The fact that we are part of nature, and that nature is also part of our culture, only compounds our problems. Too, it makes our attempts to harmonize politics and ecology, in our daily lives, even more clumsy. But the crude facts of life tell us that the higher we rise in our technological society, the more intimate and demanding the relationships between ourselves and our forgotten nature become. And as the competition to grasp a greater share of resources goes unchecked, we place increasing strains upon the stability of our institutions.

To incorporate then an ecological framework into our economic and political decision-making--to take into account the implications of our public policies for the network of relations operating in ecosystems--may be a biological necessity. As A. F. Coventry once stated, "we have for a long time been breaking the little laws, and the big laws are beginning to catch up with us."^{13/} But human beings do not function naturally, in a more or less automatic manner; they need conscious and deliberate actions to change course. By extension, an ecosocial system, which includes both natural and human systems, can transform itself only through the human ability to set and seek a predetermined goal. To be able to understand the implications of the ecological (scarcity of resources) and environmental (scarcity of "pollutable" reservoirs) crisis, one must attempt to grasp the social process behind it. And the possible solutions to the current crisis must be found within the social system itself.

Another way to approach this reality is to underscore the fact that goods and services, measured by the yardstick of human needs, are generally in a situation of scarcity. At the same time, interests and wants of individuals, groups and societies are being permanently redefined, in themselves as well as in relation to one another. From their definition follows the question of who gets what, when, how, and why. That is what the study of politics is all about. But because the most basic resources, such as the food we eat, the water we drink, the air we breathe, and the materials with which we build and equip our shelters, are all provided by natural processes, contemporary politics stands on the ecological foundations of society. ^{14/}

Ecopolitics is thus a short word for ecological politics. It emerges from the recognition that to overcome the ecological and environmental crisis, political decisions will have to be made. In this process some interests will be favored over others, both within as well as between nations. No one should assume, however, that "ecopolitics" is merely a new and catchy word, a marketing device for environmentalists. Hobbes, more than three hundred

years ago based his suggestion that some sort of civil authority was necessary, otherwise conflict and chaos could result, on the fact that human wants are always unfulfilled due to the scarce nature of resources. He continues to be right. Scarcity was also at the core of the political thought of many philosophers before Hobbes. Plato (427-347 B.C.), for example, voiced concern with overgrazing and deforestation. He foresaw the need for a responsible pilot to run the otherwise unstable ship of the state, an elite class led by his "philosopher-kings." His pupil Aristotle (384-322 B.C.) suggested that scarcity was the leading cause of poverty and social conflict.

The use, however, of ecopolitics to label the study of the interplay between human activities and natural systems is of recent date. Karl Deutsch was probably among the first to classify in these terms this new field of the social sciences, which he called "ecosocial science" and "ecopolitics." According to his original definition, "it asks about the viability of ecological and social systems, singly and in their ecosocial interplay, and about the possibility, desirability and limits of political intervention." This approach rejects the romantic illusion that all natural systems are necessarily viable, but it does insist that "no social system can remain viable for long if it degrades or destroys its natural environment, or if it fails to save it from deterioration or self-destruction. 15/

2. The abolition of the environment: The incorporation of nature into human culture

When most writers describe the relationship between human beings and nature--in the Amazon or in other parts of the world--and particularly the notion of equilibrium that usually qualifies this relationship in normative terms, their prose often reads like ancient history. 16/ In fact, there has never been a more disruptive action, ecologically speaking, than that of domesticating animals and plants. Today, human beings and nature no longer exist apart. Nine thousand years ago humankind made the decision to overcome and control nature, indeed, to incorporate nature into their own culture. The environment is now defined, manipulated, and in many ways, created by human beings.

Certainly, the conquest of the environment has not been complete--at least not as complete as industrialized societies would like--and environmental conditions still force human beings to adapt as well as to restrain their assaults upon nature. As Engels said long ago, "Let us not, however, be very hopeful about our human conquest over nature; for each such victory, nature manages to take her revenge." 17/ Notwithstanding this fact, over the millennia, the relationship between human beings and nature has become far from balanced. The human capacity to transform the environment is immensely greater than the need to adapt to the

habitat. Edmund Leach, for instance, has unmistakably concluded that "History does not show us that there has been a repeated failure to achieve a balanced relationship between human beings and the environment." There has not been such failure because it is only in the most extreme kinds of environment "that human beings of the past have been in any way motivated to achieve balance between their society and the environment." 18/

Despite that, too many people have assumed that although human beings are the supreme rulers of their world, natural systems must display some feedback mechanism that guarantees the return to a stable or homeostatic state. The idea of equilibrium represented, in this sense, a way of imposing intelligible order on the complex and confusing phenomena of life. Whether or not ecological processes possessed any inherent tendency to arrive at equilibrium was not at issue. However, regardless of any heuristic value, does equilibrium reflect reality? A short answer would be a resounding No! Or, to be fair, one should say that it represents a very particular and limited portion of reality: the sporadic more than the usual, the ideal more than the tangible. The evidence is overwhelming. In addition to E. Leach, already mentioned, Amos Hawley, the human ecologist par excellence, the same Hawley who said that equilibrium was central to Human Ecology, has also quickly acknowledged that "the old conception of organization of life as a 'balance of nature' implying a highly stable system of relationships has been modified as a result of empirical investigation." 19/ Most scholars who subscribe to this view base their interpretations on the work of Charles Elton, the British naturalist who extensively studied the patterns of regulation in animal populations. His indisputable conclusion was that "the impression of anyone who has studied animal numbers is that the 'balance of nature' hardly exists, except in the minds of scientists." 20/

Furthermore, it is usually forgotten that one of the distinctive features of human systems, as opposed to any other "system," but especially to ecosocial systems, is the existence of culture. To bring culture into the picture means to question seriously the idea of automatic controls, for feedback is now understood to be completely subjected to the cognitively defined world of human events and actions. As a matter of fact, if we decide to accept the rule of equilibrium, the ultimate goal of our environmental policies would be what Bertalanffy defined as "a well-oiled robot maintaining itself on optimal biological, psychological, and social homeostasis," 21/ something that even the most radical environmental advocate would probably not be willing to propose. Only when the myth of ecological equilibrium is properly debunked, especially in its alleged application to the social sciences, we can more fully appreciate the ecological roots of the present crisis facing the Amazon.

3. The abolition of the human race: Carrying capacity and the environmental crisis

Present environmental problems have derived most fundamentally from two interrelated elements of human evolution: technology and population growth. 22/ As indicated earlier, because more people are alive today than ever before, we use more resources and use them more rapidly than any previous civilization. We also produce more wastes more rapidly than ever before. The Agricultural Revolution paved the way for the emergence of cities; and with the advent of the Industrial Revolution cities became more and more artificial, human-made ecosystems, remotely dependent on their resource base. But as improved technology made the environment more livable in many ways, it also brought dramatic, if initially slow, changes in our surroundings.

Ecological disorder can thus be equated, in the first place, with new and complex forms of scarcity, with the using up of resources to an extent unprecedented in the history of humankind. With the extinction of many species and the exhaustion of natural resources, even the distinction between renewable and nonrenewable resources becomes ludicrous. What we confront now is both relative and absolute scarcity. Also, the generation of new wastes compounds the burden of excessive human claims on the resource base. On one hand, they tend to simplify ecosystems. On the other, they tend to overload ecosystems. Both dimensions invoke the idea of ecological equilibrium. Having discarded the old notion of a natural stable state, a new concept is in order: that of carrying capacity.

Several definitions can be found in the literature, but they all assume that ecosystems, be they natural or made by people, display a limited capacity to support life. The carrying capacity of an ecosystem thus represents the maximum number of a given species that can be supported at any time and under a specific set of environmental conditions. It can be measured in both absolute and relative terms, and it is also a function of social and economic variables, or the "style of development" of any society. This concept undoubtedly reflects reality far better than does equilibrium. For one thing, it tells us that any ecosystem, when disturbed, will not try to return to a predisturbance state but, rather, will attempt to maintain its integrity in the long run. This also implies that its carrying capacity may change through time. The notion of resiliency is a direct corollary of "carrying capacity." It stands for the ability of an ecosystem to recover from disturbance. This was in some ways insinuated in the previous discussion about equilibrium, when it was argued that this condition has never existed in nature, although every system strives to maintain its integrity. What was missing there was precisely the notion of resiliency. Because ecosystems vary widely in complexity (due in most instances to ecological constraints), their "fragility"

depends on the possibilities for recovery from disruptive changes rather than on that imagined and arbitrarily defined state.

Consequently, one may consider the highly complex Amazon system as "stable," yet displaying a limited carrying capacity, or very low resiliency. Again, what is the use of describing the Amazon in terms of equilibrium? What does it reveal about its characteristics? Nothing. On the other hand, describing the Amazon in terms of its carrying capacity, or its low resiliency, tells us much, especially if we are to base resource exploration and human settlement on these descriptions. This leads to a final concept, directly related to the ecological complexity of a system: diversity. Unfortunately, economic activities tend to simplify ecosystems, favoring specialization. Humankind has been forced to do so in many ways, agricultural production being just one of many. However, it is oversimplification--as a result of, say, monoculture, or the transformation of large tracts of tropical forest into pastureland--that causes most damage, for, as Eugene Odum has neatly stated, "Diversity is a necessity, not just the spice of life."^{23/} This applies precisely to the Amazon, which houses the single most important genetic pool on Earth. ^{24/}

Almost four hundred years ago Sir Francis Bacon, the noted English philosopher, predicated that nature, to be commanded, must be obeyed. Unfortunately, Brazilian planners still resist facing this reality. We must recognize, however, that the issue is not whether the development of new activities accommodate to the overall carrying capacity of the Amazon but how we do so. Then and only then may we responsibly, neither overoptimistically nor apocalyptically understand that ecological disorder in the Amazon, of which the current squandering of resources is simply one symptom, entails the possibility of breakdown but also new opportunities for advancement. An awareness about the principles of ecology leads to the recognition that every human activity has an ecological cost attached to it, which means that any intervention in natural systems and processes cannot ignore the carrying capacity, resiliency, and diversity of the ecological resource base. To proceed otherwise is to court disaster. It also emphasizes the need to understand the holistic nature of life: biological, economic, social, and political life, that is.

Assuming that the foregoing observations have not done too much injustice to ecology, and with the expectation also that these remarks will bear fruit in the ensuing analysis, attention must now focus on three dimensions of the Amazonian ecological disorder: the ecopolitical implications of Brazil's political development; the ecological underpinnings of the government's traditional stance in international affairs; and the bureaucratic aspects of environmental policy formation in that country.

III. ECOLOGICAL DISORDER IN BRAZIL (1): SOCIAL FORMATION AND ECOPOLITICS

It has been stressed the fact that to understand adequately the inner workings of an ecosocial system such as the Amazon, it is crucial that we explore the political dimension of these relationships. These are undoubtedly important theoretical pursuits, which call for diversified analytical paths. These range from the integrated study of public policies to the detailed exploration of the elements that make up a political system--such as social stratification, modes of interest aggregation and representation, popular participation, and decision-making processes. However, this sort of understanding can come only after one acquires a historical perspective on how economic interests, social classes, and the political and institutional structure have evolved in its recent past.

