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EAST ASIA AND THE ECOLOGICAL PERSPECTIVE ON THE ROOTS OF
POWER OF H. & M. SPROUT; AN INQUIRY INTO THE NATURE OF
POWER AND THE POWER OF NATURE IN EAST ASIAN POLITICAL
CULTURE

by

Edward Allan Olsen

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Chairman:

Yoshihiko Yoshikawa
William E. Shafer
James D. Weaver

Robert W. Neff
Dean of the School

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CHAPTER I

Introduction

The purposes of the study are manifold. This is perhaps inevitable since it addresses a multifaceted approach to the study of international politics - the "ecological perspective" of Professors Harold and Margaret Sprout. Norman Palmer, writing in a review of the status of international relations research, has said of the Sprouts' "ecological perspective":

Their emphasis on ecological factors, on what they have called 'man/milieu relationships', has had some impact on the study of international affairs but, at least until recently, by no means as much as it should have. The 'school' which they represent is still a small one. Inevitably, however, it will become larger.

Thus, one of the more obvious purposes of this exercise is to examine the value of a lesser known "theory".*

The specifics of the Sprouts' conceptual framework and normative theories, will be dealt with in Chapter V. For the moment our concern will focus on the term "ecological" and what it implies for both research and the purposes of this thesis. In recent years there has been an

* The ecological perspective is more correctly a conceptual framework. This distinction is examined in Chapter V.

** For a useful reference work defining environment-linked vocabulary which appear throughout, despite conscious effort to minimize its usage, consult: Studdard's glossary.

inundation of ecology-related phenomenon. The prefix "eco-" has been attached to countless words. The danger exists that we may become saturated by mention of eco-this and eco-that. The saturation point may well have already passed. The disturbing aspect of the faddish quality of the contemporary "eco-boom" is that it dulls us to what is a very real and continuing crisis.

Twentieth century man has witnessed a revolution on a scale only dimly imagined by his forebears. This revolution is the technological revolution. Man was the initiator of the revolution, but as technology developed an evolutionary momentum he increasingly became a mere witness. E.J. Mishan has observed,

The layman - and, beside the sum total of scientific achievement, we are all laymen now - becomes, every day that passes, more of a bewildered spectator to what is happening around him, willy-nilly having to adapt his mode of living to the technology of industry and to the flow of gadgets on to the market.

3.

In recent years many studies have been made of man's attempts to adjust to the rapidly changing technological milieu. However, few of these studies have attempted to grapple with the underlying intellectual and historical causes upon which technological cultures are based. One of the best studies of modern man's dilemma of resource scarcities apologized for its lack of attention to what it termed "the complex

of nonmaterial factors that affect man's use of and demand for resources". This study asks its readers:

What, for instance, are the consequences of man's different conceptual environments - of how he imagines things to be regardless of how they really are? What is the effect of religion and religious differences on the nature of and demand for resources? How can cultural preferences be altered so as to relieve demand on resources and reduce pollution while minimizing social disruption? What are the processes whereby regulation of family size is best achieved? How do resources and economic factors really interact? What are the resource consequences of technological development and of different densities and patterns of human settlement?

5

These are the sorts of questions which have led to the present undertaking.

To answer such questions we must address ourselves to man and his technological cultures in relation to the earth as man's habitat. One would think that such studies would be the domain of ecologists. However, ecologists, despite the holistic character of their discipline, very frequently consider themselves to be solely life scientists focusing of the life cycles and ecology of minute portions of the ecosphere. While most ecologists seem content with their studies, others are not. Barry Commoner, in criticism of his fellows, said:

If the environmentalist shrinks from intruding upon the complex domain of the economist and the political scientist, then they will need to find their own way into the equally difficult terrain of the environmental sciences.
(emphasis in original)

6

The Sprouts have served as the cutting edge of political science in their attempts to relate political man to his earthly habitat.

The realm studied by the Sprouts and the writer is truly immense. In a literal sense it encompasses everything known to man. To study such a realm poses obvious difficulties. Complete knowledge is inherently ever-illusive. Despite the pretensions of some individuals, man is not God-like and as a consequence can never know everything which might be known.

In order to approach this huge subject we are forced to resort to analytical concepts. The two key political notions utilized in this study are "political culture" and "power". These concepts will be defined and examined in chapters II and III and then related to political man and his earthly habitat throughout the balance of the study. Within the bounds of these concepts and the ecological perspective the problems of technological man will be examined. In order to aid our understanding of these problems an attempt will be made to assess them cross-culturally. As Clarence Glacken and Kenneth Dahlberg have pointed out in their studies of man, technology, and nature,⁷ there is a need for analyzing and synthesizing the views of the man-nature-technology interrelationship as found in different

cultural traditions. The present examination of such views in the context of East Asia and the West is an attempt to fulfill that need.

Before turning to the main body of this thesis, a reference to the methodology utilized is in order. The writer's view of his methodology may be succinctly expressed by borrowing a statement Innis Claude used to describe his work in producing "Power and International Relations":

This study is the product of individual research and contemplation in the old-fashioned sense, not of an elaborate research mechanism.

9

Were it sufficient, I would rest my methodological case on that statement, but I fear it alone would offend methodology-buffs. At the risk of further offense, I wish to state my views on methodology and how they influenced the research behind the present study.

As will be noted below, the writer has, in common with the Sprouts, an affinity for the study of politics via the discipline of Geography.* What we find attractive in the geographic approach is the broad picture it offers of man's

* To preclude criticism of "single factor" views, it should be pointed out at this early stage that the writer views such criticism as a strawman. See Chapter VI for this assessment.

activities on earth. The extent of this picture is so encompassing that, as Ellen Churchill Semple has correctly observed:

Man has been so noisy about the way he has 'conquered nature', and Nature has been so silent in her persistent influence over man, that the geographic factor in the equation of human development has been overlooked.

10

The emphasis among productive scholars of late has been on increasingly narrow research. This is a consequence of seeking "original" contributions.¹¹ In such an academic atmosphere the geographic approach seems passé to many. I question that premise.

The learned Justice Oliver Wendell Holmes once wisely observed: "We need education in the obvious more than investigation of the obscure".¹² It is the obvious - the undeniable fact that man lives on earth - that is the core of any study relating to geography. This elemental relationship is also present in ecological studies. The ecological paradigm has in recent years gained greater acceptance among many natural scientists. It is important to note that scientists of this genre have largely left the purely "rational" paradigm to the social scientist.¹³ Seen from this vantage point the advocacy of extremely rigorous and rational paradigms with great effort expended on obscure phenomena by some social scientists seems to be putting

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them behind the times. It took social scientists, en masse, a very long time to get on the "bandwagon" of rigorous methodology and they got on board only after it was already considered to be somewhat creaky and worn. Fortunately the ecological perspective with its essentially simple and elemental orientation toward very basic relationships - toward the "obvious" - promises to be with us indefinitely so that social scientists can make the transition as they too come to recognize the continuing importance of the obvious.

The problem of social scientists, and for most scientists, is that by attempting to specialize they have increasingly denied themselves access to knowledge of their place in the grand scheme of life. A sociologist, Scott Greer, made a telling comment about specialization:

Too frequently we are specialists by default; it is not that we know much about our subject, we are just ignorant of everything outside it.

14

Recognition of this contradiction of specialized knowledge, i.e., the more we know, the less we know, enhances ones appreciation for the synthesizing essence of the ecological paradigm.

In sharp contrast to the synthesis prevalent in both ecology and geography, the prevailing methodology of modern

science has been analysis. It is not the writer's intent to deny the utility of analysis. Analysis is undeniably important. Synthesis would be impossible without analysis. Criticism here is reserved for the extreme form of analysis - reductionism. Commoner has said of scientific reductionism and natural systems:

There is, indeed, a specific fault in our system of science, and in the resultant understanding of the natural world, which, I believe, helps to explain the ecological failure of technology. This fault is reductionism, the view that effective understanding of a complex system can be achieved by investigating the properties of its isolated parts. The reductionist methodology, which is so characteristic of much of modern research, is not an effective means of analyzing the vast natural systems that are threatened by degradation.

15

Neither is the reductionist methodology an effective tool for relating man and man's cultures to the natural systems.

As Dahlberg has observed:

In the process of analytically (and physically) abstracting himself from nature, while simultaneously developing a strong belief in the mastery of nature, Western man, and particularly social scientists, have tended to neglect or ignore many important interactions between natural ecosystems and social systems.

16

The Sprouts, also, have noted that "the ... ecological bias against excessive analytical reductionism applies equally to communities of individuals."¹⁷ Reductionism in the social sciences has been and remains a hotly debated issue.¹⁸ While it is not the writer's intent to resolve

the issue in these few pages, in order to clarify my methodological preferences or biases I wish to note some salient points in the debate with particular reference to political science.

Lord Kelvin, in an often quoted statement, once said:

When you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind.

19

Adherents to such a strongly held view are still among us.

20

To the writer such views are the root of reductionism.

Writing in their commentary on the "Limits to Growth", the Executive Committee of the Club of Rome noted that "it is through knowledge of wholes that we gain understanding of components and not vice versa".

21

However, they echoed Lord Kelvin's views in evaluating the means to gain the necessary understandings:

We recognize that the complex world problematique is to a great extent composed of elements that cannot be expressed in measurable terms. Nevertheless, we believe that the predominantly quantitative approach used in this report is an indispensable tool for understanding the operation of the problematique.

22

This contradiction poses a dilemma. It is a dilemma faced by both ecology and geography. The dilemma is traced to the complexity of the whole:

23

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Few of us in the scientific community are well prepared to deal with this degree of complexity. Confronted by a situation as complex as the environment and its vast array of living inhabitants,

we are likely - some more than others - to attempt to reduce it in our minds to a set of separate, simple events, in the hope that their sum will somehow picture the whole. The existence of the environmental crisis warns us that this is an illusory hope.

25

The essence of dealing with such complexity is well illustrated by Aldo Leopold's analogy of the saw:

The saw works only across the years, which it must deal with one by one, in sequence. From each year the raker teeth pull little chips of fact, which accumulate in little piles, called sawdust by woodsmen and archives by historians; both judge the character of what lies within by the character of the samples thus made visible without. It is not until the transect is completed that the tree falls, and the stump yields a collective view of a century.

26

The problems here are manifest. By the time the tree is down we are dealing with history - with something dead;²⁷ we have killed it to understand a small segment. And if we take the process one step further - the step toward reductionism - we will chop up the whole tree into chips and sawdust, thereby knowing all of its parts. But does this process really permit us to know any more about what the living tree was all about? I think not. This dilemma has been known to man for ages, witness this somewhat esoteric Taoist description by Chuang tzu:²⁸

²⁸Both here and in later sections the preferred romanizations of "Chuang tzu" and "Lao tzu" are used instead of the frequently appearing variants - "Chuang tse" and "Lao tse". - In a related matter, the reader will note that all East Asian proper names are given in this study in the order of the language concerned, that is, family name first.

Tao unified the parts. In creation there is destruction. The disadvantage of regarding things in their separate parts is that when one begins to cut up and analyse, each one tries to be exhaustive. The disadvantage of trying to be exhaustive is that it is consciously (mechanically) exhaustive. One goes deeper and deeper, forgetting to return, and sees a ghost (the externals of things only). Or one goes on and imagines he's got it, and what he has got is only a carcass. For a thing which retains its substance but has lost the magic touch of life is but a ghost (of reality). Only one who can imagine the formless in the formed can arrive at the truth.

28

The relationship of this dilemma to political science is crucial. Otto Von Bismarck noted that politics is "not an exact science".²⁹ The inexactness of the "science" of politics has led many to cover up the problem by generalizing that political science is what political scientists do. A more cutting assessment was Alfred Cobban's definition of political science as "a device, invented by university teachers, for avoiding that dangerous subject politics, without achieving science".³⁰ In line with this criticism is Hans Morgenthau's view that excessively quantitative abstraction depoliticizes politics³¹ and reduces it to something different, intellectually and practically more manageable.³² What is being criticized here is what Kaplan termed the "mystique of quantity".³³ As Mishan has stated:

* Morgenthau's views on this subject are very trenchant. They are presented for the reader's edification in Appendix "A".

Such is the perverse faith in figures, that what cannot be quantified is all too frequently left out of the calculations altogether. There is apparently a strong prejudice among research workers against admitting that the unmeasurable effects could be more significant than the measurable ones.

34

Quantification - statistical measurement - has been the butt of many unkind remarks.³⁵ However, such techniques most assuredly have their place in all the sciences.

Problems arise only when advocates of such methodological techniques attempt to place their technique in a paramount position. What we should not forget is that "statistical techniques are tools of thought, and not substitutes for thought."³⁶ There are very real dangers that quantitative reductionism can lead to a "superstitious reverence for every scribbling which looks like mathematics".³⁷ The term for this danger is reification³⁸ or the treatment of abstractions as concrete reality. To reduce politics to something countable and then reify the numbers into ones reality is to deny the essence of politics.⁴

The answer to this problem is not resort to what Kaplan termed the "mystique of quality";³⁹ neither extreme possesses all the virtues. Moderation is necessary in this regard. It is the writer's belief that the post-behavioralist

⁴ The essence of politics - power, is assessed in Chapter III.

movement within political science may offer us the best medium for resolving the divergent opinions. While this movement is largely opposed to the sorts of reductionism criticized here, it is not simply a throwback to traditionalism and encompasses both behavioral empiricists and classicists.⁴⁰ Unfortunately, while the post-behavioralist movement has gained in popularity among political scientists, it has remained least popular among specialists in international relations. The rigorous behavioralists in the latter grouping are relatively late converts to their persuasion and retain the new converts' fervor.⁴¹ In this sense the holistic views of the ecological perspective adds needed balance to the study of international politics.

