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ECOPOLITICS IN THE THIRD WORLD: POLITICS, ECOLOGY AND DEVELOPMENT PLANNING IN BRAZIL */

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Summary

Environmental problems, particularly in recent decades, have attracted attention worldwide, revealing an impending age of scarcity. The "environmental crisis" underscores the fact that we are running out of resources and out of places to store or dispose of our wastes. It reveals also that, above all, we are living in an age of scarcity of adequate institutions to face the realities of the ecological transition--from simpler, quasi-natural systems to more complex patterns of interactions between humans and nature. The emergence of this new, ecological dimension in our social lives poses hitherto unforseen challenges to the social sciences, and to the everyday concerns of citizens and governments as well. History is replete with examples of civilizations that were shattered by the ecopolitical inability to sustain complex levels of social organization, and there is no reason to believe that we are more exceptional than past illustrations of ecopolitical folly.

On the other hand, how a collectivity deals with nature discloses as much about its internal social relations as the other way around. Hence, the present inquiry is a prologue to more detailed study of ecopolitics, to the study of the political philosophy of relations between human beings and nature, exploring the feasibility of integrating the knowledge of the social and of the natural sciences on the interchange between human activities and the cycles of nature. This exercise is also an introduction to the study of specific type of public policies, those that address issues concerning resource use and conservation, and the quality of life, especially in the so-called developing countries.

Analysis of the Brazilian case provides a particularly helpful focus for Third World studies. Because Brazil is one of the fastest-growing economies in the world, the study of its ecopolitics sheds light on the crucial dimensions of the debate over development and the environment, with important implications for politicians, policymakers and social scientists.

The historical analysis of environmental management in the context of Brazil's political development unveils the social and political conditions that allowed for, and conditioned, the creation of a specialized environmental agency, the Special Secretariat for the Environment (SEMA). Detailed study of the

bureaucratic politics of public policies concerning the environment reveals also how "environment" is conceptualized in development planning, and how environmental management reflects the main features of the political system and of the social formation of Brazil.

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

J. P. dos Reis Velloso, Planning Minister (1969-1974), on Japanese investments in Brazil.

When the Gods whish to punish us, they answer our prayers.

Oscar Wilde

I. INTRODUCTION: POLITICAL SCIENCE AND ECOLOGY, A NECESSARY PARTNERSHIP 1/

The present research, like many others before it, assumes that the pursuit of knowledge through tightly bounded disciplines, such as anthropology, biology, ecology, economics, political science, and sociology, can be dangerously hampered if we do not boldly and courageously strive to integrate our knowledge fragments. Science cannot, of course, aspire higher levels of explanation without more sophisticated specialization. At this point, however, in the evolution of humankind, our most menacing prospect comes from too much of the same medicine.

Unless we devise new ways to integrate the wisdom of the natural and social sciences, we may end up spending considerable effort to add less knowledge about more obscure or irrelevant phenomena. Never before have we been so close not to disaster, in the way zealot environmentalists believe, but rather to experiencing, on a planetary basis, the limitations of our fragile life-support systems. Activists and intellectuals alike tell us that nothing sort of a planetary ethics must arise if we are to survive as species. Likewise, the main thesis of this paper is that anything short of ecopolitical knowledge is bound to render the work of social scientists and policymakers substantially meaningless in their attempts both to understand society and to formulate better policies for improving the quality of life of its members.

1. It is time for "ecopolitics"

The history of humankind is the history of its relations with nature. More than pure rhetoric, this statement acknowledges a reality whose multiple facets have not been fully understood so far. Living in an era of automobiles, nonreturnables, and computers, we have been led to believe that we can get everything we want in the supermarket, in the corner drugstore, or through

computers, we have been led to believe that we can get everything we want in the supermarket, in the corner drugstore, or through telephone orders. Yet we forget that all our basic needs have a source on the land or in the sea. It has been all too easy to forget, for instance, that if it were not for the sudden disappearence of dinosaurs, human beings, like any other mammals, would not have had much chance to mature as a species. It is only when great famines occur, or when countries wage war in part to secure access to natural resources, that we stop suffering such lapses, that we experience that "We have for a long time been breaking the little laws, and the big laws are beginning to catch up with us."2/ But then, again, there is the conquest of the Moon, the advent of robotics, or a new breakthrough in the cure of cancer, and we retreat to our delusions of power.

The emergence of this new, ecological dimension in the political debate poses hitherto unforeseen challenges to the social sciences. We need to identify and analyze what elements of the natural environment contribute to the flourishing, maintenance, and eventual demise of human societies; and how social conditions affect natural systems, disturbing or reinforcing their life-support cycles. Contrary to what many cultural anthropologists would like us to believe, constraints imposed upon human society strictly by environmental conditions neither exert a uniform influence nor always the same results in every society. These results depend on prevailing socio-political variables. Social stratification, cultural and religious values, the division of labor, and the distribution of power in one society may render it entirely vulnerable to certain adverse environmental conditions, while the same elements may represent the very strength of another society faced with similar environmental conditions.

On the other hand, political and social life does not unfold according to human theories, much less does it wait for political knowledge to explain or orient its concrete manifestations. Because life is not lived on a theoretical plane but, rather, in the real world of social cleavages, corporate interests, and governmental actions, the ecological argument is almost by definition political.3/ Thus, to understand adequately the inner workings of an ecosocial system--how natural and human systems interact, reinforce, maintain, and transform one another--it is crucial to explore the political dimension of these relations. In effect, it is time to recognize that the ecological outcomes of the way people use the earth's resources are ultimately related to the modes of relationships amongst people themselves.4/

Ecopolitics is a short word for ecological politics. It emerges from the recognition that to overcome the current ecological and environmental crisis, decisions will have to be made, thereby favouring some interests over others, both within as well as between nations. 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. 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. Its approach rejects the romantic illusion that all natural ecological systems are necessarily viable. Most of the earth's deserts are not man-made. 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".5/

There has been a persistent disregard, both by social scientists and decisionmakers, of the rules that regulate the world surrounding us. These matters deserve our utmost attention in years to come, for, as Kenneth Boulding rightfully states, "No one is going to repeal the second law of thermodynamics, not even the Democrats."6/ To recognize the ecological roots of our current political problems is not only a matter of survival, but also a logical conclusion. Its urgency stems from the fact that time, the scarcest resource of all, is running out fast, or at least it is running faster thant the ability of our social and political institutions to face reality. If humankind is not able to learn from ecology, to rethink its attitude about the environment, as well as its place in nature, then, "some future articulating outcome of the evolutionary process may well be able to discourse on man as man himself has in the extinction of the dinosaur, owing to his inability to have adapted to its environment."7/

The point to be stressed here is that it is not a question of simply accommodating ourselves to the earth's carrying capacity, for humans have historically shown an outstanding ability to endure adverse environmental conditions. As Norman Myers indicates, it may be all right to improve established courses of action through "fine tuning," but there are times when one must do an "about turn" and take more drastic corrective action. His example of schoolchildren and their experimental frog is most appropriate to underline the ecopolitical challenges of today: "They took the frog and dropped it into a saucepan of boiling water, whereupon the frog skipped right out--instant rejection of an environment that proved distinctly unsuitable. But when the schoolchildren dropped the frog into a saucepan of cold water, and slowly heated it up, the frog swam round and round, adapting itself to rising heat... until it quietly boiled to death". 8/

2. Political thought and the ecological transition

One way to perceive the challenges evinced by the current crisis is to explore also the uniqueness of our times, a uniqueness that could not have been foreseen by early political theorists. This refers to what John Bennett has characterized as the ecological transition, the development of an anthropocentric orientation toward the natural world that emerged in the Western Renaissance, one that has since characterized every civilization and nation.9/

Briefly stated, the transition involves, in technological terms, the tendency to seek ever-larger quantities of energy in order to satisfy the demands of human existence, comfort, and wealth. This is expressed, ecologically, in the growing incorporation of nature into culture, and by the breakdown of self-sufficiency, that is, not only the accumulation of goods and services for social purposes unrelated to biological survival but also the ability to achieve this through the incorporation of remote environments. Sociologically, it means the increasing complexity of social organization and the networks of communications associated with it. Philosophically, it entails the replacement of certain images of humanity by others, such as the worship and contemplation of nature versus the instrumentalization of nature. And politically, it means that to achieve a given level of output human beings will use political resources to adjust technology and social organization accordingly.

It could be argued that given the above description, one could hardly expect a detailed treatment of ecological issues in traditional political and economic thought. Certainly, the present environmental crisis is a specific concern of the twentieth century, and not of the seventeenth (Thomas Hobbes, John Locke), eighteenth (Jean-Jacques Rousseau, Adam Smith, David Ricardo), or the nineteenth (John Stuart Mill, Karl Marx, Friedrich Engels) centuries. But it is equally true that despite their profound differences, the common assumptions of major Western philosophers have actually forestalled a more fruitful understanding of the roots of our current situation. They all shared a certain disdain for everything that did not come from the hands or soul of humans. They all portrayed evolution as an almost unlimited road toward progress. And they all revealed an unlimited trust in technology. These assumptions were, of course, apparently justified by the discovery of the New World in the sixteenth century, and they were later enhanced by the Industrial Revolution. Yet, they all fall within the narrow illusion of unlimited frontiers to human development.