1. The "paradox" of the Brazilian social formation

Brazilian society is a typical example of "parallax view" at work. The parallax effect, a concept borrowed from astronomy, optics and other heavenly sciences to help unfold social reality in Brazil, indicates the apparent change in the position of an object resulting from the change in the position from which it is observed. This may indeed be the best way to describe Brazil. It also explains most of the differences between the visions offered by several observers, both Brazilian and "Brazilianists" alike, at different moments of the country's development.

Despite the apparent difficulty of characterizing the process of social formation in Brazil, its most important elements are quite straightforward: hierarchy, paternalism, repression, and authoritarianism, alone or combined in different ways. Being paternalistic, Brazil is also an extremely formalistic society, where rules and regulations are much more important than facts. Until recently a citizen was required to get a certificate of "being alive" in order to pursue several procedures with the State; the citizen could not simply appear in front of the bureaucrat. Also, in a society at the same time paternalistic and repressive, there is always a "Big Father" to be revered--often a personification of the State through a

demagogic leader--in contraposition to the depersonalized masses. This situation has led to the clientelistic practices epitomized in the contradictions of the mere "citizen", who is to be treated according to the law, and the "person", who is to be treated according to his or her "connections"--the (in)famous jeitinho brasileiro [the Brazilian fix, sometimes euphemistically referred to as "creative imagination"]. The combination of all these elements produces a formalistic, depersonalized, Brazil, one that flourishes in the same territory as the Brazil that is an open society that ignores laws and regulations and that favors kinship and clientelism, and whose preferred form of treatment is companheiro, amizade, and tudo bem [fellow, friend, and everything's O.K.]. At the same time, Brazilian society also appears in many respects traditional and closed (if one is willing to leave Rio's beaches and look around). These apparently contradictory dimensions relate to the same society. This is not the "dual" society that some describe the country to be, no matter how schizophrenic Brazil's tropical latitudes may appear to the unprepared observer.

The most distinctive element in the social formation of Brazil is undoubtedly the bureaucracy. The bourgeoisie was dominant, it was first commercial, swinging back and forth between agrarian and industrial factions, and finally it became industrial. The State bureaucracy and the the Church hierarchy were predominant in society even if the military exercised more or less dominance at the political level, according to the changes in the ruling elite. Above and beyond these elements, however, the most dominant, structural facet of Brazilian political development has been the presence of patrimonialism, a bureaucratic order more than a bureaucratic State, encompassing both public and private dimensions. ^{25/} The patrimonial order is usually referred to by its concrete political practices of social control, such as clientelism, patronage, or cooptation, which combine elements of paternalism, repression, hierarchy, and the authority to rule and stand above social classes. The "estate" bureaucracy, administrative apparatus, and general staff of the patrimonial order should not be confused with the "State" bureaucracy, the "elite," or the "ruling class." The bureaucracy does not constitute a class in and of itself, although more often than not it acts as a surrogate of the elite. It may well stand above dominant classes, but it does not enjoy autonomy over society. Conversely, however, even if the composition of the elite changes, the patrimonial order persists.

As Raymundo Faoro explains, this bureaucratic "caste" develops a pendular movement that often misleads the observer. It turns against the landowner in favor of the middle classes; alternatively, it turns for or against the proletariat. Also, the bureaucratic apparatus may be modernizing or conservative. It may favor the pluralistic aspects of democracy, through direct representation, or it may enhance patronage and cooptation. These

apparent behaviors are actually optical illusions suggested by the projection of modern ideologies and realities upon a past that is historically consistent within the fluidity of its mechanisms. For the estate patrimonial structure, therefore, social formations are mobile points of support. The masses, the people, or whatever name one wishes to give to the majority of the population, have lent their support at every episodic change of the ruling alliance. But they do so much as those in the stands "help" their soccer team win a championship. The fact remains that all conflict resolution in Brazilian politics has taken place within the confines of the elite. Some, like Dom Pedro I, have candidly recognized that. The emperor once said that he would "do everything for the people, but nothing by the people." ^{26/} Most politicians, however, have tried to disguise the patrimonial order with popular colors.

In short, Brazil may have been transformed from the agrarian and merchant society of colonial times into one of the most advanced industrial and capitalist society in the Third World. Yet, its social formation will probably never lose its patrimonial cast. This may reinforce its authoritarian features at times. At other times, the social formation may tend to free the infant, atrophied, participatory and egalitarian inclinations of Brazil. But the weight of tradition tends to perpetuate elitism, and move Brazil to be ever more statist than it would otherwise be. The patrimonial society of Brazil must puzzle the superficial observer. Its schizophrenic traits reveal themselves in catatonic syndromes, often alternating phases of (authoritarian) stupor with phases of (democratic) excitement, but the muscular (bureaucratic) rigidity is always present.

2. The Brazilian State, a Portuguese Oedipus?

It is very difficult to present an image of the State that captures the characteristics, and yet the singularity, of the Brazilian case. Perhaps the best way is to make use of the joke on how the Portuguese subtitled a film on Sophocles's tragedy about the son of Laius and Jocasta. ^{27/} Some say that following the Portuguese tradition of pulling the piano instead of pushing the stool--the surest way of determining the pianist's nationality--it went something like this: "Oedipus: The son who killed his father, slept with his mother, and ended up blind." The abridged version read: "Oedipus, the son who became father."

If something sums up the Brazilian State it is this version of Oedipus. No wonder Sophocles made it into a tragedy. Whereas in the vast majority of today's countries the State follows the preexistence of a more or less organized society, in Brazil it happened the other way around. In Spanish America, for example, the colonial administration was superimposed upon a native society that, in many places, displayed levels of social

organization that were as complex as in Spain. In Brazil the Indian population, compared to the rest of the region, was relatively sparse, and at the end of the twentieth century it has been all but annihilated. The first general-governor of Brazil, Tomé de Souza, arrived in 1549 already with a government structure, laws and regulations, and even with a constitution, the Regimento de Almeirim prepared in Portugal one year earlier. These had all been derived from the institutional system of Portugal, and they were to be implemented in a Brazil without Brazilians yet--the Indians have never been considered citizens. The Brazilian State was, so to speak, part of Tomé de Souza's luggage. A perfect example of the Portuguese Oedipus. This situation prevailed at least until the 1930s, when, despite some profound changes experienced by the society, basically the same institutional framework remained in force. The Portuguese court was transferred to Brazil in 1808, independence came in 1822, the empire collapsed in 1889, but the legal statutes of the colonial period still applied, from the Ordenações Manuelinas (1548-1603) to the Ordenações Filipinas (1603-1916).

This explains most of the elements of the social formation described above. The patrimonial, bureaucratic character of the State has imposed, and will probably continue to impose, its own limits on the constitution of society, giving it the distinctive features of formalism, bureaucratism, and authoritarianism. There has been such a concentration of power in the hands of the State that the broader civil society has had very little room to organize itself, to form autonomous channels for interest articulation and representation. The little it may have had has often been co-opted or simply suppressed. On the other hand, the political society (the Legislative, party system, and electoral processes) itself has not been able to represent the plurality of interests existing in Brazilian society at large. In short, to the social formation of Brazil, as well as to the formation of the Brazilian State, corresponds a power structure that is concentrated and exclusionary; decision-making processes that respond to the particular interests of the best organized groups of society; and, finally, a strong technocratic, hierarchical, and formalistic pattern of conflict resolution.

Insofar as ecopolitics is concerned, the obstacles posed by the particular process of social formation in Brazil seem to be rather obvious. Nevertheless, there are several aspects of it that, in addition to authoritarianism, elitism and bureaucratism, make understanding more cumbersome. First of all, we should take note of the legalistic tradition of Brazilian politics. Laws, decrees and administrative orders regulate the life of Brazilians to such an extent that they even blur the frontiers between public and private affairs. Reality, to be accepted as such, must be first imagined by the State. Before the presidencies of Getúlio Vargas (1930-45, 1951-54), for example, the mobilization of the working classes was considered to be mostly a "police

problem." Their unions became legitimized only when the State bestowed its recognition upon them, thereby defining their action in its own terms and according to its corporatist interests. A second aspect, a corollary of the legalistic tradition, is the compulsion to have every minuscule aspect of life, public or private, foreseen, regulated, enshrined in the law. Brazil has so many laws, regulations, statutes, and ordinances, that it is said that the most effective solution to all of the country's problems would be one single law making all previous ones mandatory.^{28/} But because Brazilians are proud to be "the largest Catholic country in the world," while church attendance must be among the lowest, and while candomblé, umbanda, and other Afro-Brazilian rituals claim increasing numbers of followers, so their worship of the state is also blended with a certain dose of iconoclasm.

All of this should not add more confusion. The State is the source of much of what concerns the individual, in private or public life. To be somehow connected with the State is, therefore, a source of prestige and social status. Moreover, as a general rule, to be a public servant has a very special meaning in Brazil. Rather than "serving the public," it means to serve one's own interest--through co-optation and political control--at the public expense. The net result is too well known to deserve further comments here: a tightly controlled society, corruption, and the distribution of privileges. Still, it must be underlined that corruption may assume a multitude of forms. It may represent direct payment in exchange for a favor, or it may be a specific way of making life easier without necessarily being illegal. This should not alarm anyone, since, in many instances, the "Brazilian fix" may well be a powerful weapon against the discretionary powers of the State. Ecopolitically, the most important type of corruption is the "structural" variety. Because to survive and to be kept in State favor one should not cause too many problems, it is no surprise that governmental agencies and State enterprises in Brazil are generally the worst environmental offenders. The State sector is the first to claim environmental awareness, but it is also the first one to shove problems under the rug.

3. What Sophocles did not see, the technobureaucracy

The civilian-military regime installed in Brazil after 1964 can be expressed in very simple terms. It represented the alliance of the financial and industrial bourgeoisie with multinational interests. The agrarian and commercial elements of the bourgeoisie now occupied the back seats. The working classes were, of course, excluded. What has made this alliance possible--or, more candidly, what enabled the rule of the dominant classes--was the existence of a well-trained, specialized, and willing technocracy, both civilian and military.

But the technobureaucrat is not merely a recent actor in Brazil. Strictly speaking, the position was born in 1821, when Dom João VI went back to Portugal, and posts had to be filled in the administrative apparatus that the court left behind. Its teenage years probably began in the 1930s, when the State started to take planning seriously, thereby allowing for the outgrowth of the technician's rebellious, "modernizing" spirit. As with most teenage manifestations, the noise of this group was stronger than its real influence, and the traditional, cabide de emprego [literally, employment hanger], bureaucracy, still overshadowed the early, striving version of the "new man." The real emergence of the technobureaucracy, as a political and as a social actor, came about under the military after 1964, almost as a State within the State, by-passing the old bureaucrats and abolishing interest articulation through political parties and politicians. Not surprisingly, among the first tasks of the new government was the unprecedented administrative reform of 1966-67.