One conclusion to which consideration of excessive reductionism and subsequent reification leads is that the place of "facts" in knowledge and wisdom needs continual examination. There have been numerous references to the notion of a knowledge explosion in our times. Reductionism has contributed to this notion by spewing forth smaller and smaller segments of knowledge. The notion that we really know any more by virtue of our sub-division of our knowledge is indeed strange. What the knowledge explosion truly amounts to is a surfeit of facts. What we need is not necessarily more facts, although we will undoubtedly be deluged with

more; what we need is the wisdom to deal effectively with this surfeit.

Systems theory is an outgrowth of concern over intellectual fragmentation. It is an integrative effort on the theoretical level. If systems theorists ever succeed in devising "the" theory with universal applicability, they will have brought us face to face with the essence of wisdom - the unity of knowledge. Lord Ritchie Calder has observed: "Knowledge is not wisdom; wisdom is knowledge tempered by judgement."⁴² And judgement is, in the writer's estimation, a faculty which comes from the ability to comprehend the unity of knowledge.⁴³ The point of this discourse in the present context is that I find the ecological perspective with its intense sensitivity to unified wholes to be a real-world parallel of the abstract attempts to devise a unified systems theory. As such, in my research, I have not hesitated to draw upon a variety of disciplines or address a broad spectrum of issues. The sciences - physical, life, and social, as well as the humanities - art, literature, philosophy, and history, are all brought to bear on the central topic of man-nature relationships as they influence power.

The problem confronted by anyone attempting to approach any topic holistically is that which I noted above - the

inability of mortal man to know all that which might be known. This is an admitted problem, but not one which should deter one from this approach because by seeking to grasp the totality we can at least confront the truly serious questions. Because of our human frailties we may well never know all the answers, but as James Thurber's Scotty learned: "It is better to ask some of the questions than to know all of the answers".⁴⁴ This, then, is the goal of my combination of purposes and methodology - to place some of the crucial issues of our times in clearer focus through the ecological perspective so that we might attain a better understanding of mankind's most pressing questions.

*** *** ***

Three brief tasks remain prior to turning to an examination of the relationships between culture and politics.

Firstly, I wish to note my belief that complete objectivity in research is an impossibility. The very best that can be hoped for is a degree of relative objectivity. In this regard, I wish to indicate that my background in Western European civilization necessarily imbues my outlook with certain conscious and unconscious biases. In similar senses my academic background in history, Asian studies, and geography gained prior to concentrated study on this specific

topic unquestionably influenced my orientation toward the topic. Much of my approach is a mixture of the historian and the geographer, while my academic interests in East Asia have led to personal interests which necessarily influence my efforts. For better or worse these are my biases. I believe it is preferable to state them at the outset so that the reader will compensate for them should they be too blatant.

Secondly, I wish to acknowledge the early encouragement of two former professors who aided my understanding of East Asia's man-resource problems. Prof. Daniel B. Luten, senior lecturer in natural resources at the University of California's Department of Geography (formerly Technical Advisor of the Natural Resources Section of SCAP and research chemist at Shell Oil) provided many valuable insights via his courses and informal discussion. Dr. Ikeda Mayako (nee, Matsuda Mayako - author of "Basic Japanese for College Students"), who served as my tutor in geography and politics at the Inter-University Center for Japanese Language Studies in Tokyo during the Winter and Spring of 1970, deserves credit for sharing her insights into East Asian man-nature relationships and how they effect Japan's "kōgai" problems.

Lastly, I wish to note that the research for the contemporary aspects of this study was conducted through

the end of 1973 and the final presentation reflects events transpiring through that period.

CHAPTER II

Political Culture and East Asia

The study of political cultures is not new. Among those who have studied the political aspects of man via his cultures, attempts to evaluate belief systems and national character may be traced at least as far back as classical Greece.¹ Despite this long tradition, the modern notion of political culture emerged in the post-World War Two period as a result of the efforts of two principal scholars - Lucien Pye and Sydney Verba.

Pye defines political culture as:

the set of attitudes, beliefs, and sentiments which give order and meaning to a political process and which provide the underlying assumptions and rules that govern behavior in the political system. It encompasses both the political ideals and the operating norms of a polity. Political culture is thus the manifestation in aggregate form of the psychological and subjective dimensions of politics. A political culture is the product of both the collective history of a political system and the life histories of the members of that system and thus is rooted equally in public events and private experiences.

2

Verba offers us a more succinct definition:

The political culture of a society consists of the system of empirical beliefs, expressive symbols, and values which defines the situation in which political action takes place. It provides the subjective orientation to politics.

3

One of the great problems faced by political science, in common with the other sciences, is that of reductionism.⁴ Pye has argued persuasively that the concept of political culture represents to political science as a discipline a means to back away from excessive reductionism:

There has been a need to discover a method for working back from the complex subtleties of individual psychology to the level of the social aggregate which is the traditional plateau of political science. It is this problem that is now the great challenge to political science and for which the concept of political culture holds such great promise.

4

In a more narrowly disciplinary sense there is a strong ecological element present in the concept of political culture. To Pye all the apparently disjointed aspects of a given society's politics, when viewed via the concept of political culture, "are not just random products of historical experience but fit together as a part of a meaningful whole and constitute an intelligible web of relations".⁵

As Henri Baudet points out about culture in general, there is an "indissoluble unity, an inextricably interwoven complex of myth and reality"⁶ present in the totality of political culture. Despite Pye's discontent with the tendency for the concept of political culture to be treated as a catch-all,⁷ due to its complexity and comprehensiveness this is probably inevitable. Short of reverting to reduction-

⁴ This problem is assessed in the Introduction; pp. 8 - 15.

ism, we should not expect to be able to treat such a unitary phenomenon with a great deal of exactitude. As Clarence Glacken remarked in regard to cultures:

One does not easily isolate ideas for study out of that mass of facts, lore, musings, and speculations which we call the thought of an age or of a cultural tradition; one literally tears and wrenches them out. There is nothing disembodied about them, and the cut is not clean. They are living small parts of complex wholes; they are given prominence by the attention of the student.

8

It is principally this characteristic of the concept of political culture which makes it a desirable concept for assessing another whole - the ecological unit of the ecosphere and political man's place within it.

A related facet of the concept of political culture which also makes it desirable in the present study is that political culture partakes of general culture. Those aspects of overall culture - specifically the relationships of man and nature which to much of political science seems of lesser importance, when linked to politics via the concept of political culture, are seen to be integral factors. For as Alfred L. Kroeber noted in his classic study, "Relations of Environmental and Cultural Factors",

On the one hand culture can be understood primarily in terms of cultural factors, but on the other hand no culture is wholly intelligible without reference to the non-cultural or so-called environmental factors with which it is in relation and which condition it.

10

The relationship between culture and the physical environment is a fascinating one, replete with difficulties.

While in its pristine form in some ancient age the physical environment was not culturally influenced, ever since the advent of man's cultures purity has been lost. The relationship is immensely complex for man is at once part of nature, yet, by virtue of his culture, he is apart. Man is simultaneously a natural and cultural being.¹¹

Okakura Kakuzō, a Japanese social commentator of the turn of the century, once beseeched: "When will the West understand, or try to understand, the East?"¹² Such understanding is a partial goal of this study and to this end the concept of political culture is particularly well suited. Individuals within a given cultural tradition have a tendency to universalize their notions and assume that they are held in common with dissimilar cultures. While this may in fact be true on occasion, it is by no means a certainty. The images of the past and present held in various cultures can differ markedly. It is of vital importance that greater comprehension of the differences between Western and non-Western cultures be achieved. Without such comprehension communication would be futile for the meaning imputed on one end might well be adjudged in an entirely different context on the other end.

It is important therefore that the visions of the universe as held in the West and non-West for thousands of years be mutually understood.¹³ To this end the concept of political culture is particularly valuable because the content of each political culture in general is a phenomenon unique to its parent society. The political culture of a society is thus closely linked to the notion of nation.¹⁴ Therefore by studying and gaining an understanding of and an appreciation for a given political culture we are able to bridge serious international gaps in mutual comprehension. Even in an age when many people believe the nation-state is undergoing a decline and is gradually yielding its sovereignty,¹⁵ there is substantial evidence that the psychological and cultural importance of national communities is increasing.

The concept of political culture is an especially important concept for use in understanding East Asia where the nations identify so very strongly with their cultural unity and uniqueness. There have been many works written related to the politics of East Asian nations,¹⁶ and since it would be beyond the scope of this study to attempt an across-the-board examination of East Asian political

* This is an idea which will be critically examined below and with which the writer disagrees.

cultures,* for the present it will merely be noted that these intensely ethnocentric political cultures¹⁷ remain vibrant and self-generating. In fact, one of the more interesting aspects of studying East Asian political cultures is their increasing complexity as they have come in contact with and been influenced by the West.

Western cultural traditions have, since approximately the fifteenth century, pervaded the earth in varying degrees; borne beyond Europe by technologies of Western origin. Were it not for this spurt of technological superiority it is equally conceivable that Asian ideas of politics and international relations might have played a role equal to or above that of the Western notions which have, in fact, been dominant.¹⁸ That these historical events have transpired should not delude the West into believing that historical experience and its fruits possesses any inherent permanence. A cultural and political trend initiated and dominated by technological advances and superiority may be subject to stresses and, perhaps, even reversals in the event technology-dependent societies come a cropper thereby casting doubts on technological Western political cultures. It is, therefore, useful to study East

* However, the core of this study - the portions on Man and Nature and on Ecopolitics - will assess relevant aspects of East Asian political cultures, hence its introduction here.

Asian political cultures in the context of the man-nature-technology relationship for the sake of the insights which can be gleaned about East Asia's past development, present status, future prospects, and the alternatives those prospects may offer a world in a man-induced ecological crisis. Prior to turning to those relationships and their implications for international power, we must briefly turn to assessing power and its roots in those same man-nature-technology relationships.

CHAPTER III

Power

"Power" is a concept that has intrigued political man throughout the ages. What it is and how it should be used have been a continual source of popular and scholarly debate. Opinions have been nearly as numerous as there have been opinion holders. The length and diversity of these still ongoing debates indicates one salient characteristic of "power" which few are willing to deny - that it is subjective. As a consequence "the" definition of power is elusive and will never be found by mankind; remaining forever nebulous and temptingly just beyond man's grasp.¹

The foregoing should not be taken to mean that attempts have not been made to reduce power to objectively quantifiable criteria and then systematize such data into cohesive theories, for indeed there have.² However, such attempts, despite their undeniable contributions, have not been convincing to a broad spectrum of theorists - the writer included. The preference here is for a more open-ended working definition of power capable of accomodating the virtually infinite number of variables contributing to "power". The working definition chosen for the purposes of this study is the widely accepted definition of Hans

Morgenthau.³ Power for present purposes will be seen as "control over the minds and actions of other men" with the added qualification that the many varieties of commonplace international activities which Morgenthau relegates to secondary importance will be viewed here not as secondary but as contributive. That is, such activities will be considered as supporting elements of power.

To Morgenthau power and the quest for power via defense of national interests is the essence of politics.⁴ The ultimate form such defense of the national interest takes is force. In the minds of many the concept of power - the universal currency of politics - too readily equates with the use of force - the ability to wreak physical destruction. Thus we witness scholars such as Innis Claude, although aware of broader uses of the word "power", restrict the term to denote "military capability - the elements which contribute directly or indirectly to the capacity to coerce, kill, and destroy".⁵ Such views of power are common. They represent what Anatol Rapoport termed the "Neo-Clausewitzian" view.⁶ The Neo-Clausewitzian turn of mind is an outgrowth of the Second World War in which idealistic hopes of keeping politics out of war were quickly shattered⁷ and Clausewitz's dictum that "War is a mere continuation of policy by other means"⁸ was firmly implanted in their place.

However much of an improvement Neo-Clausewitzian realism may have been over the earlier effervescent hopes, in the postwar nuclear era the equation of power with armed force ossified into dangerous rigidity. B.H. Liddell Hart, writing in "Strategy" in 1954, was prescient in his analysis of the stalemating effects of the nuclear balance on the superpower level and the consequent increase in the importance of sub-nuclear limited wars.⁹ The stalemate produced what Walter Millis referred to as a "paralysis of military power in a world that apparently cannot get along without the concept of power". Millis, the antithesis of a Neo-Clausewitzian, suggested that we seek to substitute some other form of power for armed force.¹⁰ The problem with such lines of thought is that substitution is impossible. In order to substitute we would have to remove the use of armed force as the ultimate form of power. Any attempt to do so would prove futile at best and perilously dangerous at worst for as Innis Claude has observed, "man cannot unlearn what he knows about the means of creating power".¹¹

No, nuclear weapons and the threat of their use are a permanent fact of political life. Nuclear weapons, in the phrase of Stanley Hoffmann, "have not abolished war, they have displaced it".¹² The potential horror of a nuclear conflagration remains with us as the pinnacle of superpower-

dom. It has not been eliminated but merely encased within a barrier of mutual self-interest in preventing the ultimate holocaust.

Despite the stalemate which effectively precludes the use of the ultimate armed force, it is a mistake to assume that the stalemate has lessened the central role of the struggle for power as the prime mover of international politics.¹³ The great mistake here is to equate power solely with military force. Power has many other manifestations which, while not replacing nuclear armed force in the ultimate sense, have gained importance in the nuclear age. Principal among these is economic power. Adolph Berle's contention that economic power is a "bad second" when compared to nuclear armed force¹⁴ remains correct when considered in ultimate terms, but in terms of useable power, economic power and other tertiary forms of power enjoy increasing prestige.