It should be no surprise, by now, why many of today's political institutions, nurtured in a world of growth and abundance, are so ill-suited to the present challenges of the

"ecological transition," namely, the ever-increasing scarcity of resources and of places to dispose of our wastes. Technological innovations were once assumed to be the key to all problems derived from scarcity and pollution. Nowadays, however, technology can be shown to have ecological limits, for, as indicated by William Ophuls, "it is merely a means of manipulating what is already there, rather than a way of creating genuinely new resources."10/ The same applies to pollution because available techniques ultimately cannot do more than transport a harmful substance from one medium to another.

Despite the flagrant weaknesses of theory, most of the debate about the crisis follows liberal or Marxist approaches, something that actually helps to confuse rather than clarify the issues involved in it. The inadequacy of liberalism can be more easily ascertained. The fact remains that socially uncontrolled private property, the primacy of individual over public interests, as well as the profit motive, do undoubtedly account for a good portion of the environmental and ecological disruption today. André Gorz is basically right when he says that the logic of capitalism, as we know it, is antithetical to the logic of ecology.11/ Nevertheless, it is quite deceitful also to pretend that Marxism has advocated a more "harmonious" relationship between humans and nature, when in fact Marxism opposes humans and nature. It becomes quite problematic to reconcile theory and reality, if one follows the conventional Marxist approach.12/ Indeed, it is hard to expect that in a socialist society, where the State is at the same time producer and regulator, polluters will punish themselves for their disruptive actions.

In short, we cannot find in Marxism or in liberalism the basic tenets for a more rational approach to the relationship between human and natural systems. Moreover, the actual operation of both capitalist and socialist economies hardly qualifies them for membership in the Sierra Club or the Friends of the Earth, much less in the Green Party of West Germany.13/ What is ecologically disruptive is not who controls production but the processes of production themselves, or rather the style of development--the prevailing patterns of production and consumption. Specific social relations may reinforce the disruptiveness of particular styles of development, as capitalism does, but they cannot be regarded as the direct causes of pollution.

Notwithstanding this "weakness of theory" ,interpretations that try to avoid recognizing that the ecological outcomes of the way people use the earth's resources are ultimately related to the modes of relationships amongst people should be put to rest. To understand the implications of the ecological transition, one must attempt to grasp the social process behind it. The possible solutions to the environmental crisis must be found within the social system itself. Examples of the political implications of

environmental problems could be listed indefinitely,14/ but in doing so it would only stress even more the main thesis of this study: the environmental crisis is more pervasive and more political than any other crisis has been before; it can be felt by people anywhere on earth; and it transcends ideological and political boundaries. As the motto of the West German Green Party says, "We are neither left or right; we are in front."

Irrespective of economic system or regime characteristics, we must all reckon with what Garrett Hardin called "the tragedy of the commons."15/ The essence of the "tragedy of the commons" derives from the negative effects of two mutually reinforcing elements of human societies in general. These refer to the maximization of one individual's goals in the pursuit of his or her self-interest; and to the collective ownership of a common pool of resources. Unrestrained freedom in utilization of the "commons" during an extended period of time is bound to produce harmful results to society at large. In Hardin's words: "Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons; freedom in a commons brings ruin to all."16/

In a reverse way, the tragedy of the commons also applies to the problems of pollution. In this case it is not a question of taking something out of the commons but of putting something in. The argument here is that one person's share of the cost to purify the environment is usually smaller than the cost of purifying the wastes before releasing them into a commons. This has led Hardin to conclude that "we are locked into a system of 'fouling our own nest,' so long as we behave only as independent, rational, free-enterprises."17/ As a matter of fact, Hardin's interpretations bear a striking resemblance to the concept of externalities in economics. The notion also contains much of the so-called Prisoner's Dilemma, wherein altruism is sometimes penalized, and self-interest rewarded.18/

3. Studying ecopolitics in the Third World

If it is hard to distinguish the ecological transition between the East and the West, a far stronger case can be made for contrasting the environmental crisis along North-South lines. Indeed, one may say that whereas in the advanced economies of the world, the environment has been generally equated with pollution, in the periphery most environmental problems refer to natural resource depletion. Actually, this distinction has become increasingly blurred in the Third World, and may be justified only for analytical purposes. The fact is that during the past decades not only has the economic gap widened between North and South but the environmental gap has also grown larger, and those in the South are on the worse end.

Developing countries not only have to concern themselves with environmental problems usually characteristic of "extent" development but also have to find ways to preserve their resource base to overcome their "lack of (or distorted) development".19/ Whereas air quality has improved markedly in cities like New York and Los Angeles, the atmosphere in Lima, Santiago, Mexico, São Paulo, or Calcutta is worsening considerably. Take, for example, also the exhaustion of the genetic resource base. According to available estimates, 15 to 20 percent of all species may become extinct by the year 2000. Where are they located? They are mostly (40 percent) in the tropical forests of the Third World, which are being squandered with unprecedented carelessness.20/ It is hard to believe that pollution is only a Northern concern.

We are being constantly reminded that humanity is in the midst of a serious environmental crisis. What is meant by that term? Does environmental crisis stand for the contamination of the air we breathe, the food we eat, and the water we drink, or does it relate to other, structural elements of human evolution? What difference does it make, for politcal scientists and public administrators, to understand the essence of the ecological realities of today? Can we expect to add knowledge about social relations and political systems through an exploration of the interconnections between human activities and nature? Finally, can the case be made for the development of a new subfield in the social sciences, one that could realize the often repeated pleas for multidisciplinary studies integrating the knowledge of the natural and the social sciences?

These are important theoretical pursuits, and they must shape ecopolitical analysis. However, results yelded by this sort of inquiry must be coupled with an examination of actual processes in a particular national setting. What are the ecological implications of Brazil's process of development in its remote and recent past? Who are the actors (individuals, groups and institutions) involved in managing environmental problems in Brazil? What is the nature of the interests that these actors represent in society? This line of inquiry should allow a better understanding of how and how well the Brazilian political system responds to the intensity and magnitude of the current process of resource depletion, pollution, and disruption of the habitat.

Important, in this respect, is also an institutional analysis of the Secretaria Especial do Meio Ambiente (SEMA, Special Secretariat for the Environment), the Brazilian equivalent to the U.S. Environmental Protection Agency. This should help uncover the reasons behind its cretion, the perception of SEMA's administrators about its missions, programs, and procedures, as well as its ability to translate environmental concerns into articulate public policies and to promote their implementation. Equally important is to determine the ability of

those working at SEMA to incorporate environmental parameters into the planning process of other sectorial policies. Through the combination of macropolitical analysis with the study of the bureaucratic politics of governmental policies, we should be able to identify with considerable specificity the main actors, processes and structures involved in the ecopolitical arena in Brazil.

On this basis, no claims can be made at providing an exhaustive treatment of ecopolitics in the Third World. By focusing on a single country, Brazil, and on a single governmental agency, SEMA, much is left out of the analysis. By adopting a determined level of analysis, combining macropolitical variables with the concrete study of politics within government, important analytical avenues remain also totally or partially unexplored, such as the study of public opinion, voting and political attitudes, or intergovernemntal relations. On the other hand, the universe of issues that deserves to be unfolded is so complex and diversified, and our knowledge of these issues is so meager, particularly in the Third World, that most probably it does not make much difference where we start as long as we get started.

II. DEVELOPMENT PLANNING, POLITICS AND THE ENVIRONMENT

It has been sufficiently emphasized the fact that to understand adequately the inner workings of an ecosocial system it is crucial that we explore the political dimension of these relationships. 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 the recent past of a particular nation. Consequently, we turn our attention now to studying the process of social formation that makes more transparent the prevailing patterns of relationship between humans and nature in Brazil.

Yet, meaningful knowledge cannot become relevant to the everyday concerns of citizens and policymakers without careful scrutiny of the evidence immediately above the ground. Ecopolitics must, in this sense, come closer to ecopolicies. The study of the creation of a specialized agency for environmental matters in Brazil is thus a logical result of what will developed in the first three sections of this chapter. It is also a necessary prelude to a deeper analysis of environmental politics, for a closer focus on how decisions are made may shed light on more general processes.