Until 1964 public service was a prestigious but low-paid job; for most bureaucrats actually a second or third job. After the military takeover, attention was given to technicians (professional experts) over bureaucrats (traditional public servants), i.e., to a new caste of technobureaucrats. Beyond the semantics involved, the main difference between the two groups was that the bureaucrat strove to maintain the status quo, and the technicians were deeply committed to reform and change. These technocrats value economic development over social and political development, and reveal an ideological cohesion with their counterparts in the private sector, not only at the abstract level of shared interest in capitalist accumulation but also at the concrete level of shared faith in corporate growth and profitability as the primary measures of success.

Needless to say, the particular way the technobureaucracy evolved in Brazil, especially after 1964, is of significance for ecopolitics. For one thing, the "private" orientation of dominant technobureaucrats does not collide with the overriding presence of the State in the economy. Rather than representing a weakening of the patrimonial order, the post-1964 regime actually made it stronger. The result is that State agents end up subverting the use of resources that belong to the entire nation, promoting their exploitation according to the corporate ideology. On the other hand, by substituting economic for political variables, and by subsuming both to "technical" criteria, the regime has been able effectively to neutralize, to sanitize, environmental issues. Finally, the technobureaucracy has attained what we may call a "relative autonomy" over the interests of different social groups. Making this situation even more disquieting, the State looks upon any mobilization of society around environmental issues with great suspicion. These aspects will be further analyzed when we look at the bureaucratic politics of environmental policy formation.

**IV. ECOLOGICAL DISORDER IN BRAZIL (2):
"RESPONSIBLE PRAGMATISM" SPELLS ECOPOLITICAL DISASTER**

In the same year that a new disease was incorporated into the medical vocabulary, the so-called Minamata disease--named after the Japanese bay whose waters had become heavily contaminated with mercury--and following the worldwide attention, the year before, to the disaster of the Torrey Canyon, a tanker that spilled thousand of tons of oil near the British coast, the government of Sweeden submitted a proposal to all nations of the world. Subscribed by the United Nations Economic and Social Council (ECOSOC), it declared an urgent need for international action at the national and international level, to limit and, where possible, to eliminate the impairment of the human environment." Endorsing the ECOSOC recommendation, the General Assembly decided to convene the United Nations Conference on the Human Environment, in Stockholm, in June 1972. 29/

The way in which the objectives of the conference were initially set forth betrayed the unmistakably First World character of the meeting. It emphasis was on the technical aspects of environmental contamination due to accelerated industrialization and urbanization, and on the relations between population growth and natural resource depletion. Hence, it should cause no surprise the suspicion, if not open hostility of several Third World countries toward the Stockholm agenda. As an Indian official, stated in a preparatory meeting in Puerto Rico, "The wealthy worry about car fumes; we worry about starvation." 30/ Considering that Brazil was one of the leaders of this approach during the conference, and considering also that the perspective adopted by Brazil has considerable bearing for the current international debate on the Amazon, a summary examination of its basic tenets is in order.

1. A view from the periphery: Brazil at Stockholm

We should not, as some journalists did at that time, dismiss the performance of Brazilian delegates before and during the Stockholm conference as obstructionist and antienvironmentalist. The fact is that all the major issues defended by Brazil, with only the exception of its dispute with Argentina over the

construction of Itaipú, were endorsed by other Third World countries, including the endorsement of Maurice Strong himself, the secretary-general of the conference. 31/

The perspective adopted by Brazil regarding environmental issues was quite straightforward. 32/ First, Brazilian delegates advocated that economic growth should not be sacrificed in the name of a cleaner environment. They acknowledged the growing menace of environmental pollution, but suggested that developed countries should pay for the clean-up efforts. Second, Brazil, as well as many Third World countries, did not share the postulate of a direct relationship between population growth and exhaustion of natural resources, strongly opposing the widespread application of measures population control. A third important element of the Brazilian position, that national sovereignty could not be surrendered in the name of "ill-defined environmental interests," provoked much controversy. In light of frequent denunciations of the widespread destruction in the Amazon, many viewed Brazil's stand as disguised antienvironmentalism. In fact, it was referred to a permanent dimension of contemporary Brazilian foreign policy: international cooperation should not be used as a means for the encroachment of foreign interests upon national affairs.

For Brazil, the environmental problems faced by the world deserved the attention of all governments, even though some nations exploited these issues for their own political purposes. In other words, although the government took environmental problems seriously, they were approached from a different angle, i.e., that of their relationship to development. Tom Sanders accurately captures the peculiarity of the Brazilian position, noting that because development was one of the ideological bases of the military regime, tightly linked with national security, it came as a logical consequence that environmental problems were measured with the yardstick of economic growth. 33/ The best opportunity for the government to express these views came through the Panel of Experts on Development and Environment, which met in Founex, Switzerland, from 4 to 12 June 1971. In what became known as the Founex Report, 34/ it was made clear that environmental issues should be an integral part of the development process, stating that if in advanced countries it was appropriate "to view development as a cause of environmental problems," in the context of Third World countries "development becomes essentially a cure for their major environmental problems." It is, to say the least, striking to see the resemblance between, on the one hand, its conclusions and recommendations and, on the other, the positions that had long been advocated by Brazilian delegates.

Ambassador Miguel Ozório de Almeida was the leading spokesman of the government's stand, and his poignant remarks soon became a trademark of Brazilian participation before and during the conference. In an article published at the same time

that the Founex Report was issued, 35/ Ambassador Almeida drew the widely quoted distinction between relative and absolute pollution. He tried to show that because the great polluters were highly industrialized countries, even if all pollution generated in developing countries could be eliminated, all the dangers linked to pollution would continue to exist in practically the same densities, calling it even a "happy coincidence" that the largest sources of pollution were in nations that also had the most important technological and economic resources to combat that pollution. Hence, those countries not only should commit themselves to taking the necessary national measures but should also finance much needed research on environmental matters. According to this perspective, environmental problems at the periphery were due to "large numbers of human beings living in poverty," and developing countries were in fact victims of worldwide pollution generated by a lack of planning in the major industrial economies. Developing countries would therefore approve measures necessary to correct that situation, but they could not sacrifice their only effective way of overcoming the "pollution of poverty," that is, accelerated economic growth.

Another aspect of the Brazilian position at Stockholm, a controversial one as well, referred to the projections that concrete limits to the earth's physical resources were rapidly approaching, and that strict measures of population control were therefore called for. Much of the argument could be summarized as follows. First, the assumption that all countries have a share of the earth's resources was, according to the Brazilian government, absolutely false. Second, environmental problems in the periphery were associated not with overuse but with the insufficient use of available resources. Moreover, the lack of knowledge about the relationship between environment (pollution) and development (economic growth) could be applied also to the uncertainty with respect to potential resources. Finally, a prescription for generalized population control that did not take into account the relationships between population and the magnitude of resources, and national demographic densities as well, was not only irresponsible but morally reprehensible.

Adopting a stand that appears most germane to the current debate on the Amazon, Brazil argued that the suggestion that natural resources formed a common pool, shared by all peoples of the world, was, "of course, a very beautiful assumption, but it would fit better in the institutional framework of a world government, and we should not forget that we are still very far from this idea." 36/ It was unrealistic to pretend that certain resources, such as the Amazon, belonged to humankind as a whole, when in fact they were located within national jurisdictions. If indeed resources could be shared in a kind of "World Trust" by all peoples, then, Brazil advocated, economic power, industrial productivity, and financial control should also be shared. Because developed countries found the latter unthinkable, less

developed countries should find the former unthinkable as well. Complementing this artful use of liberal economic precepts, Brazilian delegates shifted the attention of the conference to what they described as "the irreversible but unnecessary loss of resources such as plant and animal species."

Finally, measures of population control were the focus of strong opposition, and Brazil successfully blocked any explicit recommendations on this subject. The basis of the Brazilian argument was that for some countries with low demographic density or with a large resource base (and Brazil had both) it simply did not make sense to impose generalized restrictions. In addition to that, the Brazilian delegation attached a strong moral judgment to these technical arguments, hinting that those countries that supported population control were clearly oriented by a narrow, selfish sense of convenience rather than by any scientifically sound or environmentally superior motivations. According to this view, the Stockholm conference was running the risk of being permeated by "a Calvinistic approach" to demographic problems. In the orthodoxy of this approach, the developed countries were thought to have demonstrated, by their development, their right to salvation and perpetuation, thus passing on to the more numerous underdeveloped peoples the responsibility for creating the necessary space on earth. The latter should, the argument supposedly implied, stop breeding and encroaching upon others' enjoyment of nature and natural resources. In short, in the name of humankind's survival, developing countries should remain underdeveloped "because if the evils of industrialization were to reach them, life on the planet would be placed in jeopardy." 37/

2. The primacy of national sovereignty over international cooperation

The principle of national sovereignty, the right of a nation to exploit its natural resources according to its own priorities, was, as Jon McLin says, "obsessively asserted by Brazil." 38/ And there was more than enough reason to be so obsessed by it. Long before the conference, Brazilians knew that the dispute with Argentina over the use of the Rio da Prata basin would occupy a central position during the debates. The Argentine diplomacy had done a superb job before the conference already, and Argentina could count on several Third World countries in Latin America and in Africa to endorse its claims.

Basically, what Argentina wanted was to include a disposition in Principle 20 of the draft Declaration binding all States to supply information on its development plans whenever there was reason to believe that this information might avoid risks "beyond their national jurisdiction." Incidentally, as Brazilian officials later acknowledged, it was precisely in anticipation of this that the delegation had concentrated so much

effort on successfully reinforcing those parts of the Action Plan that dealt with national sovereignty and the exploration of natural resources. Brazil was also successful in its introduction of several amendments that increased the freedom of countries, particularly in their use of river basins within their borders. Put simply, Brazil went to Stockholm ready to fight for what it considered a legitimate position, but the Brazilian delegation prepared as well for any retreat that might become necessary.^{39/}

The Brazilian delegation was instructed to adopt three tactical maneuvers. First, it offered fourteen amendments to the Declaration, to give the impression that if the initial draft were not accepted, a stalemate would ensue, something that the secretary-general could not afford at that point. Second, it tried to postpone as long as possible the work of the ad hoc committee formed to review the Declaration, as proposed on the first day of the conference by the Chinese delegation. Finally, Brazilian delegates fought to have the Declaration approved by consensus, which would give veto power to every delegation. In a clear illustration that in ecopolitics much more politics than ecology is actually involved, all the components of the Brazilian tactic seem to have worked. The formation of the Working Group on the Declaration on the Human Environment was effectively delayed for three days. This was an important victory, considering the tight schedule of the conference, which placed increased pressure on everyone to arrive at some acceptable solution. On another level, the added confusion of the several amendments offered by Brazil were playing into the hands of Brazilian interests. According to official sources, the secretary-general less than three days before the closing of the conference, confided that he did not believe that a Stockholm declaration was possible.