When considering power in an international context the universality of the concept of power equated as armed force can be generally agreed upon. Despite aberrant social reactions to the threat of coercive force such as passive resistance or metaphysical otherworldliness, the expected reactions commonly appear. However, power when conceived in other than terms of force becomes more susceptible to cultural influences.¹⁵ The concept of power loses its universality in such

circumstances. The contention here is that, in contrast to force as a universal concept, non-military concepts of power are culture-specific.¹⁶ Were it otherwise - were such concepts of power also universals, there would be greater consequent uniformity of cultural traditions. For example, were economic power conceived similarly in all cultures, there would be much greater cross-cultural conformity in economic practices than is evident. In fact, diverse cultures have been dominant and have produced culture-specific concepts of non-military power. These, in turn, also impinge upon the power-as-force core of ultimate power for which they act as supports. The cultural specificity of non-military concepts of power has, ironically, been exaggerated by the universal core. The nuclear age has fostered the splintering of cultures because the hesitancy to forcibly intervene to rectify the divergent political paths of non-superpowers permits such nations to give freer reign to their cultural diversity.

Under such conditions it becomes imperative to understand the concepts of power which prevail in dissimilar political cultures. Our immediate concern is with East Asia. The problem confronted in approaching East Asia is that the theoretical constructs we as Westerners bring with us do not necessarily fit the new context to which we try to adapt

them. As Japan's noted sociologist, Nakane Chie, has observed, the application of Western theories in the West often leaves a gap between theory and reality but their application in Asia results in chasms.¹⁷ In seeking to understand East Asian concepts of power we must first recognize the degree to which our own concepts of power are wedded to the Judeo-Christian cultural milieu. With this awareness in mind we can attempt to assess Asian concepts of power.

East Asian views of power-as-force adhere quite closely to the universal. In China we find Mao Tse-tung thought positing Neo-Clausewitzian notions: "war is politics and war itself is a political action; ... politics is war without bloodshed while war is politics with bloodshed".¹⁸ While the Maoists waver in their position vis-a-vis nuclear vulnerability and stalemate,¹⁹ their advocacy of limited war as a political tool (i.e., guerilla wars of "national liberation") is a tacit recognition of the suicidal character of ultimate force. In Japan we find the same recognition but for different reasons. The Japanese throughout their experiment in modernization have assimilated the current vogue in Western power-political theories. World War Two brought an end to Japanese experiments in Imperialism and Faciam. The postwar period has seen the adoption of prevalent power-related concepts with a minimum of adaptation.²⁰ While

China has reluctantly acceded to the reality of stalemated nuclear power, the Japanese in the aftermath of a devastating war ended by nuclear attack have readily absorbed the super-power-developed concepts of power-as-force being confined to fixed limits.* Despite the differences, recognition of the universal prevails in East Asia.

In sharp contrast, the concepts of non-military power, notably economic power, found in East Asia differ markedly. It is in this sector of the power equation that the divergent political-cultural traditions come into play. For present purposes only a brief overview of these variant conceptions will be stated.** Richard Harris has asked the central question: "Is economic power... a valid form of power to the East Asian mind?"²¹ To the Japanese it would appear to be a valid form. However, the Japanese are confronted with two neighbors who have serious doubts about the notion. The Soviet Union, because of the pre-eminence of its military forces, is not yet ready to accept economic power as co-equal.²² Its Asian neighbor, China, posits views which are the antithesis of economic power. As Mao has stated in a

* This topic is assessed further in Chapter XI (East Asia: Contemporary Issues).

** East Asian interpretations of the economic and natural resource roots of political power discussed immediately below (and in Chapter VII) are examined in greater detail in Chapters VII, VIII, IX, and X (East Asian Ecopolitics).

frequently quoted saying: "Political power grows out of the barrel of a gun".²³ Thus the views of economic power within East Asia vary widely. The irony of these views is that the situations of their holders warrants their reversal. That is, Japan and China have strong reasons to be advocates of the other's viewpoint. This irony is a theme which will be more fully explained and evaluated in the course of this study.

In order to examine this theme in subsequent chapters, we will terminate the present discussion of the concept of power by introducing* the role of the physical roots of power. Mao's idea of power emanating from gun barrels caught the public's eye because of its apparent logical simplicity. However, is it really valid? Whether we speak of power-as-force or the more tertiary supportive forms of power, should we attribute it solely to the gun barrel and the man at the trigger? To do so would be shortsighted. This is only one aspect of power. It is the outward manifestation, the façade, of power. The basic division behind power is between physical or natural elements and the social or man-made elements. The social elements are vital, but these can be manipulated to a degree wherein they can be

* This brief introduction serves as a backdrop for more extensive assessments of the physical roots of power and the threats posed to these roots by man's excesses as presented in chapters V, VI, and VII-Xs

considered extremely flexible and subject to many adjustments and trade-offs to achieve similar levels of power. On the other hand, the physical or natural roots of power are less flexible. To varying degrees such roots are manipulated by man to meet his needs. However, as noted in Chapter II, man is simultaneously a cultural and a natural being. Therefore, despite man's manipulative abilities, there must necessarily exist a certain minimum of physical or natural roots upon which man can draw to accomplish his ends. This essential minimum configuration of natural resource-related roots of power must be present if man is to reach his pre-determined ends.* Substitution of such resources is possible up to a point, but once that point is reached, man's only recourse is to alter his goals.

The importance of this relationship between resource availability and man's goals in the present context is that

* In this regard it is important to note the caveat emphasized by the Sprouts: "Failure to keep the discussion of state capabilities within some policy frame of reference is one of the reasons why a good deal that has been said about the so-called 'elements' or 'foundations' of national power is footless and unconvincing. The data of physical geography have no intrinsic political significance whatever. Nor have demographic, technological, economic, or other environmental data. Such factors acquire political significance only when related to some frame of assumptions as to what is to be attempted, by what means, when and where, and vis-a-vis what adversaries, associates, and bystanders."

24

In other words, man's goals are not determined by the resources available to him, but his ability to reach his goals can be influenced.

for contemporary man the quest for political power follows a technological route. One writer has observed that it is "universally clear today that in science and technology, in no small measure, lie significant keys to wealth and power in the world".²⁵ Another has suggested that "particular technologies might actually be at the core of the power relationship".²⁶ However, behind technologically derived political power lies the panoply of physical resources which support it. The difficulty here is that such resources exist in varying degrees of finity and scarcity. The balance between technologically supported power - in its power-as-force and other forms - and the availability of physical resources which support technologies raises serious questions for the future. These were summarized by Alastair Buchan who warned of the danger of the emergence of economic power-politics marked by a "preoccupation with the welfare of my side rather than the general health and stability of the international landscape".²⁷

The dilemma of resource availability is an ancient one. Some have considered it be a dilemma of the past, but its continued presence has become increasingly obvious. To deal with this dilemma we have to understand the causes which underlie it. The essence of these causes can be traced to the previously noted duality of man as a natural and

cultural being. To assess this duality we must deal with cultural man in the physical environment. This need reinforces the utility of the concept of political culture for the study of political man's activities in a milieu composed of artificial and natural entities. For as Adolph Berle noted in his third law of power: "power is invariably based on a system of ideas or philosophy";²⁸ that is, upon a cultural tradition. It is this tradition from which the ideas concerning man's use of the physical environment emerge.

Zimmerman in his landmark work on natural resources considered the physical environment to be composed of "neutral stuff"²⁹ waiting to be used by man. The ways in which man uses this neutral stuff are determined by his culture.³⁰ While culture is the determining factor, it is not always an obvious factor. Periods of rapid change tend to make the relationship more discernable.³¹ Thus the extremely rapid changes which have occurred since the mid-nineteenth century and especially since the end of the Second World War have increased the influence of culture in these matters.

Of the three criteria Spoehr delineates as the core of the natural resource and culture relationship,³² two criteria - natural resources in relation to technology and to social structures - will be focused upon in subse-

quent chapters. For the moment we will turn to the most fundamental relationship - the relation between natural resources and man's interpretation of his habitat, i.e., how men regard nature and how their views effect their actions.

CHAPTER IV

Man and Nature

Come forth into the light of things,
Let Nature be your teacher.

Wordsworth
***** 1

Before examining the manner in which men in both East and West* have related to nature, we must first establish what we mean by "nature". Nature as used here refers to the non-human physical environment and, with exceptions as specifically noted, never to "human nature". Barry Commoner referred to the natural environment as a "huge enormously complex living machine".² The academic discipline which focuses on this living whole is "ecology". In terms of this discipline the natural environment is called the "ecosphere" and the activities carried on within the ecosphere are called the "ecosystem".³ The ecological cycle is a fascinatingly intertwined amalgam of competing and harmonious forces.⁴ Commoner offers four simple "laws" of ecology:

- 1) Everything is connected to everything else.
- 2) Everything must go somewhere.
- 3) Nature knows best.
- 4) There is no such thing as a free lunch.

5

* The terms "East" and "West" as used in this study always have reference to the Orient and the Occident. The "Orient" is restricted to the East Asian cultural realm. The terms never have reference to West and East in the sense of Communist and non-Communist.

Numbers one and two are in reality the same thing. In essence they mean that the ecosphere is an interdependent whole in which any change effects everything else in the ecosystem to some degree however small. Law number three derives from the first two; Commoner explains that "stated baldly, the third law of ecology holds that any major man-made change in a natural system is likely to be detrimental to that system."⁶ And the fourth law derives from the preceding three: man must pay the costs for the disruption he causes.

The significance of these laws can be seen in the changes wrought in the natural environment. Such changes are in large part due to man's intellect, but not entirely for man's numbers also play a role. Biologist Marston Bates has noted that "the only species comparable in abundance with the human animal are small ones such as codfish, sardines, and houseflies".⁷ Lest this knowledge excessively deflate our ego, we must remember that other numerous species have not caused the damage or transformed their habitat to anything approaching the degree of man. No, it is man's intellect and his cultures, compounded by his numbers, which are responsible.

The actions of human cultures have been in two basic directions. On the one hand, cultural man has constructed

a man-made world of increasing complexity. On the other hand, man's actions have tended to simplify the complexity of the ecosystem. These directions are in tandem and combined lead to increasingly unstable dependency.⁸ Thus Thoreau's admonition for man to "simplify, simplify",⁹ while quite admirable in a social setting, when transferred to social interactions with the ecosphere can lead to the excessive simplification of the natural environment which is at the root of the ecological crisis. A detailed assessment of man's contribution to the crises within specific ecological cycles is beyond the scope of this study.¹⁰ All that is required here is the knowledge that man is a causal factor.

John Muir left us the following description of the cyclic character of the ecosystem:

This grand show is eternal. It is always sunrise somewhere; the dew is never all dried at once; a shower is forever falling; vapor is ever rising. Eternal sunrise, eternal sunset, eternal dawn and gloaming, on sea and continents and islands, each in its turn, as the earth rolls.

11

The problem caused by man is that we have in Commoner's phrase, "broken out of the circle of life, converting its endless cycles into man-made, linear events".¹² This has been a traumatic experience for mankind because man remains a natural being as well as a cultural being. The desire to maintain a coherent relationship between nature and man's artificial world remains a constant.

Desires to correct the imbalances caused by man have become increasingly widespread as the results of the imbalances effect us in more personal ways. The first step in correcting the error of our ways is to understand the value systems which influence our actions. If we still know relatively little about the inner workings of the ecosystem's complexity and as a consequence have difficulty in creating specific policies to compensate for our excesses,¹³ we can, perhaps, begin at the more approachable level of cultural values. As both White¹⁴ and Swift¹⁵ have observed, our beliefs about nature, our religions, and our overall value systems are the base line against which cultural man's nature-related activities must be gauged.

In assessing such values we face an initial obstacle. In order to assess the man-nature related cultural values of East Asia we require a basis for comparison. This is necessary since values cannot be judged in a vacuum. Therefore our immediate task is to survey the fundamental ideas of man and nature which have shaped the West. Following this examination we will turn to East Asia.*

* It should also be noted that the ideas, both Eastern and Western, discussed in the following sections are appraised in relation to "ecopolitical" terms in Chapters VI - X.

((Man and Nature: Western Traditions))

There is a pleasure in the pathless woods,
 There is a rapture on the lonely shore,
 There is society, where none intrudes,
 By the deep sea, and music in its roar,
 I love not man the less, but Nature more,
 From these our interviews, in which I steal
 From all I may be, or have been before,
 To mingle with the Universe, and feel
 What I can ne'er express, yet cannot all conceal.

Lord Byron
 ***** 16

Julian Huxley observed in the mid-1950s that man's place in the process which is nature had become well known in the post-Darwin age.¹⁷ Events which have transpired since then have cast doubt upon such assumptions. There is in fact a strong legacy of pre-Darwinian concepts of nature remaining in Western culture.

Pre-Darwinian concepts of man in nature focused on three core ideas. The ideas were those of an earth designed by God, of environmental determinism over man, and of man as an active and creative modifier of nature. It is significant that virtually every noted thinker from antiquity to the immediate pre-Darwin and pre-scientific revolution periods has had something to say about one or all of these ideas.¹⁸ However, many of these thinkers of the past tended to merge their thoughts about man and nature with those concerning human nature - a field beyond our immediate interest.

The main theme in Western concepts of man in nature has been the Judeo-Christian biblical tradition exemplified by the admonition from God found in Genesis:

Then God said, 'Let us make man in our image and likeness to rule the fish in the sea, the birds of heaven, the cattle, all wild animals on earth, and all reptiles that crawl upon the earth.' So God created man in his own image; in the image of God he created him; male and female he created them. God blessed them and said to them. 'Be fruitful and increase, fill the earth and subdue it, rule over the fish in the sea, the birds of heaven, and every living thing that moves upon the earth.

20

If there were any doubt, God repeated his admonition after the flood:

God blessed Noah and his sons and said to them, 'Be fruitful and increase, and fill the earth.'