1. Some preliminaries about 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. In a penetrating analysis of what he calls "the Brazilian dilemma", anthropologist Roberto da Matta has managed to reveal, with an insight unparalleled by any other study of the Brazilian character so far, that authority, hierarchy, violence, and oppression pertain to the society as much as democracy, egalitarianism, and compromise. He writes: "We have in Brazil carnivals and hierarchies, equality and compromise, with the cordiality of an encounter full of smiles giving place, shortly

after, to the terrible violence of the repulsive "do you know to whom you are talking?" And we also have samba [a Brazilian dance of African origin], cachaça [liquor distilled from fermented sugar cane], beach and soccer, but mingled with "relative democracy" and "Brazilian style capitalism", a system where only the workers assume the risks, while, as it is known, they do not realize any profit....And all of this, above anything else, in the name of our undeniable 'democratic vocation'".21/

Despite the apparent difficulty of characterizing the Brazilian social formation, its basic elements are quite straightforward: hierarchy,paternalism, repression, and authoritarianism, alone or combined in different ways. For example, being paternalistic, Brazil is also an extremely formalistic society, where rules and regulations are much more important than facts. Also, in a society at the same time paternalistic and repressive, there is always a "Big Father" to be reverenced, often the personification of the State through a demagogic leader, in contraposition to the depersonalized masses. Above and beyond these elements, however, the most dominant, structural facet of the political development of Brazil has been the presence of patrimonialism, a bureaucratic order that encompasses both public and private dimensions.22/

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 "dominant classes." 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 stand above dominant classes, but it does not enjoy autonomy over society. Conversely, even if the composition of the elite changes, the patrimonial order persists.

As 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 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. Therefore, for the estate patrimonial structure, social formations are mobile points of support.

The process of formation of the Brazilian State also compounds the difficulties to understand reality in that country.

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. The first general-governor of Brazil, Tomé de Souza, arrived in the country in 1549 already with a government structure, laws, rules 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 and political system prevailing in Portugal, and they were to be implemented in a Brazil without Brazilians yet. The Indians, as still today, have never been considered citizens. The Brazilian State was, so to speak, part of Tomé de Souza's luggage. This situation prevailed at least until the 1930s, when, despite some profound changes experienced by the society, the same institutional framework remained in force.

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 civil society has had very little room to organize itself, to form strong channels for interest articulation. The little it may have had has often been co-opted or simply suppressed. On the other hand, political society itself (the Legislative, party system, and electoral processes) has not been able to represent the plurality of interests existing in Brazilian society. In short, to the formation of society and of the State in Brazil corresponds a power structure that is concentrated and exclusionary; an organization of decison-making processes that responds 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 this particular process of social formation seem to be rather obvious. First of all, we should take note of the legalistic tradition of Brazilian politics. The compulsion to have every minuscule aspect of life foreseen, regulated, enshrined in the law is such in Brazil that someone suggested the most effective solution to all of the country's problems would be one single law making all previous ones mandatory.23/ This means also that reality, to be accepted as such, must be first imagined by the legislator. For example, up to the presidencies of Getúlio Vargas (1930-45, 1951-54) 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. Similarly, in a patrimonial order where nothing has value in and of itself, environmental issues assume relevance in the eyes of the State as their functionality to its corporatist policies also increases. Until that happens, this particular

reality simply does not exist. Society, which is used to seeing through the eyes of the State, may not recognize it. Even after its sanctification through the law, there is not any guarantee that it will be adequately addressed, as Brazilian workers discovered long ago.

A second aspect, in fact a corollary of the legalistic tradition, is the quasi worship of everything that is public. This manifests itself in several ways. The most common way was summarized by Raymundo Faoro as follows: "A Brazilian who excels is bound to have lent his collaboration to the State apparatus, not to private enterprise, to business success, or to cultural contributions, in a Confucian ethics of the good servant with an administrative career and a curriculum vitae approved from the top down. Victory in the social world, founded upon the intramundane asceticism of personal, rational, step by step effort, reveals in general contempt, a mediocrity that aim at glory in the style granted to it by Montesquieu". 24/

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, and the results are too well known to deserve further comments here: a tightly controlled society, corruption, and the distribution of privileges. Still, it should 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. It may not even be considered corruption. This should not alarm anyone, since, in many instances, the (in)famous jeitinho brasileiro [the Brazilian fix, sometimes euphemistically referred to as "creative imagination"] may well be a powerful weapon against the discretionary powers of the State.

For ecopolitical purposes, the most important manifestation 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.

2. Ecopolitics in Brazil, from colonial times up until 1964

Even without firm ecological periodization, three important periods stand out in the ecopolitical history of Brazil. The first encompasses the initial two hundred years of colonization, when the roots of agriculture were laid. The second is the time between the second half of the nineteenth century and the first decades of the twentieth, when the agricultural enterprise paved the way for industrialization. The final period, stretching from the 1950s to the late 1970s, witnessed the rapid modernization of the country. Actually, if speculation could run wild--of the kind that Karl Popper once said "makes science possible"--one could indicate, with a good degree of confidence, that the most important ecopolitical phase is yet to come, most probably in the next decade. Ecopolitical historians of the twenty-first century will probably classify the 1990s as "Brazil's time of reckoning."

Ecopolitics of colonial Brazil can be described through one of the most salient environmental dimensions of the patrimonial order: extractivism (vegetal, mineral, and agricultural). From the discovery of Brazil in 1500 until the turn of the eighteenth century, colonization was based on successive cycles of extraction that more or less coincided with the tendencies and fluctuations on the international scene, but that also varied with the ecological cycles in terms of exhaustion. At first, brazilwood and the red dye it produced was the only thing that mattered to Portugal. Brazilwood was followed by other extractive cycles, especially chestnut, cocoa, and rubber. Rubber had more significance than the other two, lasting until the first decades of the twentieth century. Sugar production also had cyclical fluctuations, alternating with cotton, tobacco, and coffee. Livestock activities emerged basically as a response to the needs of the agrarian economy for food and beasts of burden, but it also played a crucial role in the extractive cycle for minerals. Mining started with the discovery of gold in 1695, and of diamonds a little later, and lasted until the end of the 1700s.

The most profound environmental feature of colonial times, one that has left the deepest and most distinctive impression on today's agricultural practices, was the way in which the land, then the most precious natural resource, was appropriated and utilized. The presence of large rural properties can be explained on the basis of land's abundance combined with the patrimonial order. In any event, this type of land concentration usually spells disaster. Socially, it locks peasants and rural workers into a cycle of poverty, with low wages, indebtedness, and servitude. Ecologically, it perpetuates the irrational use of the land, through shift cultivation, and through slash-and-burn techniques that lead to the abandonment of the land after two or three years of cultivation. With land concentration came

monoculture, which violated all principles of ecological wisdom, contributing to soil deterioration and to desertification. Monoculturalism, in its broadest sense, meaning not only agriculture but also economic overspecialization (in mining, in extractive activities, and in manufacturing) is always predatory. It has always been detrimental to the country, economically, politically, and environmentally. Sure enough, as early as 1877 the Northeast suffered its first major drought, which lasted for two years. As late as 1986, the South enters this cycle. Since the very first moments of Brazil's existence, Brazilians have boasted about the immensity of their territory, and the quality of its soil, as attested by the jingoism of Pero Vaz de Caminha, the official registrar of the discovery. But the "big laws" of ecology started to catch up with them, and the ecopolitics of colonial Brazil took its toll.

With independence and the advent of the Brazilian Empire in 1822, the basic character of the economy did not change. Its secular orientation toward external markets helped to maintain and reinforce the binomial relationship between land concentration and monoculture. The political changes that ensued, however, deepened the ideology of "tear down and move on" that still squanders the country's resource base without much concern for the future. State power was consolidated in the hands of the proprietor classes, the sugar producers in the Northeast, and coffee planters in the Southeast. In addition to strengthening the power of the landed oligarchy, several important alterations of the ecopolitical landscape resulted from independence.

Foremost among them, a truly Brazilian bureaucracy was born, to fill the many posts in the governmental structure that had been created to look after the interests of the Portuguese crown when the court was in Rio. The process of independence itself added to the growth and expansion of an already enlarged metropolitan bureaucracy that was clearly disproportionate to the country's economy and population. Paramount also was the creation of the National Guard in 1831, which soon was able to mobilize 200,000 men, in contrast to the 5,000 man professional army of the first years of the empire. The coronel, power broker par excellence, represented the very personification of the patrimonial order and of regionalism as well. His title, still used to name political bosses in the rural areas, derives historically from the rank given to the head of the local regiment of the National Guard, who was the main intermediary between state and federal governments, on one side, and local interests, on the other.

Another major change of the nineteenth century was the abolition of slavery in 1888, a process that started with the traffic in slaves being brought to a halt in 1850. In 1871 freedom was granted to children born to slaves and, in 1885, to slaves over sixty years of age. This was partially brought about

by international pressure, especially from Britain, but it also had indigenous causation. The development of the economy in that period shows that, except for slave owners themselves, everyone else gained from abolition. The increasing costs of slave labor, especially after 1850, its inefficiency, the larger internal market needed by an incipient industrial bourgeoisie, all these elements combined to produce the downfall of slavery in Brazil. As a result of this process one finds European immigration and the beginnings of manufacture. Between 1884 and 1903, over 1.7 million immigrants arrived in Brazil.25/ Most came to substitute for slave labor in the coffee plantations of São Paulo, but many established themselves in the capital, thereby contributing to the expansion of industrial activities.