On the eve of the closing ceremony, two principles were still being hotly debated: one involved the Argentine-Brazilian dispute, and the other called for the immediate elimination and complete destruction of nuclear weapons. The final meeting of the working group ended at 5 o'clock in the morning, after nineteen hours of continuous debate, in a decision that clearly favored Brazil. Both Argentine and Brazilian texts were to be referred to the General Assmibly. As to Principle 26 on nuclear weapons, it was reduced to a simple exhortation to put an end to the arms race. Brazilian delegates knew that in the General Assembly they stood a better chance of getting a resolution to the dispute more akin to their interests. They made skillful yet bold use of hal-truths and semantic subtleties that effectively shook their opponent's confidence, managing to neutralize Argentina's demands. The text of the current Principle 21 can be viewed essentially as a compromise, but considering that Argentina never accepted it in the first place and attempted to overrule it during the conference, it represented one more victory for the host of positions defended by Brazil at Stockholm.

Consequently, basic elements of Brazilian foreign policy came out of Stockholm victorious, so that they shaped environmental policies as well. Moreover, the Stockholm debates also reveal that beneath every discussion of environmental matters, at the international as well as at the national level, one always finds a political foundation. As the Brazilian position at Stockholm indicates with transparency, the environmental argument can only on a very abstract level be subsumed under a discussion of the technical aspects of a "sector" of governmental activity called "environment". Most of the time what is actually involved in those arguments are questions of power, social and economic differences, cultural practices, values, and ideology. Hence, if we want seriously to analyze episodes like the current worldwide debate concerning the ecological disorder of the Amazon, we should keep questions of politics and political competition centrally in mind. As far as the Brazilian government is concerned, we should also keep in mind that national security interest express itself in a strict exercise of sovereign rights. The implementation of the principle of sovereignty defended at Stockholm has been translated, in the environmental field, into a stubborn resistance to engage in international and especially multilateral activities. 40/

3. The logic of Orwellian authoritarianism

George Orwell in his brilliant post-World War II novel about the horrors of life and spirit under totalitarian regimes anticipates several features of modern political systems. 41/ Repressive and more open, pluralist societies alike have rendered the novel in many aspects less horrifying than reality. Among these elements "double-talk," "double-speak," and "doublethink" stand out. Orwell, whose essay on the English language remains a classic of the genre, here defines a peculiar, government-sanctioned idiom, also a way of thinking, where concepts and their meanings are completely inverted. In 1984, there was a Ministry of Peace to wage permanent wars around the world, a Ministry of Love to instill hatred amongst citizens, a Ministry of Truth to rewrite history and transform yesterday's lie into today's reality.

Nobody would be naive enough to hint that Orwell drew inspiration from the Giant of the South. Some basic "tropical" ingredients, such as those analyzed in the section on Brazilian social formation, are conspicuously missing in his gloomy scenario. However, with respect to ecopolitics, Brazil was and still is a diligent student of Orwellian authoritarianism. Many elements of the Brazilian political system transcend particular regimes and governments. In this sense, one of the most stable and enduring aspects of politics in Brazil, especially in recent decades, has been its foreign policy. Euphemistically termed "responsible pragmatism," it represents the combination of active support for Third World causes, a strong commitment to the West,

and a persistent avoidance of so-called automatic alignments. All this comes under the core policy principle of subordinating ideology to the power-oriented realities of the world. Probably in no other area of governmental policies does one find such a high degree of coherence throughout the country's history.

However, if success at Stockholm can be attributed to a fortunate conjunction of civilian policies of "responsible pragmatism" and military projects of "world power," the internal, ecopolitical result could not have been more "Orwellian" and hence disastrous. In a masterful display of double-talk and doublethink, Brazilian delegates emotionally denounced the emergence of neocolonialism from the North. At the same time, the Brazilian government's lack of constructive policies toward the Northeast, not only in terms of economic and social conditions but also in relation to the exploration of the region's natural resources, amounted to open, undisguised practices of internal colonialism. At the precise moment when it was strongly condemning the Calvinist attitude of the superpowers, it was also condoning, if not practicing, the extermination of native populations to allow the penetration of the Amazon.

In another example of double-talk, Brazil successfully argued in Stockholm for a more adequate understanding of the relationships between environment and development, criticizing the developed world's misguided policies toward the periphery under the banner of a healthier environment. Although Brazil claimed an undeniable right to develop, even if that might hurt ecology, when it was confronted with a concrete example of its own "misguided" policies jeopardizing the Argentine right to develop by sharing resources, Brazil hid behind the supposedly sacred principles of national sovereignty.

In short, the Brazilian stand on environmental issues in the early seventies was a legitimate product of the technobureaucratic-military alliance. Its policies were based, and will be based at least for the next few years, on a tripod. The primacy of economic growth over conservation and the rational use of natural resources constitutes, perhaps, the oldest part of ecopolitical ideology in Brazil, dating back to colonial times. The two "modern" additions to the tripod have been, on the one hand, the consideration of environmental problems according to the precepts of sovereignty and national security, and on the other, the tight compartmentalization of environmental management through bureaucratic expertise. Each component represents the interests of one of the partners in the alliance that took over in 1964. Considering that the main features of this evolution obviously transcended situational characteristics of the regime, those attitudes will most probably exert a great deal of influence on environmental management in Brazil for many years to come.

**V. ECOLOGICAL DISORDER IN BRAZIL (3):
THE BUREAUCRATIC POLITICS OF ENVIRONMENTAL POLICY**

As the formation of a society unfolds, the emergence of dominant interests and classes becomes more evident. The process of forging and breaking down alliances reveals also distinctive features of the State. Hence, studying these processes of social formation and of State building makes more transparent the prevailing patterns of relationship between humans and nature in that particular society. Yet, a closer focus on how decisions are made may shed light on more general ecopolitical processes.

1. If you can't find a deodorizer, create an agency

It has become almost axiomatic to repeat Engels's assertion that people themselves make their history, only they do so within a determined environment that conditions it, based upon relations that are already in place. 42/ Bearing Engels in mind, we turn to a little known fact of Brazilian ecopolitical history. This is the simple signature attached to an obscure document of the National Security Council, the Exposição de Motivos No. 100/71. An E.M. is a document that usually accompanies a decree, containing the justification for a particular policy. The signature on this particular E.M. is that of Brigadier General João Baptista Figueiredo, then secretary-general of the NSC.

This E.M. would not require much attention if it were not for two facts. First, the bearer of that signature seven years later became president of Brazil. Furthermore, all of what can be considered the official ideology of environmental management in Brazil was already contemplated in that otherwise bureaucratic label E.M. 100/71. This E.M. responded to another bureaucratic action, also obscurely titled, Aesp./AOI/DNU/266/602.60(04), of 23 August 1971, 43/ which constituted the official, Itamaraty position regarding environmental matters, and was used as the basis for the Brazilian participation at Stockholm. This document was subjected to the careful scrutiny of the NSC, and it was endorsed by someone who, in the years immediately before becoming president, was to serve as head of the National Information Service, a powerful Brazilian organization that is a mixture of the FBI and the CIA, an organization whose head occupied the most

important post in the policy-making hierarchy of the military regime. This scrutiny and endorsement laid the groundwork for the establishment of a specialized agency to deal with environmental matters. In October 1973, Decree No. 73.030 created this agency, the Secretaria Especial do Meio Ambiente (equivalent to the U.S. Environmental Protection Agency), under the coordination of the interior minister. The very situation, almost fortuitous, that allowed it to come into being is revealing both of Brazilian ecopolitics and of bureaucratic politics more generally.

The opportunity came in the form of stench. Fortunately enough for environmentalists, the odors were causing pestilence in the home state of the chefe do gabinete civil, the chief of staff for the president of Brazil. The operation of a wood-pulp industry near Porto Alegre, the capital of the southern state of Rio Grande do Sul, was causing severe inconvenience for the general population. Every time the wind blew the wrong way, a new wave of nausea, vomiting, and sickness affected an increasingly vocal population. After contact was made with the Interior Ministry, which was supposed to have a say in urban planning and zoning, this matter was brought to the attention of the Gabinete Civil through a decree that was tailor-made for the situation. Its backers were ready with the necessary Exposição de Motivos and everything else that the patrimonial order would call for on such occasions. This decree provided for a specific agency to be charged with solving specific problems such as the one in question. Being a very popular figure in Rio Grande do Sul, where he had been president of one of the two major soccer teams, and being also an authority on legal matters, Professor João Leitão de Abreu, the chief of staff, immediately seized the opportunity. With the enactment of Decree 73.030 by President Emílio Garrastazú Médici, Brazil gained a new agency. And the chief of staff got rid of a smelly problem.

This experience reveals more about Brazil than it appears to do. The way in which an organization comes into being exerts a definite influence on the perceived missions of its members.^{44/} An agency that has resulted out of an emergency situation is likely to respond, in its day-to-day operations, in a spasmodic, emergency-like pattern. Another agency created to placate special interests is unlikely to address issues that may jeopardize its original clientele. SEMA was created in response to an instance of environmental contamination, and this fact would later have a lasting effect both on its members' sense of purpose--the organizational "culture" of SEMA--and on its effectiveness in implementing ecopolicies as well. Ecopolitics in Third World countries deals more with managing the natural resource base than with abating pollution. Brazil was one of the leading speakers for this viewpoint in Stockholm. Yet, up to now the dominant environmental perception in Brazil relates to the pollution of air, water, and soil rather than to natural resources management.

A second element of SEMA's creation also reveals the technocratic bias instilled at the moment of its inception. First of all, the E.M. that accompanies the decree establishing SEMA justifies it on the grounds that Brazil already had a multitude of agencies working on specific areas, citing eighteen agencies distributed among nine ministries. Despite that, it proposes as a "solution" the creation of yet another organization. Worse, an agency that worked according to the same precepts of bureaucratic behavior could not possibly be expected to get other agencies to cooperate. Being a second-class secretariat of a ministry, it could not have any political clout, even in the most strict bureaucratic sense, that would help formulate and implement a national environmental policy. Furthermore, the actual way in which SEMA was staffed points to the predominance of a particular professional perspective, that of the natural sciences broadly defined: chemistry, biology, pharmacology, and others.

As a result, the government has been able to depoliticize environmental issues, reducing them to a question of technobureaucratic expertise. This poses a set of most difficult questions for the ecopolitical perspectives of Brazil. An ecopolicy must, at one and the same time, offer the basis for questioning specific styles of development and be, itself, the result of societal decisions about the future of the collectivity. Unfortunately, most environmental agencies, as they have been conceived, have actually worked to hinder, if not to foreclose, the process of ecopolitics in Brazil.