21

The tradition of dominant man acting as God's suzerain on earth, so typical of Western cultures, has been based on these biblical admonitions. This has been the case particularly with Western Christianity (as contrasted with Eastern rite Christianity). This prevailing branch of Christianity has evolved into a very anthropocentric religion wherein man partakes of God's transcendence of nature.²² This view of God, man, and nature has given rise to what Aldo Leopold termed the "Abrahamic concept of land" in which the earth is viewed as a commodity for man's use.²³ The two unfortunate aspects of this well developed Judeo-Christian tradition of pre-Darwinian thought are that

of all the possible interpretations which could have been followed, mankind has been most enthusiastic about a harmful approach ²⁴ and that the tradition persists to the present day.

We should not, however, assail Christian tradition with a blanket indictment. Among the alternative interpretations of God's admonitions, one in particular has survived the ages and remains viable today. This is the notion that the proper view of man and nature as dictated by God is not that of God's suzerain to rule in God's stead, but that of God's steward chosen to care for God's earth. The idea of man as God's steward on earth has been offered as an alternative by several writers, ²⁵ but two examples will suffice. Feenstra, in a slightly revisionist tone, offers the following comprehensive assessment of stewardship:

The most undeveloped and misunderstood teaching of Scripture relevant (to ecology) is the cultural mandate given Adam by God,.... The cultural mandate makes man the responsible steward of the universe, not its spoiler and looter. Responsible stewardship, not exploitation, is the keynote. As steward of the universe, man is challenged to develop natural resources to benefit all creatures, aesthetically and materially, and by so doing to honor his Creator and Redeemer. Such Christian stewardship of natural resources does not include exploitation for selfish gain at the expense of society, nor pollution of land, air or water.

Not every thing Christians do is Christian in character.

Years earlier, in 1944, J.R. Whitaker advocated that the idea of stewardship be revived at the end of the Second World War and be politically incorporated in the postwar settlements and redevelopment.²⁷ Obviously this did not occur, nor has the idea of Christian stewardship gathered much contemporary momentum. The dominant strains of Christian, or un-Christian (as you will), thought still prevail. S.H. Nasr has offered the analogy of the prostitute to clarify the differences in perspective and the consequences of prevalent attitudes:

Rather than being like a married woman from whom a man benefits but also toward whom he is responsible, for modern man nature has become like a prostitute - to be benefitted from without any sense of obligation and responsibility toward her. The difficulty is that the condition of prostituted nature is becoming such as to make any further enjoyment of it impossible.

28

The Judeo-Christian views of man in nature have come under serious criticism in recent years by many individuals seeking to meet the problem posed by the environmental crisis. One approach has been to delve back into Western traditions in quest for alternatives which might counter-balance the predominant ideas on man in nature. The principal source of such alternatives is the pre-Christian Greek notions of resident guardian spirits found in every aspect of nature surrounding man. The importance of this notion is that it required man to consider the spirits in nature

before acting and to placate them when his actions disrupted nature.²⁹ These notions were largely overturned as Judeo-Christian cultures spread throughout the West. This diminution of earlier views of nature and their replacement has led some observers to seek their alternatives in other cultural traditions where they believe they can find living versions of the early Greek notions.* However, as Collingwood has suggested,³⁰ a fundamental obstacle for individuals in the West who attempt to rediscover the Greek views (or their equivalents in other cultures) is that, although we can usually grasp the physical kinship to the earth and man of non-human natural phenomena, our deeply ingrained Western biases about man's creation in God's image prevents our full acceptance of psychical and intellectual kinship between man and such phenomena.

The Greek view of man in nature could not withstand the influx of Judeo-Christian cultures. The West was to await the Renaissance before anything similar to the Greek view reappeared. Renaissance thought, following the Greeks, found in the order of the natural world an expression of intelligence. However, unlike the Greeks who equated that intelligence with nature itself, for the Renaissance the intelli-

* Such attempts are evaluated below in relation to Western idealization of East Asian concepts of man in nature.

gence found in nature represented devine guidance. Therefore to the Greeks the ecosphere was an organism, while the Renaissance saw it as a well designed machine.³¹ The Renaissance view of nature is significant because it reflects both the idea of a creative God and the renewed creativity of Western man. The created or designed earth notions of this period are important because they set the groundwork for modern ecological theories by positing a holistic, if teleological, view. In Glacken's phrase, it was an attempt to "bring within its scope as many phenomena as possible in order to demonstrate a unity which was the achievement of an artisan-creator".³²

This tradition of seeking to explain the manifest unity in nature permitted the development of the present evolutionary views of man in nature. Despite the continued influence of pre-Darwinian "Abrahamic" concepts, it is in this setting that the ecological paradigm has evolved.

The acceptance of the ecological paradigm has not been complete. Some still refuse to accept the idea that man is an integral part of nature, that human societies are not apart from nature but are integral components of biological integration, or, at the most basic level, that mankind is not a separately devine creation. In answer to such opposition, Aldo Leopold replied:

The last word in ignorance is the man who says of an animal or plant: 'What good is it?' If the land mechanism as a whole is good, then every part is good, whether we understand it or not.

33

However, not all antagonism to the conservation ethic* which is an outgrowth of the ecological paradigm comes from those opposed to the paradigm on principle. For example, George Perkins Marsh, one of America's and the World's pioneer conservationists, was a man who well understood the relationships of ecology:

Man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords. The proportions and accommodations which insured the stability of existing arrangements are overthrown.

34

Despite this knowledge, Marsh became an advocate of man's increased interference with nature's processes on the assumption that what man caused, he can correct. ³⁵ Such convictions were prevalent in the heyday of emerging scientific successes. Indeed they are still with us, witness the following quote from a leading student of science:

Man masters nature not by force but by understanding.

36

Although this notion seems logical, the logic is faulty.

* The conservation ethic is discussed further in Chapter VI.

because it is based upon the faulty premise that man can ever "master" nature. Tuan Yi-fu has said of such a premise and its deductions, that they are analogous to a child who, after pushing a sailboat on a pond, believes he has conquered the ocean. They are both living an illusion.

Living with an illusion of this magnitude is a dangerous proposition. We in the modern industrialized West are increasingly grasping the need to understand and appreciate ³⁸ that as Harrison Brown aptly put it:

The machine has divorced man from the world of nature to which he belongs, and in the process he has lost in large measure the powers of contemplation with which he was endowed. A prerequisite for the preservation of the canons of humanism is a re-establishment of organic roots with our natural environment and, related to it, the evolution of ways of life which encourage contemplation and the search for truth and knowledge. The flower and vegetable garden, green grass, the fireplace, the primeval forest with its wondrous assemblage of living things, the uninhabited hilltop where one can silently look at the stars and wonder - all of these things and many others are necessary for the fulfillment of man's psychological and spiritual needs. To be sure, they are of no 'practical value' and are seemingly unrelated to man's pressing need for food and living space. But they are as necessary to the preservation of humanism as food is necessary to the preservation of human life.

39

This need to understand the grandeur and the simplicity of the earth is what Stewart Udall termed "the umbilical cord ⁴⁰ that should never be cut". The clutter of man-made social and technological sophistication has obscured our ability to discern the earthly supports which sustain us all. Such

concerns will be returned to below in relation to "ecopolitics", but now it is time to turn to an examination of East Asian views of man and nature.

((Man and Nature: East Asia))

He who understands the music of heaven lives in accordance with nature in his life and take part in the process of change of things in his death.

Chuang tzu
***** 41

As a prefatory note prior to assessing the place of man-nature values in Chinese and Japanese culture, we should take note of an important difference in Eastern and Western values. Values and their organized superstructure - religions - in East Asia,⁴² as the philosopher F.S.C. Northrup has observed,⁴³ contain a much greater emphasis on aesthetics than is true in the West. To Westerners the notion of aesthetics is akin to art appreciation, while in Asia it is an integral part of religious values and of vital importance.

Chinese man-nature relationships, to many Westerners, were symbolized by the title of Pearl Buck's novel "The Good Earth".⁴⁴ This popular image has a great deal of truth behind it, but the love affair between the Chinese and their soil is not as simple as the image would lead one to believe.

The early Chinese recognized the relationships between man and nature via their symbolic art. The "ting", a bronze jar or pot with two handles and three feet, was to the ancient Chinese rulers what the scepter was to Western rulers. The handles represented Ying-Yang principles. More importantly, the three feet, supporting the symbol of China, represented Heaven, Earth, and Man.⁴⁵ Such early political-cultural art should not be confused with the later forms of Chinese art which portrayed nature from a sense of purely aesthetic appreciation.⁴⁶ This sense of appreciation came much later. During the Han dynasty (200 B.C. - 200 A.D.) and earlier periods nature, particularly the remaining wilderness area, was seen as a source of danger. It was a threat and not something to be appreciated. It was not until the Period of Disunion (c. A.D. 200 - 600) that philosophical sensitivity to nature's beauty and value developed on an appreciable scale. The leaders in this development were poets who sought peace, simplicity, and a return to nature as a means of escaping the strife which swirled around them. It was not until the T'ang dynasty (A.D. 600 - 900) that nature came to be fully appreciated for its own sake. Even at that stage of development nature was not appreciated for knowledge's sake or in order to preserve it, but rather for narrowly aesthetic reasons.⁴⁷

The development of aesthetic appreciation for nature by Chinese poets led to a schism in Chinese culture. The schism was between the two poles of thought and action as represented by Confucius* and Lao tzu. Other philosophical schools such as the Mohists and Legalists were primarily man-centered and in any event did not prove to have much staying capacity.⁴⁸ Of the two poles in Chinese tradition the Confucian pole was dominant. Its emphasis was also man-centered, focusing on the character "jen" or goodness in interpersonal relations, but unlike the schools which fell by the wayside, it persisted and became the pole of greater magnetism. Confucian influences will be returned to below, but first we shall turn to the Taoist pole in Chinese culture.

Whereas Confucianism emphasized man-man relations, Taoism focused on man-nature relations. To the Taoist the humanity of the universe is subsidiary to the natural essence of the universe; an essence of which man is but a part. This world-view is crucial to Taoism and stands in sharp contrast to Confucianism; a fact underscored by the leading Taoist who as poet-recluse denied the importance of Confucian values.⁴⁹ This natural essence of which Taoists speak is the "Tao". Chuang tzu, a disciple of

* The Latinized popular versions of Chinese names will be used throughout when those names are in common usage.

Lao tzu*, in defining the Tao said:

Tao unifies the parts. In creation there is destruction. The disadvantage of regarding things in their separate parts is that when one begins to cut up and analyse, each one tries to be exhaustive. The disadvantage of trying to be exhaustive is that it is consciously (mechanically) exhaustive. One goes on deeper and deeper, forgetting to return, and sees a ghost (the externals of things only). Or one goes on and imagines he's got it, and what he has got is only a carcass. For a thing which retains its substance but has lost the magic touch of life is but a ghost (of reality). Only one who can imagine the formless in the formed can arrive at the truth.

50

In relating man to nature and the Tao, the following ratio is offered by Taoism:

Man follows the ways of the earth,
The earth follows the ways of the heaven,
The heaven follows the ways of the tao,
The tao follows its own ways.

51

This aspect of Taoism is very congenial to the ecological paradigm. However, Taoism did not remain at this level. Taoists tended to be mystics seeking metaphysical union with the Tao. This tendency is well illustrated by Chuang tzu's butterfly dream:

Once upon a time, I, Chuang Chou, dreamt I was a butterfly, fluttering hither and thither, to all intents and purposes a butterfly. I was conscious only that I was Chou. Soon I awaked, and there I was, veritably myself again. Now I do not know whether I was then a man dreaming I was a butterfly, or whether I am now a butterfly, dreaming I am a man. Between a man and a butterfly there is necessarily a distinction. The transition is called the transformation of material things.

52

* It is not certain whether Lao tzu was or was not a historical figure.

While this dream admirably describes man's inner oneness with the Tao and, at a lower level, with nature, the esoteric character of the idea precludes the commonplace applications which are logical consequences of accepting the ecological paradigm.

Despite the this-worldly impracticality of Taoist notions, their beliefs became imbedded in Chinese culture as an alter-ego of Confucianism. Thus the Confucian gentry, to escape the pressures of a highly structured life, allowed themselves the occasional, if furtive, pleasure of recourse to poetry such as that of Li po:

If you were to aske me why I dwell among green mountains,
I shall laugh silently; my soul is serene.
The peach-blossom follows the moving water,
There is another heaven and earth beyond the world of men.

53

Lest we assume too much about the influence of Taoist man-nature relationships over the Confucian gentry, it should be indicated that the use of "nature" in Chinese poetry does not necessarily relate to the real natural environment. Nature for the Taoist influenced Chinese is an abstraction. It is nature as the poet would like it to be.⁵⁴ Thus when we read of Lao tzu's "Small Utopia"⁵⁵ with its apparent similarities to Western thought in the tradition of Thoreau, we need to remember that the desires to return to nature found in each must be modified by each's view of nature.

The Chinese in their quest to satisfy the Taoist side of their make-up turned to the medium of the garden. Although also rooted in Shamanistic and Buddhist beliefs, Chinese gardens were primarily a manifestation of a Taoist inspired desire to return to nature. In these terms Chinese gardens are significant for what they tell us about Chinese notions about nature. Chinese gardens were miniaturized versions of idealized artificial landscapes replete with mystical connotation. This was "nature" to the Chinese. The idea of gardens as true repositories of the natural world used for limited conservation did not appear until the T'ang dynasty.⁵⁶ And by that date much of China was well imprinted with the signs of man's passage.