Most "environmental" concerns during the empire could be subsumed more readily under public health issues. It was one epidemic, for example, that led to the organization in 1857 of the first service for sewage drainage in Rio de Janeiro. When one examines the many regulations issued during that period, especially the Regimento dos Municipios (1828), which organized public life in the municipalities, it is also impressive to note the extent to which the State was authorized to interfere with private businesses. The minute detail on how public officials were to prevent the occurrence of "anything that may alter or deprave the salubrity of the atmosphere" would amaze, and of course enrage, most antiregulation crusaders of today.

Finally, basically as a result of the efforts of André Rebouças, albeit not very successful, there appeared an incipient conservationist movement. Deeply impressed by the creation in 1872 of the first modern national park in the world (Yellowstone in the United States), Rebouças four years later proposed the creation of two national parks in Brazil: one in Ilha do Bananal (in the Central Region), and another in Sete Quedas (in the South). For reasons that are not entirely clear, these pioneering proposals had to wait sixty years to be finally implemented. And for reasons that are well known to all--the construction of the Itaipú Dam in the 1980s--took less than that time to undo Rebouças's dream. Sete Quedas no longer exists.

The empire was brought down by the convergence of two forces, inaugurating the Brazilian Republic in 1889. These were the disaffection of the dominant classes with respect to slavery and the growing influence of the military, particularly after the war against Paraguay. Hence, a new era began in Brazilian politics and economics. Its characteristics were the dominance of the national bourgeoisie, first agrarian and later industrial, but most of the time it was associated with export-oriented commercial interests, and the presence of the military in politics. At the other extreme, stood the majority of the population, mostly rural workers--some of slave origin, others having descended from Portuguese immigrants or from the

miscegenation process--and recent Italian, German, and Japanese immigrants. Also in the lower strata there was already an urban proletariat, mostly of Italian and Spanish origin.

The heavy presence of foreign capital also shaped the formation of the ecopolitical arena in this period ending in 1930: of the 201 corporations authorized to operate between 1899 and 1919, 160 were foreign.26/ Finally, the process of transformation that was taking place in the economy and society of Brazil entailed at least one major ecological change, the growth of cities. One of the consequences of urbanization was the proliferation at the turn of the century of tenements and multiple family dwellings, the forebears of the modern favelas (squatters' settlements), where one may find, today, between three-fifths to two-thirds of the population of a metropolitan region. Another consequence of urbanization was the deterioration of sanitary conditions in the cities. During the empire, as noted above, the great drought of 1877-79 signaled the beginning of the environmental crisis in the rural areas. Likewise, its earliest urban manifestation was the epidemic of yellow fever and bubonic plague in Rio de Janeiro in 1903. The political overtones of environmental problems or, according to the perspective adopted here, the ecological foundations of politics are clearly demonstrated in the bitter dispute that followed Oswaldo Cruz's attempts to solve the problem and establish a sanitary policy for Rio de Janeiro.27/

The three decades from the closing of the "Old Republic" (1889-1930) and the advent of the military regime (1964) represent one of the most interesting periods of Brazilian history. Politically, the installation of the Getúlio Vargas' regime from 1930 up until 1945 represents the downfall of an oligarchy that comprised large landowners, coffee producers and export-oriented commercial interests, and its replacement by a new, populist alliance. Forgers of the populist pact were the rising industrial bourgeoisie, the agrarian elites whose productive activities were oriented toward the internal market, the corporatively organized urban workers, and the "new" middle classes emerging from the growth of the bureaucracy as well as from State induced industrialization. These middle classes distinguished themselves from the old, "parasitic" middle classes through their increasing relationship with the productive structure of the country.

This period also witnessed the strengthening of the industrialists, who after 1964 became the dominant class. Also of importance we should note the early stages of a strong technocracy, based on the multiplication and expansion of both public and private organizations in the decades before 1964. Technocrats were the most articulate members of the "new" middle classes, encompassing lawyers, administrators, managers, health workers, educators, and other occupational groups. Together they

have formed what F. H. Cardoso calls the "bureaucratic rings" that link the interests of foreign and domestic capitalists with those of these specialized, highly trained technicians.28/ These rings, which operate through the management levels of State enterprises, private corporations, and the governmental bureaucracy, played a leading role in the presidency of Juscelino Kubitschek (1955-61) and especially thereafter, creating new channels for interest articulation beyond political party structures, as well as new forms of clientelism.

In economic terms, these three decades embodied dramatic alterations in the productive structure of the country.29/ During the years 1940-61, the gross national product increased 232 percent, per capita product rose 86 percent, and industrial production climbed 683 percent. This was also a period in which major efforts were made toward integration of the national territory, especially through construction of highways. Between 1928 and 55, railways increased only 10 percent, to 37,000 km (23,000 mi), whereas highways more than tripled, reaching a total of 460,000 km (290,000 mi). Especially after 1955, industrial expansion centered on the automotive industry, with the production of cars reaching 35,000 (a fifteenfold increase) in 1962, while trucks and buses totaled 30,000 (a rise of 150 percent). The presence of the State in the economy, if not yet as spectacular as during the military regime, was already considerable. State participation in total expenditures rose from 17.1 percent in 1947 to 23.9 percent in 1960. The public sector was responsible for 28.2 percent of the total investment, or the gross capital formation of the country, in 1956, a proportion that jumped to 48.3 percent in 1960 and to 60 percent in 1964.

This last characteristic of the period, State interventionism, had a twofold impact on ecopolitics in Brazil. Natural resources became an important governmental priority, and there was a persistent move toward nationalization. Heavy exploitation also began, resulting in depletion of the resource base. Several public organizations, either agencies or enterprises, came to oversee or promote, under state monopolies, the exploration of natural resources. Similarly, important initiatives were taking place in legislation, such as the promulgation of several codes: Waters, Mining and Forestry Codes, all in 1934; the Fishing Code, in 1938; and the Hunting Code, in 1943. Governmental structure also became an object of change. For example, in the early 1960s the municipal governments of Santo André, São Bernardo do Campo, and São Caetano do Sul, in the so-called ABC Paulista--the heart of the automotive industry in São Paulo--founded the Intermunicipal Commission for Water and Air Pollution Control (CCPAA). This became the embryo of today's State Company of Environmental Sanitation Technology (CETESB), which is considered to be the largest and best equipped environmental control agency in Latin America. In Rio de Janeiro, the Sanitary Engineering Institute (IES) was created in 1962,

later becoming the State Foundation of Environmental Engineering (FEEMA).

Insofar as conservation is concerned, the First Brazilian Conference for the Protection of Nature, which took place in in 1934 in Rio de Janeiro, marks a new era of awareness. Of the thirty-eight national parks and biological reserves that exist today, half were established between 1937 and 1961, comprising over one million hectares of protected land, flora and fauna. Roughly eleven of the sixty-nine state parks and biological reserves were also created before 1964, with close to 900,000 hectares. This brings the total of officially protected area in this period to close to one-fourth of one percent of Brazil's total area, which is still one of the lowest indices of any nation in the world.30/ Finally, community organizations also emerged around environmental issues. Among the most active organizations in the 1930-64 period were the Associação Rio Grandense de Proteção aos Animais (ARPA, 1951, protection of fauna), the Associação de Defesa do Meio Ambiente (ADEMA, 1955, environmental protection and conservation), and the Fundação Brasileira para Conservação da Natureza (FBCN, 1958, environmental protection and conservation).

3. Developmentalism and megalomania: Brazil under military rule

The crisis of the political system in 1964 represents the culmination of a process through which successive attempts had been made to solve the crisis of oligarchic domination that went back to the collapse of the Old Republic in 1930. Neither populism (Vargas 1930-45) nor developmentalism (Kubitschek, 1956-61), much less reformism (Goulart, 1961-64), seemed to have worked. Faced with the choice of deepening the incorporation of new social groups into the general process of economic growth, or accelerating the modernization of the most dynamic sectors of the economy, the Brazilian elite opted for the latter. That would, of course, hasten the associated and dependent character of the incorporation of Brazil into the international economic order. But the transformation of Brazil into a "world power," according to the ideology of the military regime, was well worth its social costs. The same applied to the political costs of marginalizing from public life the popular sectors of society, depriving an entire generation of its political citizenship. Environmentally, the costs would also prove to be great as well.

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.

The 1964-82 period may go into history as a time of stirring up the "dormant giant" mentioned in the national anthem. Brazilians manifest a tendency to favor grandiose schemes; they have the biggest football stadium in the world, the largest (urban) tunnel in the world, the largest (intercity) bridge in the world, and a series of "wonders" that are called the biggest even when they are not. Such grandiose self-perceptions do not, of course, automatically require the bureaucratic-authoritarian pact to be wasteful, but they characterize a culture where waste was almost inevitable. The differences between countries like Argentina and Chile, where the technobureaucracy allied itself with merchant capital, and Brazil, where the alliance was forged with industrial capital, are big enough to do without much explanation. In the first case, deindustrialization took place, as did absolute squandering of natural resources in the broadest sense--human, material, financial, and ecological. In the other case, industrialization and modernization ensued, even if with doses of prodigality that most Texans and Soviet bureaucrats would envy. Still, when the new alliance occurred under the Brazilian banner of "national security," then industrialization was bound to be sprinkled with monuments to human grandeur.