2. Competing political forces and the context of ecopolicies

Any discussion of environmental policies requires a political instead of a technical treatment. At stake in ecopolicies is much more than the simple arrangement of public actions in one area. An environmental policy that goes beyond pollution control and abatement, important as these dimensions certainly are, will often imply redefining or redirecting the process of development. The holistic and, at the same time, the specific nature of ecological problems also underscores the political foundations of ecopolicies. Because we cannot deal with all problems at once, we are forced to choose particular areas or problems for concerted governmental efforts. However, by singling out any given area, we are bound to provoke jurisdictional disputes within and between bureaucratic and societal institutions. This in addition, of course, to the problems derived from an application of what Herbert Simon calls "bounded rationality"--the limited capacity of the human mind compared to the scope of the problems it needs to address--to complex ecological relationships. 45/ Another distinctive dimension of public actions concerning the environment (pollution control and management of resources) derives from the extreme difficulty of directly measuring their results for society as a whole. Likewise, these results are

hardly amenable to individualization. How can one measure the benefits of the conservation of natural resources for generations not yet born? What is one person's share of an atmosphere free of pollutants, or improved water quality?

These three notions, that ecopolicies question development processes, that they generate jurisdictional disputes, and that they are nonquantifiable and nonindividualizable, all lead to one crucial feature of the context in which environmental problems emerge. Within the cultural framework of modern civilization, in which human beings are not part of but rather apart from nature, ecopolicies are clearly unsympathetic, bothersome. Environmental policies stand out from other public policies by being "the spoiler." Traditional policies such as those carried out in agriculture, in transportation or in industrial development, draw their legitimacy from "positive" objectives. They all "provide" something to society. Moreover, the implementation of these policies will, sooner or later, be transformed into tangible benefits to easily identifiable individuals or groups. Conversely, environmental policies address the collectivity as a whole, including unborn "collectivities." Furthermore, ecopolicies are characteristically "negative" in comparison with other policies, always calling attention to what should not be done, often emphasizing the negative side effects of "positive" policies. On the other hand, some "negative" policies, such as fiscal and tributary policies, also "penalize" some groups while favoring others. But these policies claim their legitimacy from the coercive powers bestowed upon them by society. Nobody likes to pay taxes, but everyone agrees that governments need revenues to carry out programs. All expect to benefit from these programs. With environmental policies the opposite takes place. Even though the survival of the species could exert a strong coercive influence, advocates of ecopolicies shy away from intimidation.

We thus arrive at the core of the dilemmas faced by policymakers struggling to implement environmental policies today. On the one side, their stand must be adversarial, almost by definition. On the other, decision makers are compelled to exercise persuasion, convincement, and inducement in a continuous learning process. Not surprisingly, it requires much more political will to break the inertia of environmental policies than it does in other areas of public action. Likewise, it takes much less political clout on the other side to reach a situation of virtual stalemate, to immobilize environmentally oriented programs and activities. As a former high-ranking official who played a decisive role in the creation of SEMA puts it, to have an effective environmental policy one must create conflicts. In this context, the crucial question turns out to be whether conflict is being well administered or not.

We have seen indications that the intrinsic tensions of ecopolicies have not been well administered in Brazil. Quite the

contrary, the way in which Brazil is administered only aggravates the conflicts, and it postpones their resolution as well. The negotiation that allows any conflict to be addressed presupposes the existence of actors that share more or less equivalent control over political resources. Nothing could be further from this assumption than politics in the environmental arena of Brazil. On one side there is a strong group of business people, industrialists, and multinational corporations, all of whom benefit greatly from accelerated economic growth. On the other side is a loosely related group of community-based organizations, conservacionists, experts, and persons directly affected either by pollution or by the depletion of natural resources. In the middle, in some sense over both groups, stands the bureaucracy.

As Francis Rourke rightfully points out, bureaucrats are unable to rule alone, but their strategic role in policy-making means that "no one in modern politics can rule without them" either. ^{46/} If this is true in the North American context, it is even more so in Brazil, where the technobureaucracy has been the leading force behind developmentalism in the postwar period. The "actors" involved in Brazilian ecopolitics have thus had unequal power, which renders the situation a "nonconflictive" one that does not appear to demand great administrative resources. State agents set the stage for mediation, but they unilaterally set the limits also of such negotiation. The stage is one where environmental problems are tightly compartmentalized through bureaucratic expertise, and where citizens are unable to express their interests. The limits for negotiating environmental conflicts can be summarized as follows. National leaders do not acknowledge that the security of the nation depends upon an ecologically sound development strategy; instead, environmental criteria are subsumed by national security interests defined militarily. Furthermore, rapid economic growth have high priority over conservation. On top of that, the technobureaucracy and the corporate elite share an ideological orientation toward the private allocation of natural resources regarding the Brazilian "commons." As can be readily inferred, this is a no-win type of war, a conflict where only one side is armed.

The situation is not, of course, as bad as it looks. Actually, it is much worse! One may argue that in a situation such as Brazil--a statist society embedded in a patrimonial order--most conflicts, as well as any negotiation, occur within the governing elite rather than through independent political actors. That is precisely the reason why the situation gets worse, or why conflicts are not administered at all. The sheer number of actors inside each segment of the bureaucracy effectively precludes interagency cooperation. The Secretariat for Modernization and Administrative Reform (SEMOR), an agency subordinated to the planning minister, once set out to determine how many organizations at only the federal level were involved in environmental matters. ^{47/} For pollution control, for example, it

found sixteen agencies distributed among six ministries. However, the method used to arrive at such estimates was too restrictive. As a former deputy-secretary of SEMOR myself, I know that this number does not even approximate the real picture. A simple, more recent example underscores this. Given the concerns of the secretariat, as well as those of the National Program of Debureaucratization, regarding the duplication of functions in the federal government, a group of technicians decided to find out how many agencies dealt with something as simple as fishing activities. When they gave up counting, over sixty federal agencies had already been identified. 48/

3. The bureaucratic politics of environmental policy formation

Unfortunately, given the characteristics of both the context of environmental problems and the actors involved in the formation of ecopolicy in Brazil, some of the widely accepted "principles" of bureaucratic behavior inhibit still further the emergence of coherent policies in this area. The first and most important of these postulates refers to the fact that "where you stand depends on where you sit," which is also called Miles' Law. 49/ It means that the position of a bureaucrat on any policy issue is determined by the culture of the agency that he or she represents. This culture, in turn, reflects the institutional history of the agency, as well as the ideology, values, symbols, professional leanings, and crystallized patterns of behavior of the group of bureaucrats who make up the organization.

Illustrations of Miles' Law in Brazil are easily found. An example that the policy-vision of a bureaucrat is limited by the "viewfinder" of his or her agency's camera, has been offered by a noted Brazilian economist who successively headed the Ministry of Finance and the Planning Secretariat. As finance minister, he was a staunch opponent of the Ferrovias do Aço, a costly railroad to carry the iron ore from Minas Gerais to the port of Rio de Janeiro. While he held that position the construction dragged on. Under a new administration this respected technician became minister of planning. In one of his first interviews he defended the urgent need to complete the proposed railroad, in light of the importance of expanding the industrial capacity of the country, increasing export earnings, and other arguments.

Is this a typical example of how government operates in underdeveloped countries? Was this minister out of his mind? Nonsense. He was simply acting as a good bureaucrat. As finance minister he had to be concerned primarily with spending; he controlled the gates to the government's bank, or to the printing machine. Because the railroad would drain hundreds of millions of dollars from the treasury, he "had" to oppose it. Later, as a planning minister he "saw" things differently. The landscape

viewed from this window is dominated by economic growth and development. The Ferrovia do Aço would generate export earnings at a time that Brazil was starting to feel the crunch of its external debt, so nothing was more "logical" than fighting for its completion. This brief vignette of bureaucracy at work in Brazil is useful, because it shows how "bureaucratic politics," at the most elemental level, manifests its logic. Nothing here is exclusive to Brazilian society. There are several studies in the United States showing how bureaucrats shape policy to a greater extent than politicians and social scientists like to believe that they do. 50/ Add a large amount of arbitrary, preposterous, and authoritarian behavior entailed by a patrimonial order and an oversized, overgrown State, and the picture becomes more complete. An agency with the institutional characteristics of SEMA, located first in a ministry whose culture values public-works as the primary outcome of its policies, thus finds it very hard to assume, or to convince others to assume, a posture of harmonizing the environment and development.

The foregoing remarks about the actors involved in ecopolicy-making, the context in which their "acting" takes place, and the laws governing their performance, allow us to introduce two additional components of bureaucratic politics that are of paramount importance for environmental policies. The first is that the more controversial a policy is, the more likely it is that it will never be fully formulated, and, if it is, it will never be implemented. For the same reasons, decisions involving antagonistic interests that can be postponed will be postponed indefinitely. Unfortunately, environmental policies are by definition controversial, and they necessarily involve disparate, often opposing social and economic interests. Brazilian policymakers are well aware of this fact. As a matter of fact, in light of the Brazilian case, a corollary to the two laws mentioned above could be suggested: the principle of the bottom line. Because the interests involved in ecopolicies are often conflictive, and because these policies are controversial anyway, one should strive "to compromise," to arrive at a minimum common denominator. The problem is that minimum in this case means "the less powerful." Consequently, the bottom line of ecopolicies in Brazil has been the familiar "development with low ecological cost," an euphemism created by the military regime to conceal the true meaning of the developmentalist ideology, i. e., development at any cost, social or environmental.

Brazilian elites, particularly technocrats, have also learned the lessons of coping with innovations. Environmental problems have only recently been recognized. Ecopolicies thus represent an innovation, almost a revolutionary innovation, to the process of development planning. Faced with this new challenge, the Brazilian bureaucracy has adopted what Donald Schon calls "dynamic conservatism." 51/ First, one accepts a discourse that incorporates the new issue, something that was

successfully demonstrated at Stockholm. Then follows the stage of "containment and isolation," when one literally throws the discourse into a bureaucratic box in the governmental structure. Care should be taken, of course, not to provide adequate resources to this new agency. Just enough persons should be hired to give the impression that something major is being done--and to serve as scapegoats when things do not (as one knows that they will not) get done. Just enough resources should be allocated, it should not be forgotten, for studies, dozens of studies.

Containment and isolation also have another important, beneficial side effect for dynamic conservatism. These processes lead to compartmentalization. Now that environmental agencies are in place, busily tilting against their windmills, there comes the phase of "selective inattention." In other words, these agencies must be in a bus stop where the bus of power does not stop. Does the law require that these agencies participate in activities related to science and technology? Well, we may include a couple of representatives on an interagency committee, because, after all, we do not expect results to come out of committee work anyway. 52/ The law requires that large-scale infrastructure projects should undertake a thorough evaluation of their impact on the availability of natural resources and on the integrity of environment in its area of influence? So we create an environmental unit as part of these projects and pretend not to perceive that we do not allow it to interfere with planning or implementation of the projects. Finally, we may include a section on the environment in development plans, but we also forget to consider the targets and strategies outlined in this one section in the other, substantial parts of these plans.