The idea of conserving nature as it is known in contemporary terms was not well developed in China. The natural disasters and man's mismanagement which served to worsen the effects of such disasters were not generally countered by active governmentally sponsored conservation measures. Rather, the best conservation measures were deemed by the Confucian hierarchy to be preventative social measures such as "good government, proper ritual, and noble conduct".⁵⁷ Only incidentally were these measures supplemented by more mundane conservation measures. The result of such casual treatment of the natural environment is a long legacy of ecological disruption. Back in the first century

B.C. we have the Chinese "Record of Rites of the Elder Tai" ⁵⁸ warning man against excessive pollution. Mencius offered an insightful observation of Chinese man's treatment of his "good earth":

The trees of the Niu mountain were once beautiful. Being situated, however, on the borders of a large State, they were hewn down with axes and bills; and could they retain their beauty? Still through the activity of the vegetative life day and night, and the nourishing influences of the rain and dew, they were not without buds and sprouts springing forth, but then came the cattle and goats and browsed upon them. To these things is owing the bare and stripped appearance of the mountains, and when people now see it, they think it was never finely wooded. But is this the nature of the mountain?

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When we read passages such as the following from America's foremost Sinologist, John King Fairbank:

Through its waterborne loess deposits the Yellow River has built up the broad flood plain of North China between Shansi province and the sea, and the process still goes on. Nothing can so vividly convey a feeling of man's impotence in the face of nature as to watch the swirling coffee-colored flood of the Yellow River flowing majestically within its dikes across, and twenty feet above, the crowded plain two hundred miles from the sea; and to realize that this vast yellow torrent is steadily depositing its silt and building its bed higher above the surrounding countryside until the time when human negligence or act of God will allow it again to burst from the dikes and inundate the plain.

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we must pause and ask ourselves - are we truly in awe of nature? - or, are we awed by the havoc caused by man's long-term abuse of the Chinese landscape? The answer is the latter. In the instance of the Yellow River, it is

man's constant channelling and diking of a free flowing river which, compounded by silting from soils eroded by poor agricultural technique, has fostered the river bed's incessant elevation above its natural flood plain. So when disaster strikes this or other man-disrupted "natural" phenomena, of what shall we stand it awe? Man or nature? Man is the culprit.

Man is to blame because of his man-centered outlook on life. Although Taoism mellowed Confucianism, it was too metaphysical to really alter the fundamental Confucian man-focused orientation. It was the anthropocentric criteria of Confucianism and the social hierarchy they manifested, in conjunction with an idealized but man-influenced concept of nature, which dominated Chinese life and Chinese man-nature relationships until very recently. Confucian society sought harmony, but it was a harmony based on natural and social hierarchy for as Confucius said:

The heaven is high; the earth is low, hence the order of the cosmos. There is distinction between high and low, hence the organization of all existants.

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This notion of hierarchical harmony is rather strange to Westerners, but it is in accord with many other Chinese notions of Ying-Yang like dualisms.⁶² While this hierarchical duality in one sense served the interests of preserving

the natural world since it sought as a partial goal to reduce or keep to a minimum any social interferences with the functions of the other half of the harmonious duality; in practice, rather than theory, the Confucian attitude of non-interference actually evolved into a do-nothing posture ignoring as much as possible the ecological damages of social activities.

As China entered the modern age it was confronted with many serious issues. Among the most serious problems, and for present purposes - the most serious, was that of adjusting to modern science.* The immediate reaction of China's gentry was to reject both the culture and science of the West. However, in time, as the sciences of the West impressed the Chinese, they adopted the slogan "Chinese learning to provide the moral basis, Western learning to provide the technical means".⁶⁴ **

It should not be assumed, however, that China was without a scientific tradition of its own, for indeed it possessed a great tradition. However, it differed from the

* China's contemporary problems relating to science, technology and ecopolitical issues will be assessed in Chapter VIII.

** The futility of separating Western culture and scientific traditions is examined in Chapter VI.

traditions prevalent in the West. As Joseph Needham has suggested, this seems incongruous at first glance because many people are willing to admit science ~~an~~ influence culture, but not that culture influences science.⁶⁵ China's scientific tradition was markedly different from the rationalism of the West, for it was drawn from the Taoist portions of Chinese culture. That this could occur was because, in the philosopher Fung Yu-lan's phrase, Taoism was "the only system of mysticism which the world has ever seen which was not profoundly anti-scientific".⁶⁶ In fact,⁶⁷ China's pre-modern scientists were primarily Taoist. Despite the idealized character of the nature with which the Taoist sought to harmonize, it was nevertheless nature. This facet of Taoism permitted China's early scientists to study nature avidly without coming into conflict with their moral precepts; in fact, the levels of science they achieved blended very well with their approaches to nature. This was quite unlike early Western science which had to overcome preconceptions about the devine order of nature in order to rationally study its inner workings.⁶⁸

While early Chinese science and Taoist philosophy blended well, it blended so well that it precluded the development of the advanced sciences we know in the West. The Taoist world-picture was such that it allowed them to intuitively grasp and accept notions of relativism in

an immense and complex universe. In effect they were en route to an Einsteinian world-picture, but without passing through a Newtonian stage. Since the intermediate stage had been critical in the development of Western science, this Chinese short-cut proved to have been a handicap.⁶⁹ Lest we commiserate too deeply about this misfortune which befell China, we would do well to remember that modern Western science and the philosophy of organism has returned to the wisdom the Chinese achieved ages ago.⁷⁰ Such recognition, albeit overdue, ought to be of some solace.

The acceptance of modern scientific methods came late to China. As late as the 1920s controversy raged in Chinese intellectual circles between followers of Chang Chun-mai who advocated the retention of a Taoist perspective for life which would foster synthesis and keep analysis from becoming excessively reductionist, and advocates of rationalized science.⁷¹ This presumably last gasp of relatively purist Taoism* was effectively squelched by leaders of the New Culture Movement such as Wu Chih-hui and Hu Shih. Wu was a strong advocate of science as the key to all questions and Hu was a disciple. Despite the apparent divergence from Taoism, even Hu was constrained to note that the science

* This qualification is necessary because some observers have detected a pro-Taoist slant in the ideology of Communist China.

they advocated had a Faacist element:

On the basis of all our verifiable scientific knowledge, we should recognize that the universe and everything in it follow natural laws of movement and change - 'natural' in the Chinese sense of 'being so of themselves' - and that there is no need for the concept of a super-natural Ruler or Creator.

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Here again we have an example of the greater amenability to science of the Faacist portion of Chinese culture than the Confucian.⁷⁴

When we turn to modern China's views of man, nature, and science we face a political and cultural split between the communist and non-communist sections of China.* However, both of these societies have a common ancestor in the person of Dr. Sun Yat-sen. Dr. Sun, as the ideologue of renewed Chinese independence, set forth principles in his "Three Principles of the People" to which both branches of modern China continue to pay homage. For present purposes, the significant portion of these principles is Dr. Sun's perception of Chinese history as that of man's struggles with beasts, nature, and man. He saw the heart of China's traditional culture as an outgrowth of man's "struggle against nature".⁷⁵ That is a phrase which has become a

* The following introductory assessment of the man-nature-science relationship in modern China is expanded in Chapter VIII in treatment of Taiwan and the People's Republic.

commonplace in contemporary China. Taiwan's separate development will be briefly discussed in a later section, for now we will limit our assessment to the core of China.

Communist attitudes toward Chinese man in nature have imposed drastic changes upon traditional Chinese notions. Rather than dualistic hierarchical harmony, the Communists have transferred their ideas of the dialectic of struggle and permanent revolution to the world of nature. ⁷⁶ Mao Tse-tung has been in the forefront calling upon the Chinese to see man's relationship with nature in a new light:

In the struggle for production and in scientific experiment, mankind makes constant progress and nature undergoes constant change; they never remain at the same level.

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For the purpose of attaining freedom in the world of nature, man must use natural science to understand, conquer, and change nature and then attain freedom from nature.

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Although the Communists on occasion seem attached to Taoist attitudes and often reiterate their rejection of Confucian social values, they have retained - in common with Confucianism - a decidedly man-centered outlook. In the words of a character out of modern China's proletarian literature: "We can lick anything in heaven or on earth, it's man, not nature, that decides whether we have a bumper harvest". ⁷⁹

The Chinese reaction to the revised man-nature attitudes has been to indulge their energies full bent in

the advocacy of science. To contemporary Chinese science and technology have become virtual panaceas. They have, as Barnett observed, been "almost deified".⁸⁰ Under the banner of Mao Tse-tung thought the Chinese are engaged in a massive "struggle" with their natural environment. There are many references to this struggle in print,⁸¹ but one example of the attitudes they symbolize will suffice. The Tachai commune is China's model for the masses. In this quote we have Chen Yung-kuei, party secretary of the Tachai production brigade, speaking to a doubting villager:

It doesn't matter how high the mountains are, or how steep the gullies. They're not living things. It's man that counts. We'll tackle the mountains and ravines one by one. Each one we transform will be one less we have to do. And there'll come a day when we will have changed the face of our land.

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This anthropocentric viewpoint with its implicit emphasis on science and technology is quite at variance with both the reality of China's traditional man-nature relationships and the popular image of those relationships as held in the West. The transition has been the source of many problems which will be dealt with below, however it should not be criticized too harshly. Whereas China's Taoist traditions permitted the Chinese to develop a viable and coherent view of nature and science, the development of science as influenced by the West led to increased technological depredation of nature. This trend of science is away from Taoist notions. In this sense

the Communist's perception of man-nature struggles and conquests via science is much closer to the Judeo-Christian notions of man's dominance over nature and the scientific viewpoints which are based on those notions. For the present, at least, the contemporary Chinese ideas of man and nature have lessened the jolt caused by technological excesses. The questions aroused by those excesses and their import for both China and the West are matters reserved for later sections.

It is appropriate that Japan follow China in order of our treatment, for Japan is in many respects an offspring of the Chinese cultural tradition. Indeed it is most significant that Japan's first major infusion of Sinic culture came during the T'ang dynasty, a period when Chinese concerns with nature were at a critically formative stage. The Japanese, by adapting T'ang China's culture to their own indigenous culture, were fortunate in their timing. Had the Japanese discovered China at an earlier period, they might well have absorbed traditions which would have been antagonistic to their indigenous culture. It is to this indigenous culture to which we shall turn first.

The early Japanese way of life centered around a vague system of beliefs concerning man as an integral part of nature. In fact man was such an integral part of his

surroundings that there was not any word for "nature". The concept of nature as something apart from man had not yet developed.⁸³ Shintō is the name that became applied to these vague beliefs. At first the name did not exist. It is a Sinicized term which came into being at a later date so that its adherents could compare their beliefs with the religions imported from China. Early Shintō was not really a religion. A religion can be defined, but as Sansom has observed, early Shintō defies any clear-cut definition.⁸⁴ Rather, it was an intuitive feeling which pervaded a primitive and superstitious society. This feeling linked man as one with his surroundings and made him observant of the sensibilities of those surroundings whether animate or inanimate. This intuitive and emotional relationship is something which has appeared in other cultures - for example, in cultures as diverse as the early Greeks and the American Indians; it is also a state of mind which has been advocated by many contemporary conservation activists. One of the most unique aspects of this state of mind of early Japan is that it has never been totally displaced in the Japanese psyche. Sansom has observed:

A nature worship of which the mainspring is appreciation rather than fear is not to be dismissed as base and fetishistic animism, and much that is kindly and gracious in the life of the Japanese today can be traced to those sentiments which caused their remote ancestors to ascribe divinity not only to the powerful and awe-inspiring, such as the sun and the moon and the tempest, or to the useful, such as the well and the cooking pot, but also to the

lovely and pleasant, such as the rocks and streams, the trees and flowers. The worship of such objects has its counterpart in that delicate sensibility to the beauties of nature which is one of the most endearing characteristics of the modern Japanese. Beyond doubt it is a characteristic deeply rooted in the past.

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Despite the changes which have occurred in Japan since Sansom rhapsodized,* a strain of primitive Shintō remains to this day in the make-up of the Japanese.

Shintō as a religion did not remain on this primeval level for long after the influx of Chinese culture. In time it developed into a more highly structured set of doctrines. Despite the superstructure it developed as state-Shintō, there remained within Shintō one aspect which retained the essence of its original form. This is the continued belief in resident spiritual essences - "kami" - in the natural environment. Muraoka termed this element "meijō shugi"⁸⁶ ("brightness-purityism"). This aspect of organized Shintō in conjunction with the imported Chinese concepts of man-in-nature as influenced by the Taoists found a receptive home in Japanese culture. This amalgam of man in nature views persisted in Japan up until the impact of the West. However, over the years as Japanese culture was Sinified, Confucian notions of a man-centered world-view grew in prominence.

* These changes and their effects on Japanese attitudes are assessed in chapters IX and XI.

Despite, or perhaps because of, this overall trend, Japanese culture developed a sense of wistfulness toward its past. This occurred in China as well, but for the Chinese the focus was on past greatness, while for the Japanese the focus was on the primitive and austere. In the immediately pre-modern era we find examples of such notions among both Confucians and Shintōists. Two exceptional Neo-Confucians of eighteenth century Japan, Kaibara Ekken and Miura Baien, broke away from Confucian concerns with man's central place and sought to propagate a view of man integrated with and filial to nature in the sense that man owed a debt to nature which he must repay with careful devotion.⁸⁷ Neither of these figures represent a dominant influence, but they along with Shintōists such as the somewhat later agrarian reformer Ninomiya Sontoku kept intellectually alive the fundamentals of early Japanese beliefs. Ninomiya left the following poem for posterity:

The beaten path
 Is covered with fallen leaves;
 Brush them aside
 And see the footprints
 Of the Sun-goddess.⁸⁸

This expresses very graphically the latent essence of Japanese culture which lay beneath the Sinic overlay.

Modernization of Japan in the nineteenth century did little to uncover this essence. Instead, another layer imported from the West was placed upon the cultural amalgam

which is Japan. Just as China had attempted to reject Western culture while accepting Western science and technology, Japan sought these same goals under the slogan of "Eastern ethics and Western science".⁸⁹ Unlike the Chinese who wrestled with this issue for many many years, the Japanese quite rapidly recognized that Western culture and science were very much a unitary phenomenon and that to accept the one meant acceptance of at least a portion of the other. It was not until the turn of the century and the early twentieth century that revisionism set in once more and the Japanese longingly turned to their distant past. In the intervening years it was Western culture with its science in the forefront which set the pace.