These works cannot be dismissed as a mere "tendency to exaggerate or imagine things big," as is the definition of megalomania. They are instead quite real and, above all, ecologically and financially costly. The first manifestation of this emerging "world-power" complex was, undoubtedly, the Transamazon highway, which was supposed to run for 4,300 kilometers (2,600 miles) and to consolidate the integration of the national territory. It drew worldwide attention as it accelerated the assault on one of the few tropical forests left on earth, and it lead to what became known as "the genocidal policies" against Indian populations.31/ Located at the eastern border of the forest, in the states of Pará and Maranhão, is the largest mineral deposit in the world (here we go, again!) in an area of 780,000 km2 (300,000 mi2), or the equivalent of Texas and New England combined. There one finds the latest and most ambitious venture of the regime, the Carajás Project. Over $60 billion is expected to be invested and, if all goes well, the project will generate around $18 billion in exports by the 1990s (especially of iron ore, bauxite, manganese, and nickel). To meet the energy needs of Carajás stands the environmentally controversial Tucuruí hydro station, with a price tag of $5 billion to generate 8,000 megawatts of electricity.

Near the southern border with Paraguay Itaipú, the largest hydroelectric project in the world, was built, at a time when

Brazil was already approaching surplus production of electricity. When Itaipú is fully operational it will have cost $16 billion to produce 12,600 megawatts, or 20 percent more electricity than the the projected capacity of the U.S. Grand Coulee Dam, the largest in the world today. In the meantime, Itaipú has destroyed the Sete Quedas Falls, inundated farmland and natural sanctuaries, and evicted thousands of families.

The energy orgy was completed through the Brazil/West Germany Nuclear Treaty of 1975, which called for the construction of eight power plants, at a cost of over $30 billion.A Westinghouse- built nuclear plant, contracted before the German deal, was to come on line in 1977, but it has managed only trial runs by 1983. Incidentally, this plant was built on one of the worst-proven ecological sites, whose indian name (Itaorna) means "rotten rock." In addition to that, the plant stands in the middle of a string of world-famous beaches between Rio and São Paulo, barely 90 miles and 150 miles from the two most populous concentrations of Brazilians. In short, it has already cost several times more than originally anticipated, due to a fact known for centuries to indians; it may hurt tourism; and it poses a serious threat to over 25 million persons, as it does to the flora and fauna of the region. On top of everything else, it was built also in the South, which adds to making Itaipú's contribution of energy even more surplus. As a matter of fact, the Angra dos Reis nuclear power plant has had so many problems, with short periods of work followed by longer shutdowns, that people call it "firefly," evidencing the Brazilians' sense of humor amidst a tragedy of planning that must be also one of the largest in the world.

Also indicative of technocratic rationality at its most questionable is the Pro-Alcohol Program, designed to find a national substitute for imported oil. Many consider it to be a success, for its yearly production of over 10 billion liters (over 2.5 billion gallons) allows for a 20 percent mixture of alcohol with gasoline. Furthermore, over a third of the national car fleet runs exclusively on alcohol. On the other hand, Brazilian environmentalists cogently ask whether the alcohol program is worth the ecological costs. It is undoubtedly true that Pro-Alcohol represents a sounder strategy for energy problems in general, i.e., the development of renewable sources. However, only 6 to 8 percent of Brazilians own an automobile, and creating a renewable energy source for them comes at the cost of displacing essential food crops for all citizens through extensive plantations of sugar cane. Similarly, the 10 billion liters of alcohol produced each year represent 100 to 120 billion liters of <u>vinhoto</u>, a waste product. In these quantities this effluent has a toxicity equivalent to the sewage of 280 to 340 million persons in terms of BOD, or biochemical oxygen demand, a commonly used measure of water pollution. In other words the yearly production of alcohol is equivalent to the pollution

generated annually by the untreated sewage of two to three times the entire population of Brazil.

The list of "accomplishments" of the military regime could grow longer, but the point, however, is not simply the grandiosity of Itaipú and other projects. There can be no doubt that it is much better to spend money in this fashion, on an infrastructure that will be put to use in the future, than to put it in Swiss bank accounts, as did the Argentine generals and Mexican power brokers.32/ Above all else, however, what must be noted in the case of Brazil is that all of this took place in less than ten years. There is simply no other example, in the history of capitalism, of one country's developing so many and such diversified projects all at once. But this also means that a massive debt developed in less than one generation will have to be paid back by several generations to come.

Many of these projects make sense in purely economic terms. It is undoubtedly clever to spend cruzados every time a car stops at the "gas" pump than having to spend hard-earned dollars. But do these projects make genuine sense in a country that has the highest concentration of income among thirty-two major capitalist countries? Or do they make sense in a country that has the highest rates of infant mortality, malnutrition, and parasitic diseases among nations with a comparable level of per capita income?33/ Notwithstanding the severe "social" costs of megalomania, "costs" that are in fact an euphemism for misery and starvation, ecological and environmental costs must also be brought into the picture. There has been extensive destruction of nature, with irreparable loss of fauna and flora, and increasing levels of pollution. Even more important, the impacts of all these projects in the squandering of natural resources have yet to be accounted for. The process of desertification of the Amazon is but one manifestation of this type of accountability, and probably not the worst. The monoculturalism of Pro-Alcohol, the lake formed by Itaipú, the exploitation of mineral reserves at Carajás--all represent a direct toll on Brazil's natural resource base. The financial resources needed for their development must be paid back, which in turn creates a need to earn dollars, which means more exports, which means intensified exploration of already overexploited resources.

As this process continues on and on, one may fully appreciate the extent of Brazil's social and environmental mortgage. It was a nationalistic Olavo Bilac who asserted: "Não verás País como este!" ["you will not see a country such as this one!"]. Every Brazilian child is taught to appreciate Bilac's description of the country's riches, which has helped to fuel Brazilian jingoism for over a century. In years to come we may see the day when his exhortation is substituted by the title of a recent novel: Não verás País Nenhum! [You will see no country at all!].34/ Finally, insofar as ecopolitics goes, it should be

pointed out that in none of the projects mentioned so far have Brazilian citizens as a whole been called upon to decide these issues. The ecopolitical side of Brazilian politics during the military regime is thus best portrayed in tragedy or in farce, in the anecdotes of powerless Brazilians about nuclear "fireflies," or electricity being dumped into already short-circuited Paraguay, or the Transnowhere Highway that connects "nowhere" to "no place," and only does this during the dry season. In the land of "the largest," above and beyond anecdotes, stands Cubatão, considered one of the most polluted cities on earth today.

The social and political dilemmas of Brazil are environmentally compounded, in short, by what has been recently emphasized: too much, on too many fronts, in too little time. It may indeed be said that one of Brazil's major ecopolitical problems derives precisely from what may be called the "superimposition of history," i.e., the fact that Brazilian economic growth and social differentiation finds no parallel in the historical development of the now industrialized societies. This superimposition of history may be interpreted in a positive way, if we consider that in its process of rapid economic growth Brazil has never had to face environmental conditions as harsh as those of Great Britain during the nineteenth century. This applies even to the most depressed areas on the periphery of the urban centers. On the other hand, if Brazil has not had a "situational" Liverpool, it has had a "structural" Cubatão in the industrial heart of São Paulo. Conversely, Brazil has not yet solved basic sanitation and public health problems, and already the country displays extreme cases of environmental degradation.

Consequently, when one looks at the 1960s and 1970s, the official ideology clarifies the relation between ecology and development in Brazil. After all, most of the institutional structure to deal with resource management and environmental protection was set in motion in this period. This was also the period in which the bulk of Brazilian environmental legislation was enacted. Nonetheless, even the most outspoken environmentalist must agree that Brazil's ennvironmental problems cannot be blamed on the lack of legal statutes. Developmentalist ideology has been so effectively ingrained in Brazilian politics that even those who were supposedly on the other side of the fence have fallen prey to it. Seldom if ever would environmental protection agencies adopt an adversary stand in public policy. The most complete expression of their naiveté was their widely proclaimed slogan of "development with low ecological cost." This euphemism is so powerful that many bureaucrats who proclaim to be environmentally conscious do not even perceive the ideological overtones of the message.35/

Lest no one miss the point, it should be made crystal clear that there is no suggestion here that, in order to explore natural resources rationally or to protect the environment, one

must be antidevelopment either. We must recognize the conflictive--yet, not necessarily antagonistic--relationship between environment and development. To expect that entrepreneurs, in a dependent capitalist economy, will take environmental "costs" into account is as naive and Pollyannaish as to expect that they will protect the interests of labor. Again, labor unions are the last to assume a stand against development, for in fact they share the interests of businessmen in economic growth. But, if labor had advocated "development with low human cost"--or other stupidities like "labor-impact assessment," for that matter--it would be now in a worse situation than it actually is.