In short, one should promote the minimum change possible so as to guarantee that nothing will actually change. This is dynamic conservatism. It is dynamic because it is not the result of a carefully conceived scheme of overt resistance. This brand of bureaucratic conservatism develops out of the synergistic effect of particularistic interests. Because everyone is bound to be affected by ecopolicies, there is no need to connive in accord against taking them seriously. It is just a question of letting the bureaucratic process run its course.

What has been said here can be, undoubtedly, generalized to other agencies that deal with the development of the Amazon. We have seen this movie before, at different times, with different characters, and in different national settings. But there can be no doubt that the script is tailor-made for the patrimonial order. And the Brazilian bureaucracy has had plenty of candidates for the roles of starring actor, supporting actors and, as a matter of fact, for the entire cast. The only thing we will not find in this movie is the traditional disclaimer. If any character, event or situation resembles environmental policies in Brazil, it is not merely a coincidence.

**VI. EPILOGUE: POLITICAL DEVELOPMENT, DIPLOMACY,
BUREAUCRATIC POLITICS AND ECOLOGICAL DISORDER**

We are definitely in an age of scarcity. Modern technology has allowed a limited number of societies to experience unprecedented levels of abundance. Notwithstanding this, the "environmental crisis" underscores the fact that we are running out of resources and out of places to store or dispose of our wastes. Absolute and relative scarcity--actual lack of resources and lack of access to resources--equally affect central and peripheral nations. But we are also living in an era of scarcity of adequate institutions, and a scarcity of political will as well. The vast majority of our social and political institutions were not designed for the basic dilemma of ecological scarcity; they can barely operate within its parameters, and they are ill-suited to solve it.

1. Brazil in the 1990s: Hope or despair?

The ecopolitical situation of Brazil is undoubtedly depressing, but it is not necessarily hopeless. Perhaps the greater menace comes from the militarization of Brazilian society. We have noted how the military regime has enhanced the patrimonial heritage of Brazil, rendering it a more authoritarian, bureaucratized and statist society. The advent, however, of an industrial-military complex contributes to the perpetuation of these structural elements. Arms production, directly or indirectly, employs close to a million Brazilians, and military sales abroad provide a sizable proportion of export earnings. Brazil is already the leading arms producer and exporter in the Third World. 53/

This situation has a twofold meaning, and both meanings are equally disquieting. For one thing, if the military has temporarily left the foreground of Brazilian politics, its presence behind the scenes is acquiring strong roots in Brazilian society and in the economy. The consolidation of an industrial-military complex may lead to a complete turnaround in the economic model of development. The highly sophisticated technology that is required for arms production also necessitates that a major portion of the resources for scientific and technological development be diverted to military programs. Hence the Brazilian economy may change its axis from the automobile to

the armored car, from the traditional industries of the ABC paulista [the auto-industrial cities of Santo André, São Bernardo do Campo and São Caetano do Sul] to the high-tech industries and laboratories surrounding São José dos Campos.

Coupled with militarization, the profoundly unequal distribution of personal and regional resources stands as the major obstacle to sound ecopolitics in Brazil. The defense of the quality of life of a collectivity presupposes an equitable distribution of resources, as well as of the social and political power entailed by their possession. Few would have qualms about this assertion. Also, in few nations would anyone find the contrasts to be more glaring than in Brazil. The wealthiest of Brazil are among the wealthiest in the world. But its poorest also number among the poorest in the world. Brazil has changed dramatically in the past three decades while at the same time its resources have become even more concentrated geographically and socially. Furthermore, Brazilian development has taken an increasing toll on the ecological endowment of the nation. Whatever the vantage point from which one approaches the situation in Brazil, the 80 million Brazilians, the 60 percent of the population that goes to sleep undernourished every night, or the 40 million who fall below the line of absolute poverty, constitute a clear indication of the perverse results of ecopolitics in Brazil so far.

There are, then, various reasons for despair about the ecopolitical future of Brazil. At the level of actual tendencies, to begin with, ecological resources are being used up at an exponential rate. There are worsening environmental conditions both in the countryside and in the urban areas. Completing this picture is the rate of growth of the Brazilian population, which, even if it continues to decline over the next decades, still represents the addition of vast numbers of human beings to be fed, sheltered, and educated. If we turn, however, to the main features of Brazilian political development, the future looks even more bleak. The "new" authoritarianism brought about by the technobureaucratic-military alliance has elicited latent characteristics of the nation. The demobilization of society, and the fragmentation of issues and interests are but one side of reality. On the other side stands the internationalization of the economy, the statization of national resources, and thus the exploitation of the Brazilian "commons" according to a developmentalist ideology guided by private criteria for the allocation of resources. Both aspects render it extremely difficult for a less pernicious relationship to emerge between environment and development in Brazil. The former makes it problematic for society to organize autonomously around environmental issues; the latter incorporates a new logic of development that is antithetical to the sound management of natural resources.

Fortunately, the future of human societies is hardly ever a simple projection of their past. In ecopolitics more than in any other area of human endeavor, there is apt to apply the popular dictum that "where there is life, there is hope." Underneath the asphyxiating reality of a militarized state one can perceive the signs of a different society struggling to be born. So far, the birth has been effectively aborted on several occasions, but every new attempt must be greeted with enthusiasm, including the New Republic of 1985. The New Republic may be young, but its foundations can be traced back to the student revolt of 1968, to the electoral defeats of the regime since 1970, to the limited guerrilla warfare of the early 1970s, as well as to the mobilization of organized labor in 1978. Being established does not necessarily mean that it will be able to survive and to open a new era of more equitable relationships among Brazilians, and hence between Brazilians and Brazilian nature as well. Still, the ecopolitical pessimism of these pages may prove to be mistaken. Alternatively, the evolving character of the situation in Brazil can be pictured in the joke of the two Brazilians talking about the future of the country. One, the optimist, asked his friend if it was not a great feeling just to begin to see the light at the end of the tunnel, after twenty-one years of military tutelage. The pessimist, who may prove in time to be a realist, replied that even though not much had actually changed with the inauguration of the New Republic in March 1985, it was indeed a great feeling. The only problem, he added, was that "I still see the bayonets, unblemished, on the other side of the tunnel."

At any rate, the ecological argument must be, by definition, a political one. Before one looks for the technical arguments, for rational decisions, the right political alliance that must be found. In politics, there is no such thing as "rationality." Only university professors and a few zealots of the "common good" believe in the possibility of rational political decisions. Rationality, in politics, is defined according to the interests that are contemplated in a decision. In Brazil the necessary "political will" to formulate and implement ecopolicies is still lacking. The right alliances have not yet developed. But all of the evidence is now at hand through which they can be forged. Toward the end of the decade, for instance, some episodic manifestations of popular mobilization, not sufficiently broad or permanent to be considered a "movement," seemed to indicate that Brazilians were starting to fight back. ^{54/} Few have been able to score significant victories like the successful 1978 blockade against the construction of the new São Paulo international airport that was initially planned for Caucaia do Alto, one of the few natural forests left in the state. Most protests end up being run over by the technocratic-authoritarian machinery, as in Contagem in 1975, or in Sete Quedas seven years later. These failures should not be cause for despair, though. The struggle for a healthier environment is more similar to guerrilla warfare than most of us would be willing to acknowledge.

2. Improving our ecopolitical understanding about ecological disorder in Brazil

This study has not been designed to examine the environmental problems of Brazil or of the Amazon in and of themselves. Instead, it has tried to suggest how well or how badly equipped to face the ecological realities of the country the political system of Brazil has actually been. On this basis, no claims can be made to identify all the gaps that the present research has not been able to fill, or to point out all the necessary steps in the construction of an ecopolitical knowledge for Brazil. The ensuing remarks are meant to be no more than research "clues."

On the more general level of ecopolitical studies, perhaps the greatest challenge lying ahead is one quite similar to the "tragedy of the commons." Ethologists try to understand animal behavior; anthropologists are equally devoted to uncovering the subtleties of human behavior. Biologists carefully study how bacteria organize to get their chemical job done; sociologists focus on how communities go about caring for and nurturing their members. While ecologists try to make sense of entire communities of living organisms, and their relationships with their immediate surroundings, political scientists investigate the mechanisms through which human behavior is set in motion to get the community's job done. When it comes to environmental problems, however, ecologists and political scientists have behaved no differently than did their colleagues in the natural and social sciences. They have all considered, albeit without acknowledging it, the environmental issue to be "someone else's." But as with many things in life, what is defined as "everybody's problem" turns out to be nobody's. And so the environment has been the commons of scientific knowledge. We take from it what may be useful to our own particularistic interests in science, and throw into it our scientific waste. What we cannot explain with the analytical tools of our disciplines goes back to the commons, becoming somebody else's problem. Entropy and the laws of thermodynamics may be useful to explain economic phenomena? So much the better, we say, see how economics is relevant to modern concerns. What? I cannot apply economic criteria to explain how the natural resources of the Amazon must be available not for this particular "market," at this particular point in time, but for all "markets" to come? I'm sorry, that is somebody else's problem. Try ecology, try ethics, try philosophy, the farthest from my socially accepted area of ignorance the better.

Notwithstanding the need for the development of multidisciplinary approaches and methodologies to study the transformation of complex ecological systems such as the Amazon, there is also a second set of reasons to "make" this our problem, and they all derive from the fact that the challenges lying ahead of us depend upon the complex equation of scarcity, stability, democracy, and authoritarianism. There is an overriding need to

explore how scarcity and stability operate to maintain or to improve the carrying capacity of ecosocial systems. In this respect, a clear majority of social scientists, myself excluded, firmly believe that the ecological realities of the world will bring about more authoritarianism. Garrett Hardin and William Ophuls, among others, suggest that the current rationality guiding the use of common resources, in the democratic societies of the world, could lead to authoritarian societal institutions, and that this might be the only way to enhance humankind's chances for surviving the environmental crisis. 55/ I believe, however, that the real danger comes the other way around, and Brazil may unfortunately provide the best illustration in years to come. It is precisely the corporatist organization of this society, with the heavy burden of its patrimonial and authoritarian heritage, as well as its inability to conciliate the interests of each social sector, that may truly underscore the "tragedy" of the commons. At any rate, a clear minority at this point, while conceding that it is extremely difficult to build resiliency into the framework of democratic institutions, still cannot envisage another possible path. Democracy may not be the only "possible" way to solve the ecological puzzle. It may not even be the most likely, at the present time. But it certainly is the only one worth striving for.

On the more concrete level of ecopolitical analysis, this study has described how environmental concerns evolved within the process of Brazilian political development. It has identified the major actors and processes involved in the ecopolitical arena of the country. It is time now to put this somewhat static picture, as far as public policies are concerned, into motion. We should examine the bureaucratic politics of, say, the conservation of national forests, the expansion of agriculture or reforestation, and, at the same time, undertake an institutional analysis of the most important agencies responsible for these areas. There is, of course, a need to focus on the role of the courts and of the legislature in all these aspects.