The Japanese grew increasingly dissatisfied with the excesses of hyperbolic converts to Western cultures. Their reaction was to reexamine their past. In the face of this perceived threat to their ancient if underused traditions the Japanese placed new value on those traditions. It is interesting to note that the word we now use to describe these renewed interests - their "aesthetic" drives - was not known to pre-modern Japanese. It is a term ("bigaku") which was devised about 1880 by Japanese seeking to assess the glories of the West then in vogue.⁹⁰ The irony is that this Western-introduced concept was used as a means

to comprehend the essence of Japan's past. This essence - "the footprints of the Sun-goddess" - was still there beneath the layers of Sinic and Western leaves.

The essence of the old ways remained in the life-styles of the rural population living close to the land. It remained also in the arts which traced their roots to rural Japan. For it was rural Japan, where the people remained intimate with the spirits of their natural environment, which was the living repository of Japan's cultural essence. Writing of these people in the 1930s, Anesaki Masaharu said:

In many countries nature is thought of as necessarily wild and bold, in contrast to human refinement. According to that conception, life consists in the combat against nature, or in the conquest of it. But the Japanese lives too close to nature for him to antagonize her, the benignant mother of mankind.

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The closeness of the Japanese to nature was similar to the notions of the Taoists, but differed in the sense that Taoists consciously sought unity with an idealized nature, while the Japanese intuited the essence of nature. ⁹² In seeking to return to the old ways the Japanese were reacting against the secular materialism of life; against what Akutagawa Ryūnosuke's Kappa character "Lap" termed the most important religion of Japan - "modernism, or life-worship". ⁹³

Contemporary Japan and its man-nature-technology complex will be assessed in greater detail below, but tentatively we

can state that the old traditional Japanese attitudes remain viable despite the pressures they have withstood. Shintō remains alive if not particularly robust. In Japan's urbanizing society the Shintō ceremony has devolved into somewhat of an anachronistic rite performed more to placate the human psyche than the natural spirits. The standard bearers of the old traditions survive, but frequently are human relics euphemistically called "human treasures".⁹⁴

The changes which have occurred in the short span of years since the end of the Second World War make the pre-war standards which were criticized as excessively materialistic seem very traditional by comparison. Thus when the Japanese solitary holdout on Guam, Sergeant Yokoi Shōichi, returned to Japan after an absence of twenty eight years and expressed a desire to return to a mountain near his birthplace and pay his respects,⁹⁵ the Japanese public respected his wishes but thought them a bit quaint. The fact that Yokoi, a man who probably considered himself to be "modern" when he left Japan as a young man, was now considered a quaint oddity says a great deal about the changes which have occurred in postwar Japan and how they have affected Japanese man-in-nature attitudes. At the same time, however, the fact that the public generally respected his desires and could sympathize with him reflects the degree to which primeval notions of man in nature, beyond the ken of many non-Japanese, remain present

in the Japanese mind.

The renowned Japanese love of nature still exists,⁹⁶ but it has been diluted by modernization and its excesses. The dilution has apparently been strong enough to lead Japan's representative to the United Nations' Stockholm Conference in 1972 to state Japan's reasons for supporting the conference and its activities as "to eradicate the traditional conquest-minded approach to nature and instead emphasize a more harmonious relationship between man and

nature".⁹⁷ At first glance one might think the representative had erroneously attributed such an approach to Japan's tradition out of ignorance of Japan's true traditions. This may, in fact, be the case, but it seems more likely that the position of the Japanese government reflects the reality of Japan's modern "tradition" - a tradition which embodies the conquest-over-nature legacies Judeo-Christian cultures imparted to the sciences and technologies absorbed by the Japanese. Contemporary Japan's man-in-nature concepts are therefore an amalgam of imperfectly meshed traditions. The modern Japanese poet, Kitagawa Fuyuhiko, reflected this blend of concerns:

The sun shines in mildly from tall windows,
 A humming rises from the steelworks.
 I got out of bed
 And poked with a stick the muck in the ditch;
 The turbid water slowly began to move.
 A little lizard had yielded himself to the current.
 In the fields

I push open black earth.
 The wheat sprouts greenly grow.
 - You can trust the earth.

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Whether the Japanese can continue to rely on the earth in the future is a crucial question - a question which shall be assessed in later chapters.

((Man and Nature: East and West))

To conclude this section on man and nature in the East and West we will turn to a brief assessment of the interactions of these frequently conflicting value systems.

Europe's first contacts in East Asia were with China. Prior to Europe's widespread contacts with China in the nineteenth century, Westerners were fascinated by the superior civilization of Cathay. To the Chinese the respect the early European visitors granted them was considered their due. They were the center and all else was beyond the bounds of civilization.

It was natural that others would seek their association.

Europeans envisaged China as a very advanced civilization of gentle scholars and happy landmen.⁹⁹

In Europe's outpost in the New World, China was advocated as a model for Americans in their relations with Europe.

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However, these views of China did not persist. Westerners' appreciation of China was inestimably heightened by their ignorance of Asia's reality. Since such ignorance was pervasive in the West, social reformers and theorizers were able to

attribute all manner of ideals - ideals which they wished to realize in their own societies - to the Chinese and there was not anyone able to refute them. This stage passed abruptly as increasing numbers of Westerners found their way to the Far East. Their newfound familiarity came in conjunction with an age of technological advance in the West. This convergence of historical trends was not propitious for East Asia. No longer were China and its cultural kin described in adoring terms; they were viewed as backward, inefficient, and corrupt. They were ripe for plucking in a colonial era. This abrupt reversal of estimations marked the beginning of a long period of decline in Asia's place in East-West relations.

Other areas of East Asia, notably Japan, which had rejected European intrusions after their initial heavy-handed misadventures were now forcibly opened to Western contacts. The weakening of China and its defeats by Western arms made sustained resistance on the part of others futile. In brief, the result of this reversal of positions and prestige was a period of modernization which is still in progress. Much of that long and involved process is well beyond our present scope,* but the end

* The place of the man-nature-technology relationship in the process of modernization, however, is at the core of later sections.

result - modernized societies based on very different cultural traditions, is of great interest.

As Asia modernized and regained a measure of respect in the eyes of Westerners, a curious phenomenon developed. Attitudes of disdain for Eastern traditions underwent another reversal as those traditions were seen to be capable of supporting modernization without dehumanization or denaturalization. This reversal of attitudes was not uniform. Disdain still prevails in some quarters. Nevertheless, there exists in the West today a widespread admiration for alleged Eastern values. We might well expect such admiration from philosophers and indeed it is there,¹⁰¹ but we can find examples of it in many other quarters. We find it among political scientists,¹⁰² journalists,¹⁰³ and among some natural scientists.¹⁰⁴ We can find it among those who seek humanistic solutions to man's ecological crises and among those who follow technocratic approaches.¹⁰⁵ Such admiration has focused especially on Japan's aesthetic traditions¹⁰⁶ and on China's so-called "Mao-ethic".¹⁰⁷

Not surprisingly the one area in which we do not ordinarily* find acceptance of such views of East Asian

* Such qualification is necessary to account for occasional Sinophiles and Japanophiles who dote on past traditions at the expense of current realities.

concepts of man-nature relationships is among specialists. Save for such individuals one could legitimately assert that the general state of knowledge about East Asian realities is not appreciably higher than the ignorance of seventeenth century Europe. The continued existence of such ignorance attests to the unfortunate lack of influence of academic specialists. In any event, popular Western images of East Asian man-nature harmony remain simplistic and out of touch with contemporary Asian life. Such images incorporate glib acceptance of idealized theories and project them as factual. Western reformers, whether self-serving or uninformed, play upon these popular images to call for attitudinal changes in the West.¹⁰⁸ Asians have frequently criticized the West for its lack of understanding of the East. The ironic and truly unfortunate aspect of contemporary admiration for Asian traditions is that it has come too late. Westerners, such as those cited above, are achieving their understanding of the East on the basis of notions which are losing their pertinency to Asian reality. Such Westerners are enamoured of a shadow.

The foregoing disavowal of much of the contemporary¹⁰⁹ and probably faddish interest in East Asian values should not be construed to imply that we cannot learn from those values. Indeed we can, but we must continuously

recall their relationship to Asian reality. We can also learn from East Asia in other senses.

One of the most fundamental lessons study of East Asian man-in-nature relationships can teach us is that man's notions of nature are far from uniform. Crucial to these differences is the notion of what constitutes civilization. In the East Asian cultural realm the notion of civilization is traced back to the written word, while the West traces its ideas about civilization back to the creation of cities.¹¹⁰ The role of cities in nature appreciation is critical in this comparison. Cities are the antithesis of nature and their growth and spread in the West has had a direct relationship to the development of nature appreciation in the West.¹¹¹ Western nature appreciation in its search for the antithesis of man-made social environments has come to place a very high value on nature as wilderness. In contrast, East Asian civilizations have emphasized a literary and idealized view of a natural environment which has been greatly man-influenced for many generations. In such a cultural milieu wilderness has been equated with barbarism and is uncivilized in a sense antithetical to the sense in which a Westerner might praise the uncivilized character of his dwindling natural environment.¹¹² These perspectives have very different premises.

The differing notions of man-in-nature in East and West

as popularly perceived have often been attributed to Asian views of man in the universe - particularly with reference to his sense of time. Many works by Westerners make assumptions about Asian man's views of time which are misinformed. Western views of time concepts are characterized as linear and progressive. In contrast, Asia is too commonly treated as a single cultural block in which cyclical theories of time prevail. Asia is anything but a cultural unit. Its diversity easily matches that of the West and may well, surpass it. While it would be comforting, from the point of view of the ecological paradigm, to believe the pervasiveness of cyclical views was a fact, reality belies such a belief.

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As Joseph Needham has observed, the time perspective of China and its kin in the greater East Asian cultural realm is a linear perspective. Cyclical perspectives must be assigned to the Indic cultural realm to which they belong. Of course there has been some cross-fertilization between these realms, but the same can be said of the West albeit to a lesser degree.* The import of this similarity in time perspectives in East Asia and the West for man-nature relationships is apparent when we note once more the central place of man in so much of both Sinic cultures and of Judeo-

* This is an opportune juncture to note that there is little reason for any of these cultures to be so limited in their time views. A spirallitic conception of time could well fit each. This is a theme which will be examined again in concluding.

Christian cultures. In both East and West man has, despite the philosophical stance of a minority, considered himself supreme on earth and reached the conclusion that he is supreme over earth. Man in both realms sees himself as progressing in his life on earth and using the earth as a tool toward his own ends. Such anthropocentric views have, in the phrase of one Chinese writer, "thrown the whole structure out of balance".¹¹⁴

To close this section it would be nice to end on a note of optimism, but such optimism is not warranted. There is a basic dilemma present in any man-nature relationship which will prove inescapable whether in the West or in East Asia. This dilemma is based on a paradox which Joseph W. Krutch aptly described:

He (man) regards nature sometimes as a friend and sometimes as an enemy. He loves it and fears it. He uses it and destroys it. Nature is what he tries to get away from and then something he wishes to keep. He replaces it with his homes and factories, then wishes to return to it. He tries to impose on it human order and civilization, and then suddenly finds himself dreaming of a golden age when man and nature were one.

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The dilemma arising out of this paradox is that, in Aldo Leopold's terms:

All conservation of wildness is self-defeating, for to cherish we must see and fondle, and when enough have seen and fondled, there is no wilderness left to cherish.

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or as Tuan Yi-fu observed: "nature is threatened by the clumsy embrace of its proliferating admirers".¹¹⁷ This dilemma will plague mankind and defy solution. Despite the pessimism inherent in this dilemma, we cannot afford to be defeatist. As both Leopold¹¹⁸ and Thoreau¹¹⁹ have observed, we must continue, despite the poor prospects, to aim high at achieving greater harmony between man and the natural environment. The alternatives spell disaster so our choices are circumscribed.*

* Choices, rational and irrational, are assessed further in relation to ecopolitics, below.

CHAPTER V

The Ecological Perspective of Harold and Margaret Sprout

Before turning to an assessment of the natural resource-related roots of political power as effected by man-in-nature concepts in conjunction with technology and social structures,* we will turn to an assessment of the conceptual tools offered by Harold and Margaret Sprout for judging such relationships.

In the Sprouts' many writings¹ they have evolved notions about political man in his physical habitat which are, as noted in the introduction, under-utilized by contemporary political science. These notions are termed the "ecological perspective" on international relations. The basis of this approach is recognition of the integral relationships between the physical or natural environment² and political man in his social milieu.³ The Sprouts refer to the ecological perspective on these relationships as "a distinctive way of seeing" and they add,

* The three criteria for assessing natural resources and culture as noted by Spehr; see Chapter III, footnote 32.

It is this distinctive way of seeing - and comprehending - that brings to the study of international politics a relevant and fruitful new dimension under conditions prevailing in the final quarter of the twentieth century. The ecological way of seeing and comprehending envisages international politics as a system of relationships among interdependent, earth-related communities that share with one another an increasingly crowded planet that offers finite and exhaustible quantities of basic essentials of human well-being and existence. Salient likewise in the ecological mode of seeing and comprehending is the concept of an inter-related whole.

4

On the ecological whole of the earth lives political man, interacting with the environment and drawing upon it for sustenance. It is the manner in which man chooses to interact and the constraints man's earth-bound condition imposes upon man which constitute the problem areas of the ecological perspective. Or, as the Sprouts have said,

Explanations of ecological relationships, and assessments of their significance, are derived from two sets of factors: (1) factors of environment, and (2) attributes of the environed organism or population.