Several important ecopolitical implications derive from the military regime. Some of these will no doubt strongly influence the prospects for democracy in the near future, such as the emerging industrial-military complex 36/ and the polarization of social differences between classes and groups. The combination also of some of the elements of the "new" authoritarianism (demobilization of society, internationalization of the economy, and technocratism), all shaped ecopolicies in Brazil. Policies came to be formulated and implemented in an autocratic way. The disproportionate importance given to pollution control over the management of natural resources constitutes just one of several examples. But the synergistic effect of these also poses serious questions for ecopolitics in the future. With the return to civilian rule and the expected reorganization of society, there is absolutely no guarantee that a new brand of corporatism will not emerge. If so, environmental problems could still be treated separately, on an emergency basis, and according to the narrowly defined interests of each social class or economic group.

Garrett Hardin and William Ophuls, for example, appear to believe that the current rationality guiding the use of common resources could lead to authoritarian societal organizations, and that this might be the only way to enhance our chances for overcoming the environmental crisis and surviving the ecological transition. I believe, however, that the 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 inherent inability to conciliate the interests of each sector into a genuine "national" program, that may truly underscore the "tragedy" of the commons.

4. The creation of the Special Secretariat for the Environment

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 real relations that are already in place.37/ Bearing Engels in mind, we turn to a little known, almost unnoticed fact of Brazilian ecopolitical history, that is, the very situation, almost fortuitous, that allowed SEMA to come into being.

In the late 1960s Congress was suggesting the need for a national environmental policy. The year 1967 opened with the establishment of a National Sanitation Policy. In that same year the National Council for Environmental Pollution Control was created in the Health Ministry. All Brazilian states had at least one agency closely related to pollution abatement. General João Baptista Figueiredo, secretary-general of the National Security Council, and later president of Brazil, called attention in 1971 to the need for a national policy of pollution control to be formulated by the federal government.38/ The Declaration of United Nations Conference on the Human Environment, held in Stockholm in 1972, also called for the creation of a specialized agency. In short, the time was ripe for SEMA. Or as North American politicians are fond of saying, environmental management was "an idea whose time had come." Despite that, over a year had gone by since Stockholm and the government did not seem to be in any hurry.

The opportunity came in the form of stench. Fortunately enough, 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 [a document that usually accompanies a piece of legislation, containing the justification for a particular policy] 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 Garrastazú Médici in October 1973, Brazil gained a new agency, the Secretaria Especial do Meio Ambiente, under the coordination of the interior minister (in 1896 SEMA was transferred to the new Ministry of Urban Development). 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 strong influence on the perceived missions of its bureaucrats.39/ An agency that has resulted, for example, 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 broader issues that may enlarge its clientele, thereby jeopardizing the original interests. Therefore, because we have analyzed the ecopolitical foundations of SEMA in the Brazilian social formation, it seemed appropriate to reveal the most intimate moments of SEMA's birth. SEMA was created in response to an instance of environmental pollution, 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 environmental policies 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 at 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 that also reflects the ruling alliance installed after 1964 is the technocratic orientation 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 was proposed as a "solution" the creation of yet another organization. Worse, an agency that worked according to the dominant precepts of technobureaucratic behavior could not possibly be expected to get other agencies to cooperate. Being a second-class secretariat of a regular 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 set up and 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 Brazilian government was able to depoliticize environmental issues, reducing them to a question of technical, or technobureaucratic, expertise.

Necessarily, these are some of the ecopolitical implications of the alliance forged after 1964. They all refer to structural characteristics of Brazilian society that cannot be done away by a regime change, not even by the "redemocratization" of the 1980s. Therefore, observers must be temperate in their criticism of SEMA's role in managing the environment. To be sure, current practices reinforce the dominant ideology, and SEMA is liable for most of these. Nevertheless, the most important characteristics of ecopolitics in Brazil go beyond specific administrations; they have been unfolding through a much longer process. The advent of the military regime, it should be stated once more, simply enhanced already latent values, beliefs, and practices of the leadership cadres in Brazil.

5. Development plans and the environment, a summary review

Most countries of Latin America started to pay closer attention to planning activities immediately after, and in part because of, the 1929 crisis. In the case of Brazil, planning began to be taken seriously during the Getúlio Vargas era.40/ The growth of State functions called for the existence of well-trained, professional bureaucrats. As part of the efforts to reform the administrative apparatus of the State, Vargas formed the Administrative Department of the Public Service (DASP) in 1938. One year later there appeared the Special Plan of Public Works and Equipment of National Defense, whose main objectives were to foster the creation of basic industries and to improve the infrastructure of transport.

This is the period in which key planning institutions, such as the National Bank for Economic Development (BNDE), came into being. This was also the time when attention began to focus on the natural resources of the country, with the establishment of a multitude of public organizations to control, promote, or otherwise regulate the exploration for them. The National Department of Mineral Production (DNPM), the Vale do Rio Doce Company (CVRD), and the Brazilian Oil Company (PETROBRAS) are just few examples of dozens of state enterprises or agencies that appeared during the 1940s and 1950s.

The military regime installed in 1964 was to inaugurate a period of profound changes, and the institutional aspects of national planning received more attention than ever. In 1967 the Extraordinary Ministry for Planning created by Goulart became the (permanent) Ministry of Planning and General Coordination--what today is the Planning Secretariat of the Presidency of the Republic. Since then those who have occupied this post have been traditionally the most powerful members of the cabinet, enjoying political clout equivalent to that of a prime minister in parliamentary regimes. The obligation to carry out planning

activities for social and economic development became enshrined at the highest institutional level, the Constitution of Brazil.

It is not the case here to analyze the (environmental) results of the multitude of development plans. Nevertheless, just as Brazil's environmental problems cannot be blamed on a lack of legislation, so they cannot be blamed on a lack of planning either. What seems to be missing is relevance, planning that is detailed and "appropriate." Considering that emphasis must be placed on the culture of bureaucracies as perceived by the actors involved, rather than one derived from some arbitrary order imposed by the observer, we should turn our attention to the perceptions of environmental officials. The overriding conclusion that comes out of various interviews at the highest levels of environmental decision-making is one of frustration with the job that SEMA has been able to perform in this area.

Insofar as the planning process is concerned, one generalized perception is that the culture of development planning in Brazil was, and still is, largely dominated by macroeconomic criteria. Development plans at the national as well as at the regional levels consistently fail to incorporate any environmental dimension, much less one that might be deemed more or less appropriate. This is believed to be the case not only because of lack of understanding or sensitiveness to environmental issues on the part of economists who hold power positions in the planning structure; there also seems to be consensus that so long as development plans are prepared according to the concepts and techniques of economics, no one should expect better results. The dominant technobureaucratic ideology of "privatization" of national resources only compounds the difficulties.

The institutional structure for planning is also held to be an obstacle to the incorporation of the environmental dimension into development plans. Located in one sectorial ministry, and having to compete for the allocation of resources on a sectorial basis, SEMA has repeatedly failed to influence the planning cultures of other ministries, and particularly that of the Planning Secretariat itself. Government officials often mentioned that every major public enterprise or project in Brazil already has an environmental unit. Yet, these units have played a minor, almost cosmetic role. Never have major revisions been promoted or projected because of their work. The environmental legislation requires that an impact assessment of large-scale projects be undertaken. The potential incentive for internal compliance is high, for the government is supposed to withhold the disbursement of resources until this requirement is met. Again, the law is uniformly ignored, and yet nobody has been punished so far.

Finally, plans themselves are cited as indicators of the disappointing performance of SEMA. Most assessments regarding

SEMA's contribution to the several national and regional plans underline the fact that SEMA has never exerted any influence whatsoever. Some officials add that SEMA could not have done so, even if it had been "granted" the opportunity. SEMA lacks the necessary human and material resources to tackle the task of harmonizing sectorial programs and environmental criteria.

In short, no matter how one looks at it, the conclusion seems to be the same. The ecological and environmental realities of Brazil have not made their way into planning yet. As the opening quotation to this paper indicates, Brazilian leaders have defined the situation as one where destiny "imposes" development, tearing down, moving on. The country is seen as big enough to heal itself, and this makes business as usual possible. Ironically, at Stockholm the Brazilian government passionately advocated that environment and development be tightly connected. But more than a decade after Stockholm, Brazilian government authorities have still decided not to realize in their own country what sermonized to the world. The situation described here assumes bleak overtones once additional elements are considered. The context of environmental problems, or the "agenda" of public policies in this area, adds to the complexity of policy formation and implementation. The multitude of actors involved in policy-making also renders environmental problems almost intractable in Brazil.