A fourth important area deserving of attention is public opinion. There is a pressing need to undertake periodic assessments of "the state of the environment" in Brazil, in political as well as technical terms. First of all, environmental quality or, ultimately, the quality of human life is primarily a social, collective goal. However, considering that any system of indicators tends to favor quantitative, measurable facets of reality, a report on environmental quality is bound to be heavily statistical. 56/ But it should be explicitly acknowledged that such a system of evaluation tends to benefit the best organized groups in society. These groups have infinitely greater resources, both financially and informationally; they can understand the language and the implications of these reports more easily than the less privileged strata of society. In this sense, a system of periodic evaluations of environmental quality

must become an instrument of social control. It may constitute one of the most powerful mechanisms for a community to exercise direct control over the allocation of resources that are geared toward the satisfaction of social needs.

Public opinion research is thus a crucial if complicated element of ecopolicies. If measures of environmental quality are to be improved to account better for social differentials, among other elements, this must be done through survey research. We do not look at perceptions when we notice an improvement of indicators such as the total area of protected natural forests, physicians per thousand inhabitants, or carbon monoxide per vehicles in operation. There is only one way to find out whether changes in these indicators alter people's perceptions of their quality of life. We must ask them. As a matter of fact, survey research may represent for modern democracies what the public square represented for Athens: the vehicle through which to voice the preferences of each citizen. We have an urgent need to carry out surveys of the general population, tapping environmental dimensions such as the devastation of the Amazon, but also asking questions of the "most-important-problem" variety, so that the salience of environmental issues may be put in the correct perspective. Also needed are comparable surveys designed for specific subgroups, such as members of the elite, experts on environmental matters, and the technicians and bureaucrats who work in environmental agencies. Finally, considering the importance of general elections, the salience of environmental issues in electoral results must be studied as well.

We should not close this section without a word on the role of comparative studies. This is particularly relevant for the case of the Amazon. However, we must move beyond the comparative study of specific development projects. We must develop comparable knowledge about entire areas of policy action. We should also address issues of a higher level of abstraction. Comparative ecopolitical studies should identify, for example, when political parties matter in determining the outcome of ecopolicies, and in what context. They should investigate whether it makes any difference if a market allocation of resources predominates over state run economies. Ultimately, what we are striving to understand is whether the emergence of environmental issues makes any difference in the ways that political systems operate. These types of questions cannot be addressed adequately unless differences and similarities between national societies can be established on a regular basis. Even more so in the situation of the Amazon, where several nations share a common pool of natural resources. From these studies will come better and more accurate regional and global perspectives. From them too will come the possibility of more adequate policies, first at the national level and then regionally and globally.

NOTES

1/ Prepared for presentation at the symposium Amazonian Ecological Disorder: 1989 Assesment, organized under the auspices of the International Social Science Council of UNESCO and the Conjunto Universitário Candido Mendes, August 21-31, 1989, Hotel Glória, Rio de Janeiro, Brazil. This paper represents a summary of the research results of Roberto P. Guimarães, "Ecopolitics in the Third World: An institutional analysis of environmental management in Brazil," Ph.D. dissertation, University of Connecticut, 1986. Portions of sections III and V appeared in "Ecologia y política na formação social brasileira," DADOS, Revista de Ciências Sociais 31 (June 1988):243-277, as well as in "Contorle social y ecopolítica no Brasil: Explorando uma utopia possível," Revista de Administração Municipal, no. 188 (July-September 1988):6-27.

2/ Celso Furtado, O Brasil pós-"milagre", 2d ed. (Rio de Janeiro: Paz e Terra, 1981), p. 22.

3/ For a detail analysis of this scheme of financial incentive and how they have historically shaped the occupation of the Amazon, see José M. M. da Costa, ed. Amazônia: Desenvolvimento e ocupação (Rio de Janeiro: IPEA/INPES, 1979). A strong exposé of economic interests behind the devastation of the forest is Ricardo Bueno, "A Amazônia ameaçada," A Amazônia Brasileira em Foco, July 1979, Special Supplement, "Amazônia Urgente!!", pp. 6-10, and Lucio F. Pinto, Amazônia: No rastro do saque (São Paulo: HUCITEC, 1980). See also Susan B. Hecht, "Environment, development and politics: Capital accumulation and the livestock sector in Eastern Amazonia," World Development 13 (June 1985):663-84, and Anthony Hall, "Agrarian crisis in Brazilian Amazonia: The Grande Carajás Programme," The Journal of Development Studies 23 (July 1987):522-52.

4/ A good review of the international presence in the region can be found in Artur C. F. Reis, A Amazônia e a cobiça internacional (São Paulo: Nacional, 1960), and Fernando H. Cardoso and Geraldo Müller, Amazônia: Expansão do capitalismo (São Paulo: Brasiliense, 1977).

5/ See Antonio Carlos A. de Oliveira, "Apuntes sobre problemas ambientales en Brasil y el concepto de seguridad," paper presented at the seminar "Los Nuevos Desafíos de la Soberanía y la Seguridad en América Latina," Santiago de Chile, 11-13 July 1989.

6/ See Michael Redclift, Development and the environmental crisis: Red or Green alternatives? (New York: Methuen, 1984).

7/ It is beyond the scope of this paper to analyze the many proposals put forth lately for the conservation of the Amazon, such as imposing additional "conditionalities" on loans from international organizations or conversion of the external debt (the so-called "debt for nature swaps"). However, without

condoning the xenophobic reaction of many Brazilian authorities to these proposals, one wonders whether the official response of the government constitutes an exception of international relations based on the principle of national sovereignty. What would be the response, for example, of the U.S. government if proposals to halt production of oil from Alaska were to follow last March's disastrous spill of the Exxon tanker Valdez? Even the devastation of forests is not a privilege of Brazil. According to Wilderness Society estimates, temperate rain forests have suffered greater devastation, proportionately, than tropical rain forests. In Alaska's Tongass National Forest, which contains twice as much rain forest as Costa Rica, more than 50 percent of the forest has disappeared already. And in the Douglas-fir rain forest of California, Oregon and Washington, 85 percent of the original "old-growth" forest has been logged. Cf. John C. Ryan, "Plight of the other rain forest," World Watch 2 (May-June 1989):10-11,41.

8/ See, among others, Warwick E. Kerr, "Destruição da estrutura ecológica," in Manuel C. de Andrade et al., Meio-ambiente, desenvolvimento e subdesenvolvimento (São Paulo: HUCITEC, 1975), pp. 91-97; Robert J. A. Goodland and H. S. Irwin, Amazon jungle: Green hell or red desert? (New York: American Elsevier Publishing Company, 1975); Dennis J. Mahar, Government policies and deforestation in Brazil's Amazon region (Washington: The World Bank, 1989); and Alan Durning, "Cradles of life," World Watch 2 (May-June 1989):30-40. It must be underlined that even though there is a great deal of discussion regarding this estimates, the debate should not be reduced to a dispute about percentage points. The crucial fact is that the Amazon has been submitted to reckless policies of occupation, and that this has led to irreversible alteration of the Amazon ecosystem. As Norman Myers correctly indicates, in situations where uncertainty is combined with high stakes, "it is better to have been roughly right than precisely wrong." [Myers, "Environment and security," Foreign Policy, no. 74 (Spring 1989), pp. 23-41, p. 40.]

9/ Edições Veja, Almanaque Abril '89 (São Paulo: Abril, 1989), p. 125, and Ibsen G. Câmara, O problema ecológico no Brasil (Brasília: Universidade de Brasília, 1981).

10/ See, in addition to the other presentations in the symposium, the collection of papers presented in the first stage of this project, during the meeting "Ecological Disarray in Amazonia: The Quest for Reciprocity of Perspectives in Analysis and Surveys", also organized by the ISSC of UNESCO and the Candido Mendes University Complex, with the support of the Ford Foundation, in Rio de Janeiro, 24-25 October 1988.

11/ See John Passmore, Man's responsibility for nature: Ecological problems and Western traditions (New York: Charles Scribner's Sons, 1974).

12/ See Paul R. Ehrlich, Anne H. Ehrlich, Jonh P. Holdren, Ecoscience: Population, resources, environment, 3d ed. (San Francisco: W. H. Freeman, 1977), p. 391.

13/ Quoted in G. Tyler Miller, Jr., Living in the environment, 2d ed. (Belmont, Calif: Wadsworth Publishing Company, 1979), p. 32.

14/ A comprehensive analysis of the ecological foundations of politics is William Ophuls, Ecology and the politics of scarcity: Prologue to a political theory of the steady state (San Francisco: W. H. Freeman, 1977). A most lucid and provocative essay on scarcity and political power can be found also in Richard J. Barnet, The lean years: Politics in the age of scarcity (New York: Simon and Schuster, 1981).

15/ Karl W. Deutsch, ed., Eco-social systems and eco-politics: A reader on human and social implications of environmental management in developing countries (Paris: UNESCO, 1977), p. 13.

16/ Most of the arguments introduced here have been first formulated in somewhat more detail in Roberto P. Guimarães, "Science or wishful thinking? The concept of equilibrium in Human Ecology" (Unpublished paper, Department of Rural Sociology, University of Connecticut, 1977). For the purposes of this paper, equilibrium will be understood as encompassing all the subtleties of concepts such as balance, homeostasis, steady state, or stable state, as a process as well as at a particular point in time.

17/ Frederick C. Engels, Dialectics of nature (New York, International Publishers, 1940), p. 291.

18/ Edmund R. Leach, "Anthropological aspects: Conclusions," in Population and pollution, ed Peter R. Cox and John Peel (London: Academic Press, 1972), p. 39.

19/ Amos H. Hawley, Human Ecology: A theory of community structure (New York: Ronald Press, 1950), p. 91.

20/ Quoted in Robert E. Park, "Human Ecology," in Studies in Human Ecology, ed. George A. Theodorson (Evanston, Ill.: Row, Peterson and company, 1961), p. 24. See also Charles Elton's provocative and, for his time, controversial Animal ecology and evolution (London: Humphrey Milford, 1930), especially pp. 17ff.

21/ Ludwig Von Bertalanffy, "General systems theory--A critical review, General systems (Yearbook of the Society for General System Research) 7 (1962):14.

22/ See Lynn White, Jr. "The historical roots of our ecological crisis," Science 155 (10 March 1967):1203-7.

23/ Eugene P. Odum, Fundamentals of Ecology, 3d ed. (Philadelphia: W.B. Saunders, 1971), p. 510.

24/ Contrary to many claims, the Amazon has little effect on major environmental problems, such as the "greenhouse effect" or the destruction of the ozone layer. If the rate of deforestation in the Amazon persists at current levels, the real catastrophe will be in terms of maintaining the diversity of our genetic pool. The implications of this monumental, human-induced ecological disaster are indeed impressive for the development of science, as well as for productive activities. Insofar as scientific knowledge is concerned, in the words of Edward O. Wilson, "It's like having astronomy without knowing where the stars are." As for the practical applications that evolve out of the characteristics of different species, it is the noted British biologist Thomas Lovejoy who reminds us that "genetic engineers don't make new genes, they rearrange existing ones." Both cited in Jamie Murphy, "The quiet apocalypse: Biologists warn that a

mass extinction is happening now, Time, 11 October 1986, p. 80.