5

Human attributes as well as environing conditions - more precisely the combination of attributes and environment - have a bearing on patterns of power and influence, on the processes of modernization, on attitudes of the poor and afflicted toward the rich and affluent, and vice versa, and hence on the character of the international order.

6

The Sprouts see man's choices in the light of Western traditions. They decry the possessive and destructive character of Judeo-Christian cultures and believe that trait,

is evident in callous destructive attitudes and behavior toward the earth and its subhuman inhabitants, typically most ruthless where the capacity to exploit is greatest. This attitude toward nature inspires the endless stream of fanciful scenarios that predict technological miracles by which future generations will remake the earth to suit their purposes. Implicit in such scenarios is an unlimited faith in human ability to go on exploiting the earth, overcoming or circumventing the restraints that shackled previous generations, and ignoring with impunity the progressive denudation of the landscape, destruction of wildlife, depletion of high-yield natural resources, and worsening pollution of air, water, and land.

From the ecological perspective, this image of the future is unrealistic, to say the least. It contrasts in every respect with the view that human populations, including those individuals who innovate, lead, and rule, are all parts of complex living systems, inescapably dependent upon the finite earth for present well-being and future survival.

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The Sprouts donounce what they term the "engineering perspective", which they correctly assert pervades the West, as a form of "narrow tunnel-like vision that obscures

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ramifying interconnections". The implication here is that non-Western attitudes may offer superior alternatives and well they may, but we must recall our examination of Western images of East Asian man-in-nature attitudes and not make

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any gratuitous assumptions.

The major thesis resulting from the Sprouts' notion of an ecological perspective is that,

it will require major changes in values, attitudes, economic practices, and styles of living, accompanied by massive changes in the allocation of goods and services, and concerted international cooperation of a scope and on a scale only dimly imagined as yet, if the earth is to continue to be a congenial habitat.

10

However, they realize that, although the ecological crises which confront man are complex and are mixtures of both subjective impressions and objective realities, man must move beyond the stage of exhortation to the delineation of explicit criteria.¹¹ Despite this recognition, the creation of such standards is not their forte; nor should it be. Their strength lies in their forceful presentation of notions about the ecological perspective and the need to adopt it world-wide.

In the preceding paragraphs the term "notion" has been deliberately used vis-a-vis the ecological perspective. The word "theory" has not been used for a specific reason. The ecological perspective is not a theory. It is, instead, as the Sprouts have stated, "a way of seeing". It is a "conceptual framework".* The

* A conceptual framework is a phenomenon which is "not at all like a verified hypothesis or set of verified hypotheses. It arises out of an effort to order a mass of data, but it does not depend primarily upon statistically significant correlations, nor can it be stated as an 'if-then' proposition - i.e., 'if such and such conditions are verifiably present, then this or that will occur (either absolutely or with a specified probability)' it serves to identify a large number of relevant variables, and it suggests interesting possible interrelationships among these variables, but it does not establish precise correlational linkages among the variables, nor does it necessarily contain hypotheses that would lead to a predictive capability concerning the kind of substantial policy which a decision-maker might choose in a given situation."

significance of this distinction is that, as Raymond Aron has observed, "Conceptualization is neither true nor untrue. It is pointless to try to refute it."¹³ That is, a conceptual framework is taken as a promise. Similarly, in dealing with the ecosystem, we cannot prove that it exists. As the Sprouts have observed, "it is the condition of interrelatedness that justifies, from the ecological perspective, the judgement that an ecosystem exists, even in the absence of widespread internal recognition thereof."¹⁴

What this means is that, in both the ecosystem and the ecological perspective - as a "way of seeing" political man in the ecosystem, we are dealing with constructs which are virtually axiomatic. They can be accepted or rejected, but not proved or disproved.

The importance of the above distinction relates to the normative theory with which the Sprouts have capped their conceptual framework. Because of the necessity to believe or disbelieve in a conceptual framework, as Aron has noted, "between the conceptualization and the ideology a subtle affinity can be discovered."¹⁵ An ideology is merely another form of a normative theory. The Sprouts' normative theorizing focuses on the idea of "one worldism".

We travel together, passengers on a little spaceship, dependent on its vulnerable resources of air and soil; all committed for our safety to its security and peace; preserved from annihilation only by the care, the work, and, I will say, the love we give our fragile craft.

Adlai Stevenson
 ***** 16

For the Sprouts, the concept of earth as a complexly interrelated habitat for political man leads them to conclude that,

A corollary of (the principle of interrelatedness) is the growing irrelevance, from an ecological standpoint, of the historic separation of domestic and foreign affairs. This separation, sanctified in the venerable legal doctrine of exclusive national jurisdiction over 'domestic questions', is further buttressed by the archaic conception of the nation-state as a discrete entity with an existence, set of goals and imperatives, code of behavior, and personality and will, that transcend the human individuals from whom the state organization is derived and for whose welfare it presumably exists.

17

The Sprouts denounce the fact that we are "encumbered with an archaic, fragmented international system of jurisdiction and authority that survives from an era when the human population of the earth was not one but many." 18

The Sprouts reinforce their assertions with the argument that "narrow tunnel-like focus is characteristic of international statecraft, in which parochial conceptions of national interest nearly always take precedence over the welfare or survival of other nations." 19

While the writer fully accepts the conceptual framework of the ecological perspective, the normative theories imposed upon it by the Sprouts - although well intentioned - leave much to be desired. The Sprouts originally advocated such views of political one-worldism during the 1950s. Their advocacy relied quite heavily upon the research of John Herz published as the "Rise and Demise of the Territorial State".²⁰ The problem here is that Herz changed his view of the nation-state and undercut the Sprouts, witness Herz's later statements:

The rapidly growing pressure of population outrunning resources not only prevents the underdeveloped from modernizing but may actually lead to conditions deteriorating so badly that territory may assume overwhelming importance again. Unless there is rapid and drastic population planning, excess populations will press against boundaries separating them from - for the most part equally overpopulated - neighbors, and wars may ensue with the violence of the primitive elementary struggle for 'hunting grounds' and 'water holes', only now on a global plane. Territory would become a object of expansionism and conquest again, and nationalism assume, or reassume, the nature of antagonism and despair. The big and wealthy would withdraw into their poverty-surrounded nuclear fortresses, or else engage in renewed 'international civil war'. For the time being, so it appears, it is not internationalism, 'universalism', or any other supranational model that constitutes the alternative to the territorial, or nation-state, system, but genuine, raw chaos.

21

Beyond this, the Sprouts underestimate the capacity of the concept of national interest. National interest is not necessarily served solely by "narrow tunnel-like" vision. In fact, as Hans Morgenthau has observed, the

key to national interest is survival and a very large element in survival is to always consider the national interests of all other parties before acting.²² This key to national interest is a parallel to notions of ecological equilibrium. Akin to this notion is the notion of ecological advantage which derives from the stability inherent in a diversity of species. The more species there are present, the greater are the possibilities for future adaptations to changing conditions.²³ The political parallel to this would enhance the role of separate nation-states. The ecological perspective, by permitting us to view political man on his earthly habitat as a gestalt, can with equal justification consider factors of cross-cultural/inter-national contact holistically as a means to encourage co-habitation and co-existence among nations and to ensure the survival of national species. The nation-state is a part of political reality. It will not go away by declaring it to be anachronistic. Differing cultures and political cultures make the nation-state a legitimate part of the ecological whole of international relations. To deny its reality and validity is akin to those reductionists who cull out the messy data so that they will have a neater package to present.

The Sprouts recognize that sovereign states are not going to "wither away"²⁴ and that a "psychic sense of

community transcending the national polity is growing very slowly and unevenly if at all",²⁵ but nevertheless they believe that

the statesmen's dilemma is unlikely to fade away; that, on the contrary, it is likely to tighten, and in its varied forms to direct attention to forces and trends that, depending upon human choices in many countries, can push us either closer to instant or creeping catastrophe or alternatively toward a safer, more salubrious, and enduring world community.

26

Consequently they find it

reasonable to anticipate that outdated sovereignty and narrow nationalism will continue to give ground, in practice if not in principle, before the pressures toward a more integrated politics of the planet earth. Indeed, it seems to us clearly possible that cumulative incremental erosions of state sovereignty may in due course, perhaps before the end of the century, change significantly this currently accepted postulate of the state system.

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They recognize that "avarice, ignorance, conservatism, and sheer inertia may prevent effective grappling" with the critical issues.²⁸ However, they fail to indicate why we must confront either-or type choices or that, rather than Hobbesian man abutting a stone wall, man's selfish interests might lead to a third normative alternative.*

Despite the flaws in their normative theorizing, it remains their belief, as demonstrated by their choice of

* This alternative - a concert or condominium - is assessed further in the concluding chapter.

a clearly normative quote to sum up their most comprehensive work on the subject ("Toward a Politics of the Planet Earth"). The quote is from Raymond B. Fosdick in the 1947 Annual Report of the Rockefeller Foundation:

We must push toward the ultimate goal of world unity with iron determination and fanatical patience. We must believe in it against all discouragements, against all failures, against all betrayals. There is indeed nothing else we can do. For in the long run there is no alternative. (Emphasis added)

29

They are certainly not alone in their beliefs. The idea that nations are a plague on man's unity is not new. It can be found in both East and West. In Asia, for example, witness Kang Yu-wei's "Great Commonwealth".³⁰ More pertinent to the Sprouts are similar ideas in the recent West. Wendell Wilkie's advocacy of world government is a notable example.³¹ Of still greater pertinence to the Sprouts are those who linked concepts of man-in-nature to his abuse of his habitat and decided world government is the answer. Notable here are Warren Thompson³² and Ward and Dubos.³³ The difference in the latter instances is that the writers are far more pessimistic about the chances for success. Pessimism in this regard is a mark of prudence because the problems of many one-worldists focus on their naivete.

The concept of one-world is a good one. It is at the heart of the ecological perspective and is a notion

which advocates of that perspective's wider utilization, the writer included, readily accept. The difficulty arises when one attempts to transform the concept of physical unity into political unity. The interpretations or normative theories which can be derived from the one-world concept are too numerous to warrant delimiting ones choices to egalitarian world-government. Man has other choices and these choices are not adequately examined by the Sprouts.

The key to these other alternatives is the continued existence of nation-states. As was noted above, these phenomena of human cultures are a reality and rather than ignore or seek to fundamentally alter them we would be better advised to accept their reality and work with it. Teilhard de Chardin once wrote:

The age of nations is past. The task before us now, if we would not perish, is to shake off our ancient prejudices, and to build the earth.

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The problem with such lines of thinking is that we do not "shake off" old prejudices; we merely add new ones on top of old ones and think we have changed. Such "changes" are dangerous illusions. Man is man. That reality will not be altered by wishful thinking. Man's control over man - power - is not something that can be unlearned. It can be wielded and controlled with a great deal of effort, but not dismissed. Barring a radical and sudden reversal of man's character, the

means to such control will remain the nation-state or its equivalents.

This should not be taken as an assertion of a future of chaos as the Sprouts have suggested. Nation-states can cooperate when the need for cooperation is apparent. Such a need is indeed becoming increasingly apparent when the world is viewed via the ecological perspective. As the Sprouts and others have suggested, international organizations have an important role to play in future cooperative endeavors.³⁵

However,³⁶ such endeavors have not yet been particularly fruitfull. The basic problem here is one which has been recognized by political man for ages. As Kuan-tzu in the Fourth century, B.C. succinctly observed, "All countries have laws, but there is no law to enforce laws".³⁷ The blunt fact is that good faith is not sufficient. Man needs to be assured of the means of control. It is this need, a need which is not met in the Sprouts' normative theorizing, which will constitute the core of the concluding portion of this study.

To sum up this section on the Sprouts, what can we add about their conceptual framework and theory? Of the two, the former would seem to be of greater value. Nevertheless, the Sprouts should not be criticized too harshly for advocating very idealistic normative theories

Despite the contradictions in their tendency toward utopianism while at the same time asserting their convictions as political scientists concerned with very much real-world relationships of man and the physical environment, the Sprouts should not be faulted for they and other idealists perform a service. The ecological crises are real and need to be brought before the public. To do this ideological excesses are quite legitimate.³⁸ In fact, one of the major roles of environmentalists has been to act as gadflies attempting to convert the masses.³⁸ As the Audubon Society's Roland C. Clement has observed, "Conservation is neither a science nor an art, but a doctrine."³⁹ It is a doctrine to be proselytized and at this the Sprouts are quite effective. The one drawback in this situation is that the conservation movement has drawn so heavily upon the wellsprings of moral idealism, particularly in the United States,⁴⁰ that it has attracted the animosity of knee-jerk conservatives.⁴¹ The unfortunate aspect of this development is that conservationists and political conservatives, despite their etymological linkage, have assumed antonymous connotations. This is indeed unfortunate because conservatives commonly have a very great and real stake in preserving the physical bases of power; the preservation for which conservationists toil.

* This issue is raised again below in relation to the "Limits to Growth", see pp. 119-120.

Recognizing these problems and the difficulties they pose for the Sprouts' normative theorizing, the emphasis in this study will fall upon the ecological perspective as a conceptual framework and not, except as specifically noted, as a normative theory. The framework will be assessed in relation to the roots of political power in general and as applied in East Asia. The normative theory will only be returned to in the context of concluding remarks about alternatives available to mankind.

CHAPTER VI

Ecopolitics: Man, Resources, Power

((Resources and Power))

The Second World War was once declared to have been "the latest episode in the struggle to possess the world's resources".¹ The implication is that it was but one of a continuum of wars; a continuum stretching into the future as well. Such a notion has not been a popular one. The too common assumption is that such an idea verges on environmental determinism and because determinism is invalid, the idea has been outdated. But has it really?