III. CONCLUDING REMARKS: THE BUREAUCRATIC POLITICS OF ENVIRONMENTAL POLICY FORMATION

At stake in ecopolicies is much more than the simple arrangement of public actions in one area. It is the concept of development itself that is being called into question. Indeed, ecopolicies that go beyond pollution control and abatement, important as these two dimensions certainly are, will often imply redefining, or at least redirecting, the process of development. On the other hand, because we cannot deal with all problems at once, we are forced to choose particular areas or problems for concentrated 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 the application of what 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.41/ Finally, another important characteristic of public actions in this area derives from the impossibility of directly measuring their results for society as a whole. Likewise, ecopolicies are hardly amenable to the individualization of results. How can one measure the benefits of the conservation of natural resources for generations not yet born? What is one person's share of improved water quality, or an atmosphere free of pollutants?

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 conflictive, unsympathetic, bothersome. Environmental policies stand out from other public policies by being "the spoiler." Traditional policies such as those carried out in agriculture, in education, in public health, or in social welfare, 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."

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 the implementation 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. Fiscal policies are also seen as powerful mechanisms to foster an egalitarian distribution of resources, so most people abide by them. With environmental policies the opposite takes place. Even though the survival of the species could exert a strong coercive influence, the advocates of ecopolicies shy away from intimidation. Their legitimacy is usually founded on the need to harmonize disparate wants with the carrying capacity of life-support systems.

We thus arrive at the core of the dilemma faced by policymakers formulating and struggling to implement environmental policies today. Their stand must be adversarial, almost by definition; yet decision makers are compelled to exercise persuasion, inducement, and convincement. Not surprisingly, it requires much more political will to break the inertia of ecopolicies than it does in other areas of public action. For the same reasons, it takes much less political clout on the other side to reach a situation of virtual stalemate, to immobilize environmentally oriented programs and activities. The crucial question, then, turns out to be whether this conflict is being well administered or not.

We have seen sufficient indications that the intrinsic tensions of ecopolicies have not been well administered in Brazil. Quite the contrary, the way in which Brazil is governed only aggravates the conflicts, and it postpones their resolution as well. First of all, 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, not to mention in the Third World in general. On one side there is a strong group of business people, developers, industrialists, multinational corporations, all of whom benefit greatly from accelerated economic growth. On the other side is a loosely related group of conservationists, community-based organizations, experts, and persons directly affected 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.42/ 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. State agents set the stage for mediation, but they themselves unilaterally set the limits of such negotiation. These limits 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 security interests that are defined militarily. Furthermore, rapid economic growth have high priority over conservation. On top of that, the corporate elite and the technobureaucracy share an ideological orientation toward the private allocation of natural resources regarding the Brazilian "commons." As can be readily inferred, this is clearly a no-win type of war.

The situation is not, of course, as bad as it looks. Actually, it is much worse! One may argue, not without reason, that in a situation such as Brazil--a statist society embedded in a patrimonial order--most of the conflicts, as well as any possible negotiations, occur within the governing elite rather than through independent political actors. The sheer number of actors inside each segment of the governmental bureaucracy effectively precludes attempts at interorganizational cooperation.43/ The Secretariat for Modernization and Administrative Reform (SEMOR), an agency until mid-1986 subordinated to the planning minister (and since transferred to the Ministry of Administration), once set out to determine how many organizations at only the federal level were involved in environmental matters.44/ 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, when 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. This means that for any given problem or issue, SEMA would have to negotiate with at least several agencies in every one of the twenty-five or so ministries.45/

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.46/ 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.

Examples of Miles' Law in Brazil are easily found. Typical of the failure to consider the logic of bureaucratic behavior are housing policies in which the most important policy mechanism is a financial institution. Fully to appreciate the degree to which these policies are bound to fail, one must remember why they come into being in the first place. If market mechanisms alone were able to satisfy the demands of a population who cannot afford to buy homes, there would not have been a need for a specific policy in this area. This should mean that, once the intervention of the State becomes inevitable, a different sort of rationality would prevail, one in which the "social" objectives would have primacy over the "financial." What happens, then, when the National Housing Bank is chosen as the primary instrument to implement such policy? The answer is straightforward: a nonhousing policy.

The assumption is that a bank is run by bankers, and a banker who is not able to invest a bank's resources so as to earn an acceptable rate of return is simply not a good banker. Such a person would be considered an incompetent, a bad professional, even though his or her actions may be informed by the highest social values. The result is that little by little the initial objectives of the policy begin to fade away. New resources begin to be oriented toward middle-income and upper-income individuals who can guarantee the overall financial soundness of the system. When society starts to demand a return to the original goals, the system faces the prospects of going "bankrupt." This is precisely what happened in Brazil, but the example can be generalized. Some would argue that the above description simplifies the problem too much, and that several variables contribute to repeated failure in those areas. They are right. Nevertheless, what must be stressed here is that aspects such as the ones just mentioned are equally crucial to explain the failure of policies that require a bureaucratic organization for their implementation.

This brief vignette of bureaucracy at work 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 top executive officials accept to be the case.47/ 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 such as 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. If this were not self-explanatory, one would need only to examine the reasons that agrarian reforms are the oldest rhetorical policies in Latin America. It also explains why sweeping agrarian reform is never implemented. For the same reasons, decisions involving antagonistic interests that can be postponed will be postponed indefinitely.48/

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. They knew this long before SEMA came into being, and it would take much more than a single agency to change this state of affairs. 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 <u>any</u> cost, social or environmental.

Brazilian elites, particularly technocrats, have also learned the lessons of coping with innovations. Environmental problems are fairly recent or, better said, their recognition is indeed of a recent date. 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."49/ 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 employed 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 for a couple

of works to be built and, 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 SEMA is in place, busily tilting against its windmills, there comes the phase of "selective inattention." In other words, SEMA must be in a bus stop where the bus of power does not stop. Does the law require that SEMA participate in activities related to science and technology? Well, we may include a SEMA representative on an interagency committee, because, after all, we do not expect results to come out of committee work anyway.50/ 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 with 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. There is no conspiracy theory at work here. This brand of bureaucratic conservatism develops out of the synergistic effect of particularistic interests. The individual, group, or class is able to establish a connection between these interests and the (inertial) interests of the social system as a whole. 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.

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 SEMA and environmental policies in Brazil, it is not merely a coincidence.

Notes

1/ 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.

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

3/ 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). In his words, "The basic political problem is the survival of the community; two of the basic political tasks are the provision of food and other biological necessities, and the establishment of conditions favorable for reproduction. Neither of these can be accomplished except in the human household provided by nature, and in this sense politics must rest on an ecological foundation" (p. 7). A most lucid and provocative essay on scarcity and political power is J. Barnet, The lean years: Politics in the age of scarcity (New York: Simon and Schuster, 1981).

4/ This has been expressed in the forceful words of C.S. Lewis, in his splendid The abolition of Man (New York: MacMillan Company, 1944): "what we call Man's power over Nature turns out to be a power exercised by some men over other men, with Nature as its instrument."

5/ 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.

6/ See Paul R. Ehrlich, Anee H. Ehrlich, and John P. Holdren, Ecoscience: Population, resources, environment, 3d ed. (San Francisco: W. H. Freeman, 1977), p. 391.

7/ Edward J. Kormondy, Concepts of ecology, 2d ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1976), p. 191.

8/ Norman Myers, "Introduction," in Gaia: An atlas of planet management, ed N. Myers (Garden City, N.Y.: Anchor Books/Doubleday, 1984), p. 20

9/ For the following comments see John W. Bennett, The ecological transition: Cultural anthropology and human adaptation (New York: Pergamon Press, 1976).

10/ Ophuls, Ecology and the politics of scarcity, p. 145.

11/ See André Gorz, Ecology as politics (Boston: South End Press, 1980) and also Michel Bosquet (A. Gorz), Ecología y libertad: Técnica, técnicos y lucha de clases (Barcelona: Editorial Gustavo Gili, 1979).

12/ See, for instance, Howard L. Parsons, Marx and Engels on Ecology (Westport, Conn.: Greenwood Press, 1977), and also Marshall I. Goldman, The spoils of progress: environmental pollution in the Soviet Union (Cambridge.: The M.I.T. Press, 1972).

13/ In Barnet's words, "the contemporary apostles of abundance through mastery of Nature are as likely to be found at the Chamber of Commerce as at the Central Committe of the Soviet Comunist Party" (The lean years, p. 299). See, for instance, Rudolf Bahro, The alternative: Towards a critique of real exististing socialism (London: New Left Books, 1979). See also two excellent recent accounts of the environmental crisis in the socialist states: Boris Komarov, The destruction of nature in the Soviet Union (White Plains, N.Y.: M. E. Sharpe, 1980), and Vaclav Smil, The bad earth: Environmental degradation in China (Armonk, N.Y.: M. E. Sharpe, 1984).

14/ Considering the limitiations of space here, refer to Guimarães, "Ecopolitics in the Third World," pp. 85-113.