25/ According to Raymundo Faoro, Os donos do poder: Formação do patronato político brasileiro, 2 vols., 4th ed. (Porto Alegre: Globo, 1977), p. 28, "Side by side with the property of the Crown there is private property, recognized and guaranteed by Princes. Above these properties, the King's or private, there is an overproperty, identified with the territory and including the command, but barely separated from the dominion, over things and persons, over all things and all persons."

26/ These words were said during the final events that led to his abdication in 1831. See John Armitage, The history of Brazil: From the period of the arrival of the Braganca family, in 1808, to the abdication of Dom Pedro the First, in 1831, 2 vols. (London: Smith, Elder and Company, 1836) 2:129.

27/ Just as North Americans joke about the Poles, Poles laugh about the Soviets, and the French pique the Belgians, so Brazilians also have favorite targets for their humor. Some obviously come out of competition, as is probably the case with Argentines, but the Portuguese are by far the most popular butt for humor, as a direct result of the deep and fraternal feelings of Brazilians toward their ancestors. Because no other people in the world is so dedicated to making fun of themselves, nothing is more natural than making fun of our European forebears as well.

28/ It is worth mentioning one example of the legalistic tradition of Brazilians, which, at the same time, illustrates their disrespect for the law. In 1595 King Felipe II issued a law forbidding the enslavement of Indians in Brazil. Only eleven years later, there got under way one of the largest and longest operations to hunt down and enslave Indians in Brazil. These operations were called Bandeiras [pathfinders]; they lasted for two centuries, and often enjoyed governmental support.

29/ For details on the debate around ECOSOC Resolution 1346 (XLV), and the General Assembly Resolution 2398 (XXIII), both of which led to the Stockholm Conference, see the transcripts of the 1732d and 1733d meetings, in United Nations, General Assembly, Twenty-Third Session, Official Records, Plenary Meetings (24 September - 21 December 1968), vol 3. (A/PV.1722-1752), New York, 1971. For details about the Conference itself, refer to United Nations, Secretariat, Report of the United Nations Conference on the Human Environment: Stockholm, 5-16 June 1972 (A/CONF.48/14/Rev.1), New York, 1973.

30/ Cynthia H. Enloe, The politics of pollution in a comparative perspective: Ecology and power in four nations (New York: David McKay, 1975), pp. 132-33.

31/ See, for instance, Maurice F. Strong, "The United Nations and the environment," in World eco-crisis: International organizations in response, ed. David A. Kay and Eugene B. Skolnikoff (Madison: University of Wisconsin Press, 1972), pp. 4-5; United Nations, General Assembly, Twenty-Sixth Session, Official Records, Second Committee: Economic and financial questions (22 September - 15 December 1971), (A/C.2/Sr.1366-1446), New York, 1975, p 418; and United Nations, Secretariat,

Report of the U. N. Conference, p. 45-46.

32/ Unless otherwise noted, all quotations come either from personal interviews with key members of the Brazilian delegation, or from Brasil, Ministério do Interior (MINTER), Relatório da delegação do Brasil à Conferência das Nações Unidas sobre o Meio Ambiente (Brasília, n.d.), and Ministério de Relações Exteriores (Itamaraty), Conferência das Nações Unidas sobre o Meio Ambiente: O Brasil e a preparação da Conferência de Estocolmo (Brasília, 1972).

33/ Thomas G. Sanders, "Development and environment: Brazil and the Stockholm Conference," Field Staff Reports, East Coast South America Series (Brazil; 1973).

34/ "The Founex Report on Development and Environment," International Conciliation, no. 586 (January 1972), pp. 7-36.

35/ Migueal A. Ozório de Almeida, "The confrontation between problems of development and environment," International Conciliation, *ibid.*, pp. 37-56.

36/ *Ibid.*, pp. 54-55. See also Ambassador Almeida's remarks at the U. N. General Assembly, in Official Records, Second Committee, pp. 420-23.

37/ In addition to Ambassador Almeida, the Brazilian permanent representative to the United Nations at that time, João A. de Araújo Castro developed also this argument. See, for example, Castro, "Environment and development: The case of the developing countries," in World eco-crisis, pp. 237-51.

38/ J. McLin, "Stockholm: The politics of 'Only One Earth'," Field Staff Reports, West Europe Series (General, 1972), p. 3.

39/ Detailed instructions to the Brazilian delegation on this point were the object of a special "Nota sobre o artigo 20 da Declaração," in MINTER, Relatório da delegação do Brasil, Annex E, pp. E-1 to E-11.

40/ One of the few exceptions to this rule has been Brazil's proposed Treaty for Amazonian Cooperation, signed in Brasília on 3 July 1978 by the foreign ministers of the eight countries sharing the Amazon basin: Brasil, Bolívia, Colômbia, Equador, Guiana, Peru, Venezuela and Surinam. See, for instance, George D. Landau, "The Treaty for Amazonian cooperation: A bold new instrument for development," Georgia Journal of International and Comparative Law 10 (Fall 1980):463-89, and Wayne A. Selcher, ed., Brazil in the international system: The rise of a middle power (Boulder, Colo.: Westview Press, 1981).

41/ George Orwell, Ninety Eighty-Four (New York: New American Library, 1971).

42/ Frederick C. Engels, "Letter to Starckenburg (1894)," in Karl Marx and Friedrich Engels: Selected correspondence, 1846-1895 (London: M. Lawrence, 1934), pp. 516-19.

43/ Brasil, Presidência da República, Conselho de Segurança Nacional, Exposição de Motivos No. 100/71, sobre a posição a ser adotada pelo governo brasileiro no que diz respeito aos problemas ligado ao meio ambiente (Brasília, 22 December 1971). See also Ministério das Relações Exteriores, Conferência das Nações Unidas.

44/ See, in this respect, the penetrating analysis of Anthony Downs, Inside bureaucracy (Boston: Little, Brown and Company, 1967).

45/ See, in this respect, Stahl W. Edmunds, "Environmental policy: Bounded rationality applied to unbounded ecological problems," in Environmental policy formation: The impact of values, ideology and standards, ed. Dean E. Mann (Lexington, Mass.: Lexington Books, 1981), pp. 191-201. For more detail on the Principle of Bounded Rationality, see Herbert Simon, Models of Man (New York: John Wiley and Sons, 1957), pp. 198-200, 246ff.

46/ Francis E. Rourke, Bureaucracy, politics, and public policy, 3d ed. (Boston: Little, Brown and Company, 1984), p. 190.

47/ Brasil, Presidência da República, Secretaria de Modernização e Reforma Administrativa, Cadastro da administração federal: Função saúde e saneamento (Brasília, June 1978). See also Joseph J. Molner and David L. Rogers, "Interorganizational coordination in environmental management: Process, strategy, and objective," in Environmental policy implementation: Planning and management options and their consequences, ed. Dean E. Mann (Lexington, Mass.: Lexington Books, 1982), pp. 95-108.

48/ A suggestive, picturesque view of what may happen when several agencies share an interest or oversight over a particular issue was the following memorandum sent by President Franklin D. Roosevelt to the director of the Bureau of the Budget, on 20 July 1939, and reproduced in Harold Seidman, Politics, position and power: The dynamic of federal organization, 2d ed. (New York: Oxford University Press, 1976), pp. 96-97:

I agree with the Secretary of the Interior. Please have it carried out so that fur-bearing animals remain in the Department of the Interior. You might find out if any Alaska bears are still supervised by (a) War Department (b) Department of Agriculture (c) Department of Commerce. They have all had jurisdiction over Alaska bears in the past and many embarrassing situations have been created by the mating of a bear belonging to one Department with a bear belonging to another Department.

F. D. R.

P.S. I don't think the Navy is involved, but it may be. Check the Coast Guard. You never can tell!

49/ Rufus E. Miles, Jr., "The origin and meaning of Miles' Law," Public Administration Review 38 (September-October 1978):399-403. For an exploration of this law, as well as of several of its possible corollaries, refer to the superb analysis of Seidman in Politics, position and power.

50/ Classic within a vast literature is Graham T. Allison, The essence of decision: Explaining the Cuban missile crisis (Boston: Little, Brown and Company, 1971). Equally brilliant is Morton Halperin, Bureaucratic politics and foreign policy (Washington, D.C.: Brookings Institution, 1974). Jeffrey L. Pressman and Aaron B. Wildavsky have also done an outstanding job in debunking the mythology of clearcut distinctions between politicians (policymakers) and bureaucrats (policy administrators). Their conclusions stand out in the amusing, tell-it-all title of their book: Implementation: How great

expectations in Washington are dashed in Oakland; or, why it's amazing that Federal programs work at all, this being a saga of the Economic Development Administration as told by two sympathetic observers who seek to build morals on a foundation of ruined hopes (Berkeley: University of California Press, 1973).

51/ For an appropriate understanding of the strategies adopted by organizations to resist innovation, see Donald A. Schon, Beyond the stable state (New York: W. W. Norton, 1973).

52/ Seidman, Politics, position and power (p. 23), reproduces the revealing ideas of President Herbert Hoover on interagency committees:

There is no more dangerous citizen than a person with a gift of gab, a crusading complex and a determination "to pass a law" as the antidote for all human ills. The most effective diversion of such an individual to constructive action and the greater silencer on earth for foolishness is to associate him on a research committee with a few persons who have a passion for truth, especially if they pay their own expenses. I can now disclose the secret that I created a dozen committees for that precise purpose. [The memoirs of Herbert Hoover, the Cabinet and the Presidency, 1920-1933 (New York: Macmillan, 1952), p. 281.]

53/ See René A. Dreifuss and Octávio S. Dulci, "As forças armadas e a política," in Sociedade e política no Brasil pós-64, ed. Bernardo Sorj and Maria H. T. de Almeida (São Paulo: Brasiliense, 1983), and also Clóvis Brigagão, A militarização da sociedade (Rio de Janeiro: Jorge Zahar Editor, 1985).

54/ See, among others, Eduardo Viola, "O movimento ecológico no Brasil (1974-1986): Do ambientalismo à ecopolítica," José A. Pádua et al., Ecologia e política no Brasil (Rio de Janeiro: Espaço e Tempo/IUPERJ, 1987), pp. 63-81, and Carlos Minc, Como fazer movimento ecológico e defender a natureza e as liberdades (Petrópolis: Vozes, 1985).

55/ See Ophuls, Ecology and the politics of scarcity, and Garrett J. Hardin, "The tragedy of the commons," Science 162 (13 December 1968):1243-48, respectively.

56/ A more detailed analysis, as well as a review of the literature on the questions involved in measuring "quality of life," can be found in Roberto P. Guimarães, "Ecopolítica em áreas urbanas: A dimensão política dos indicadores de qualidade ambiental," in Qualidade de vida urbana, ed. Amaury de Souza (Rio de Janeiro: Zahar, 1984), pp. 21-53