15/ See Garrett Hardin, "The tragedy of the commons," Science 162 (13 December 1968):1243-48, reprinted in Hardin, Exploring new ethics for survival: The voyage of the spaceship Beagle (New York: The Viking Press, 1972), pp. 250-64.

16/ Ibid., p. 254. For the emphasis on the tragedy of the situation, see his "Second thoughts on 'the tragedy of the commons,'" in Economics, ecology, ethics: Essays toward a steady-state economy, ed. Herman E. Daly (San Francisco: W. H. Freeman, 1980), pp. 115-20.

17/ Hardin, "The tragedy of the commons," p. 256.

18/ See, among others, Mancur Olson, Jr., The logic of collective action (Cambridge: Harvard University Press, 1965); Anatol Rapoport and Albert M. Chammah, Prisoner's dilemma (Ann Arbor: University of Michigan Press, 1965); and Russell Hardin, Collective action (Baltimore: The Johns Hopkins University Press, 1982).

19/ Acid rain, for example, which is usually associated with high levels of industrial activity, has been reported in large portions of Brazil, India, Southeast Asia, and China ("Acid Rain Threathens Southern Hemisphere," World Environment Report, 25 January 1985). Another example is the worsening of air quality in Third World cities (see, among others, "Malaysian Environment Not a Pretty Picture," World Environment Report, 15 August 1983, and Maria L. Durando and Sergio R. Aragon, "Atmospheric Lead in Downtown Guatemala City," Environmental Science and Technology 16 [January 1982]:20-23). Finally one could cite the death of over 500 people in Iraq in late 1971 and early 1972 due to the consumption of grain treated by fungicides containing mercury (United Nations Environment Programme, The state of the environment: Selected topics [Nairobi, Kenya: UNEP, 1980]).

20/ For example, there are more bird species in Sangay National Park in Ecuador than in all of North America. And one single reserve in the Choco region of Colombia may preserve more plant species than all that have ever been preserved in the

United States. Spencer B. Beebe and Peter W. Stroh, "The International program: A progress report," Nature Conservancy News, no. 36 (January-March 1986), pp. 4-6.

21/ Roberto da Matta, Carnavais, malandros e heróis: Para uma sociologia do dilema brasileiro, 3d ed. (Rio de Janeiro: Zahar Editores, 1980), p. 14.

22/ According to Raymundo Faoro, Os donos do poder: Formação do patronato político brasileiro, 2 vols., 4th ed. (Porto Alegre: Editora 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." See also, for the same subject, James Lang, Portuguese Brazil: The King's plantation (New York: Academic Press, 1979); and Fernando Uricochea, The patrimonial foundations of the Brazilian bureaucracy (Berkeley: University of California Press, 1980).

23/ 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.

24/ Faoro, Os donos do poder, p. 743. Joaquim Nabuco, a leading abolitionist and an influencial politician during the Empire, referred to public service, in his O abolicionismo (São Paulo: Instituto Progresso Editorial, 1949), as "a noble profession, and the vocation of all. Take, at random, twenty or thirty Brazilians in any place where educated society meets: all of them either had been, are or will be public employees; if not they, their children will be" (p. 158).

25/ Edições Veja, Almanaque Abril'86 (São Paulo: Editora Abril, 1986), p. 210.

26/ Robert Wesson and David Fleischer, Brazil in transition (New York: Praeger Publishers, 1983), p. 9.

27/ See, in this respect, Nancy Stepan, Beginning of Brazilian science: Oswaldo Cruz, medical research and policy, 1890-1920 (New York: Science History Publications, 1976), pp. 84-91. For a comprehensive analysis of public health issues during this period, refer to Luiz A. de Castro Santos, "Estado e saúde pública no Brasil, 1889-1930," Dados 23 (May-August 1980):237-50, and "O pensamento sanitarista na Primeira República: Uma ideologia de construção da nacionalidade," Dados 28 (May-August 1985):193-210.

28/ See Fernando H. Cardoso, Autoritarismo e democratização (Rio de Janeiro: Editora Paz e Terra, 1975).

29/ The following comments are based on L. C. Bresser Pereira, Desenvolvimento e crise no Brasil, 1930-1983, 14th. ed. (São Paulo: Editora Brasiliense, 1985), and also on Paul Singer,

"Interpretación de Brasil: Una experiencia histórica de Desarrollo," Revista Interamericana de Planificación, no. 65 (September-December 1982), pp. 49-85.

30/ Since then, this figure has been multiplied by six, adding up to 1.5 percent of the Brazilian territory, still a very low figure. 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 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 is 60 percent of its territory. Guimarães, "Ecopolitics in the Third World.", pp. 192, 328-29.

31/ See, among many others, Shelton H. Davis, Victims of the miracle: Development and the Indians of Brazil (New York: Cambridge University Press, 1977).

32/ According to a monthly bulletin of the Morgan Trust Company, 13 percent of the Brazilian external debt can be attributed to capital flight. Similarly, taking into account the weight of national capital invested outside the country, Argentina's external debt would not be the actual $50 billion but only $1 billion. Mexico would probably owe $13 billion instead of $100 billion. Still according to the Morgan estimates, Brazil would be the country that has best invested resources borrowed from abroad. Cited by "Boletim falava da evasão de divisas," Jornal do Brasil, 23 May 1986, p. 15.

33/ Peter T. Knight and Ricardo Moran, Brazil: Poverty and basic needs series (Washington, D.C.: World Bank, 1981).

34/ Ignácio de Loyola Brandão, Não verás País nenhum (São Paulo: Global Editora, 1981).

35/ This slogan was devised at FEEMA, the state environmental control agency of Rio de Janeiro, but has been adopted in most governmental circles, especially by speech writers.

36/ Comprehensive analyses of this phenomena are still lacking. For a recent attempt to identify the many implications of the industrial-military complex, refer to Clóvis Brigagão, A militarização da sociedade (Rio de Janeiro: Jorge Zahar Editor, 1985), and also to René A. Dreifuss and Otávio 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: Editora Brasiliense, 1983), pp. 87-117.

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

38/ Figueiredo made this reccomendation in the context of the NSC review of the Itamaraty (Brazilian Ministry of Foreign Relations) position paper regarding environmental matters, a document that was to be used as the basis for the Brazilian participation in the United Nations Conference on the Human Environment, held at Stockholm, in June 1972. For more detail see 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, Brasil, Ministério das Relações Exeriores (Itamaraty), Conferencia das Nações Unidas sobre o meio ambiente: O Brasil e a preparação da conferencia de Estocolmo (Brasília, 1972)

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

40/ One of the best studies of the attempts to institutionalize national planning in Brazil, from Getúlio Vargas until the military coup of 1964, is Benedicto Silva, Uma teoria geral de planejamento (Rio de Janeiro: Fundação Getúlio Vargas, 1964). Octavio Ianni has approached the subject as a way to unveil the patterns of relationships between the State and the economy. The result was his insightful Estado e planejamento econômico no Brasil (1930-1970), 2d ed. (Rio de Janeiro: Editora Civilização Brasileira, 1977). See also Robert T. Daland, Brazilian planning: development, politics and administration (Chapel Hill: University of North Carolina Press, 1967).

41/ 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.

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

43/ A good summary of the problems that are likely to arise when too many actors have to be coordinated to carry out environmental policies is to be found in 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.

44/ Brasil, Presidência da República, Secretaria de Planejamento, Secretaria de Modernização e Reforma Administrativa, Cadastro da administração federal: Função saúde e saneamento (Brasília, June 1978).

45/ 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!

46/ 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.

47/ 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).

48/ Most of the comments made in this section about bureaucratic behavior owe a profound intellectual debt to the illuminating lectures of Harold Seidman at the University of Connecticut during the fall of 1977. More specifically, because these two elements of bureaucratic politics were first articulated in those lectures, they should legitimately be called Seidman's Laws. Two other of his laws have been used already in this chapter: (1) the product of governmental decisions is not the solution of a problem but, rather, the result of competition, alliances, commitments, and a lot of confusion among governmental authorities; and (2) insofar as government programs are concerned, action does not suppose intention; the summation of the positions adopted by several representatives of governmental agencies about a specific problem is seldom intentional for any individual or group.

49/ For an appropriate understanding of the strategies adopted by organizations to resist innovation, as well as for a good grasp on how social institutions transform themselves, see Donald A. Schon, Beyond the stable state (New York: W. W. Norton, 1973).

50/ Seidman, Politics, position and power (pp. 23-24), offers two interesting quotations on interagency committees. One from President Herbert Hoover, who once said: "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". [Herbert C. Hoover, The memoirs of Herbert Hoover, the Cabinet and the Presidency, 1920-1933 (New York: Macmillan, 1952), p. 281.]

Similar advice is contained in a poem published in London a couple of years after Hoover's memoirs. It read: "If you're pestered by critics and hounded by faction To take some precipitate, positive action, The proper procedure, to take my advice, is Appoint a commission and stave off the crisis". [Geoffrey Parsons, "Royal Commission," Punch, 29 August 1955.]