Warren S. Thompson, a demographer, offered a presciently insightful comment in 1945 - barely two months into the atomic age:

The atomic bomb does not eliminate the problems of differential population pressures and unequal resources; rather it increases the urgency of dealing with them wisely and quickly. Until the use of atomic power removes all scarcities and points the way to abundance everywhere, man will scramble for what he needs, and this will lead to war - to more awful wars than we have dreamed of in the past.

2

Thompson's prescience has still not been fully absorbed. A postwar assumption of wide circulation has held that if we could only prevent another war, our other problems would seem minor by comparison. Such an assumption is erroneous.

Even if man's wars were somehow magically caused to vanish, man would not be free of struggle. As Harrison Brown rhetorically asked:

Would the problems of survival of industrial civilization be solved? It is clear that they would not. Elimination of war, although it is an absolutely necessary condition for survival, is by no means a sufficient condition. In truth, the task of eliminating war, difficult though it may appear, pales into insignificance beside the further problems that will confront us.

3

In a different, but related vein, S.H. Nasr observed:

Many labour under the illusion that only war is evil and that if only it could be averted man could go on peacefully to create paradise on earth. What is forgotten is that in both the state of war and peace man is waging an incessant war upon nature. The official state of war is no more than an occasional outburst of an activity that goes on all the time within the souls of men, in human society and towards nature. It is no more than a chimerical dream to expect to have peace based upon a state of intense war toward nature and disequilibrium with the cosmic environment. It is only the complete ignorance of what man's relation to nature means that could allow such views to be entertained. Whether one pollutes water resources in a single bombing or does so over a twenty-year period is essentially the same; the only difference is the matter of time. The net result does not matter in the two cases because in both instances man is waging a war against nature.

4

The common bond between these ideas is that man is engaged in an infinite struggle on a finite earth. The dilemma present here focuses on the proper means to prolong the struggle without causing self-destruction.

In recent years the faddish quality of the "eco-boom" referred to in the introduction has dulled man's appreciation

of the intense seriousness of the problems mankind faces in the future. To the extent that the seriousness is recognized it is commonly seen in terms which fall far short of threats to the existence of a given state. We typically fret about the short-run, but are casual in our attitudes toward the long-run. This is a grave mistake for as President Kennedy observed, "the long-run effect will be not only to degrade the quality of the national life but to weaken the foundations of national power."⁵

The "foundations" of national power* are found in many quarters. However, the one ineluctable root of a nation's political power is its ties to the earth's resources. The social bases of political power are maleable and can be reconstituted in multifarious ways to yield similar results. To varying degrees this is true of natural resources as well. Substitutions are certainly possible, but they have a limit.

* In the following discussion of the natural resource-related roots of political power it is worthwhile citing once more the caveat emphasized by the Sprouts: "Failures to keep the discussion of state capabilities within some policy frame of reference is one of the reasons why a good deal that has been said about the so-called "elements" or "foundations" of national power is footless and unconvincing. The data of physical geography have no intrinsic political significance whatever. Nor have demographic, technological, economic, or other environmental data. Such factors acquire political significance only when related to some frame of assumptions as to what is to be attempted, by what means, when and where, and vis-a-vis what adversaries, associates, and bystanders" (6) Man's goals and actions are not determined by the availability of resources, but his ability to reach pre-determined goals can be influenced by such availability.

It is this limit, which despite man's maneuverings, enforces upon man the realization of his earthly bounds.*

Saudia Arabia's King Feisal once remarked, "Oil and politics don't mix".⁷ As he and other mid-Eastern leaders have since discovered, they most certainly do mix and into a most potent brew. The oil related energy crisis of the early 1970s is an example of the direct use of a natural resource as a political weapon. In this instance a resource was directly used as a source of power. However, these events were more political than they were resource related. That is, the resource scarcity was politically inspired. Such events are related to present concerns, but they are not the central concerns. These concerns are those of political man on finite earth and what finity implies for the future.

((Geography))

Man is a product of the earth's surface.

Ellen Churchill Semple
***** 8

In any assessment of political man in his earthly habitat one must have recourse to the discipline of geo-

* This topic was introduced in Chapter III and will be examined in detail throughout the sections of the present chapter.

graphy. For all too many political scientists such recourse is held to a brief excursion into the data of physical geography - noting location, sizes, climates, and on occasion a bit on distribution patterns. After such an examination the political scientist commonly turns his back on geography in favor of the "really important" factors. This is not terribly surprising because the image of the discipline is rather poor.⁹ As J.P. Cole observed,

The mention of the word geography usually provokes either a shudder of horror or the happy recollection of lists of rivers and mountains and capitals in far-off school days.

10

The state of knowledge concerning geography as a disciplinary tool is often abysmally low.¹¹ This is unfortunate indeed because geography is quite a useful discipline for those who will approach it without preconceptions.

For international relations specialists, in particular, the discipline of geography has a special significance. The study of international relations as a separate field owes a great debt to the political realism of nineteenth century geographers.¹² Unfortunately the debt is readily forgotten because of subsequent excesses of some geopoliticians.*

Among contemporary political scientists the Sprouts

* This topic will be returned to below.

are in the forefront in blending the disciplines of politics and geography. Their position on the relationship between these disciplines and their "ecological perspective" was stated:

While our discussion of the ecological perspective, concepts, and theories is set specifically in the context of international politics, much of the illustrative material.... is drawn from other fields, in particular from the field of human geography. (the) concept of geographic quality is central to the ecological perspective and to any scheme for analysis of ecological relationships.... The ecological perspective and ecological theories bring the dimensions of location, distance, space, distribution, and configuration sharply into focus in many social contexts, not least in the context of politics in general and of international politics in particular.

13

The aspect of human or cultural geography which makes it so valuable for the political scientist using the conceptual framework of the ecological perspective is that it readily incorporates the most difficult notions of ecology into a man-oriented context. Commoner has observed that,

Understanding the ecosphere comes hard because, to the modern mind, it is a curiously foreign place. We have become accustomed to think of separate, singular events, each dependent upon a unique, singular cause. But in the ecosphere every event is also a cause.

14

Such relationships can be difficult to grasp, particularly for the social scientist trained in disciplines which exaggerate reductionist tendencies of analytical research. However, this type of relationship is well understood by the cultural geographer. As an eminent geographer, Jan Broek,

said of his discipline in comparison to other social disciplines:

The workers in each of those disciplines extract from reality one particular set of phenomena to study. Some of them criticize geographers because they are interested in all things at once and thus constantly trespass into fields already neatly divided among the systematic sciences. They do not understand that the geographer studies peoples, industries, cities, climates not for their own sake, but because he perceives them as parts of a whole that give character to a place. In this holistic position geography resembles history. The historian, too, uses any and all facts - a constitution, a muddy battlefield, a statesman's ulcer - to explain a historic event. Both history and geography take a comprehensive view of mankind and earth, one stressing time bonds, the other place bonds. This approach counterbalances artificial partitions. Geographers feel that the greater the fragmentation of knowledge the more the need for putting the bits together again in an orderly way, to understand the reality of places.

15

Two descriptions of geography admirably supplement Broek. Camille Vallaux was correct when he called geography "a philosophy of the world of man"¹⁶ The breadth and depth of inquiry of the geographer encompasses all of man's activities on earth. As such it does have philosophical overtones. Even more cogent in the present context is Eyre and Jones' notion of "geography as human ecology".¹⁷ Other disciplines may well be jealous of such broadly based inter-
 developing, but the characterization fits geography very well.

The aspect of geography which accounts for this broad scope is the viewpoint it shares with the Sprouts' ecological perspective - its holism. Of holism and geography L. Dudley

Stamp said:

"undoubtedly the unique contribution of the geographer is the holistic approach in which he sees the relationship between man and his environment, with its attendant problems, as a whole.

18

Holism and the ecological perspective, when brought to bear on international politics, well illustrate the political significance of the words of Naturalist, John Muir: "When you try to touch one thing by itself, you find it hitched to everything else in the universe."¹⁹

((Ecopolitics : Geopolitics))

~~Any study of political man in his physical habitat -~~
blending politics and geography - necessarily confronts "geopolitics". In doing so, one is treading on dangerous terrain for geopolitics is a term which often arouses hostility among political scientists.

To understand this hostility we must look to the development of geopolitics as a field of study. Ladis K.D. Kristof has said, "Geopolitics is a war casualty".²⁰ A partial reason for its fate after the Second World War was its association with the Nazis. The German theoretician, Karl Haushofer, led in the development of a branch of geopolitics - his "geopolitik" - which via its Teutonic emotional-ideological appeal led to the decline of

geopolitics as a whole.*²¹

Haushofer alone cannot bear all the blame. The other branches of geopolitics share in the responsibility. The other branches of geopolitics were led by non-Germans. However, they too trace their origins to Teutonic roots. The pioneers of geopolitics were Friedrich Ratzel - a semi-deterministic German geographer, and Rudolf Kjellen²² - a pan-German Swede. Their non-German followers were principally in England and the United States.

The best known geopolitical theoretician is undoubtedly Britain's Sir Halford Mackinder whose famous Heartland dictum:

Who rules East Europe commands the Heartland;
Who rules the Heartland commands the World-Island;
Who rules the World-Island commands the World.

23

influenced countless politicians. Mackinder's emphasis was on the value of land-spaces and its control by armed forces. The counterpart to Mackinder was to be found across the Atlantic in the person of the U.S. Navy's Alfred Thayer Mahan who advocated the primacy of sea-power in controlling²⁴ the lands the sea encompassed.

* Even today words which were popularized by his Geopolitik such as "weltanschauung" (world-view) or "lebensraum" (living space) sound too Germanic to be used without emotional connotation.

The United States was home to other schools of geopolitical thought. Most notable among these was Nicholas Spykman's Rimland theory which conceived of a ring of states encircling the continental unit of Eurasia. Paraphrasing Mackinder, Spykman said:

Who controls the rimland rules Eurasia;
Who rules Eurasia controls the destinies of the world.

25

Spykman's ideas were mid-way between Mackinder and Mahan and recognized the utility of both land and sea forces. Spykman's rimland notions have been more persistent than either of its predecessors.²⁶ Superceding Mackinder, Mahan, and Spykman was the concept of air power reigning supreme as developed by Major Alexander de Seversky.²⁷ A brief interim also saw General Billy Mitchell posit an overlay of air-power on top of a Mackinder-like "heartland", but rather than Eurasia, Mitchell believed "he who rules Alaska will rule the world".²⁸

The problem with all of the above geopolitical theories is two-sided. On the one hand, these theorists were too confident about their predictions. They viewed their theories as a cause to be advocated and attempted to project them in all instances.²⁹ Such attitudes led to the following quip:

Ah blessed styptic on the nicks!
O brave new geopolitics!

30

On the other hand and complementing their excessive confidence, was what the Sprouts have called "the most serious defect in

geopolitical theorizing", "the almost universal failure of the theorists to anticipate and allow for the rate of technological and other change."³¹ The most gross example of this inflexibility was their continued assessments of geopolitical events in solely military terms. Their inflexibility prevented the die-hard geopoliticians from making the transition into the nuclear age. Although a few power-as-force geopoliticians still dwell among us,³² the school they represent has been terribly outdated by the advent of the nuclear age and, of course, by the continued association of geopolitics with geopolitik.

One additional basis upon which geopolitics has been criticized is its alleged reliance on the single-factor discipline of geography. Typical of such attacks are the views of Quincy Wright and Hans Morgenthau:

Wright: It has been the hope of some geographers that because of the apparent permanence of geographic conditions, geography might become the master science of international relations. This hope seems vain. Geography is primarily a descriptive discipline. ... Geography... does not determine international relations.

33

Morgenthau: Geopolitics... had given a valid picture of one aspect of the reality of national power, a picture seen from the exclusive, and therefore distorting, angle of geography.

34

Such attacks are, with exceptions, unwarranted. The exceptions are those individuals who do not understand geography and

hence apply the term as one factor. However, for most geographers and geopoliticians the idea of geography as "single-factor" is incongruous. Geography is the antithesis of single-factor.³⁵

Despite all its faults there are aspects of geopolitics which make it worthy of reexamination. As Samuel Clemens was reported to have said when notified of his demise, "the report of my death is premature".³⁶ Geopolitics is not dead; merely abused and forgotten. As long as the statement of Friedrich Ratzel - "every state is one part humanity and one part land."³⁷ - remains valid, the essential notions which underlie geopolitics will remain viable. And the validity of Ratzel's view promises to remain a constant as long as political man survives.

The essentials which underlie geopolitics are those which also underlie the Sprouts' ecological perspective. Both constructs form a conceptual framework. The error of geopolitic's (and geopolitik's) ways came about when they traversed the line and became normative theories.³⁸ The framework upon which the various geopolitical theories and the normative theory of the Sprouts both rest is an admirable one. The difficulty arises when the superimposed normative theory is found wanting. Although the Sprouts

theory would seem to be more promising than those of the geopoliticians cited above, one must await the verdict of history.

In any event, it is the essentials which underlie these theorists' efforts which is the focus of this study. The problems of political man in relation to his earthly environment constitute these essentials. This entails study of politics and "geographic" factors. As was indicated above, "geography" should not be conceived of in simplistic terms. With this caveat in mind, we can note that the nuclear stalemate has given renewed importance to the topographic and geomorphic aspects of the landscape which are so commonly designated "geographic".³⁹ However, this renewed importance is not sufficient to reinvigorate the old geopolitical theories which so heavily stressed arms in relation to spatial factors. No, we must, instead, make better use of geography as a holistic discipline.

In studying politics from a geographic* point of view - i.e., drawing upon the ecological perspective of the Sprouts and the basics it holds in common with geopolitics,

* Henceforth in this study, any use of the term "geographic" or a variant will be in the sense of holistic geography and (with noted exceptions) never in reference to topographic or other surface factors.


we shall be utilizing the term "ecopolitics". This term designates the ecological or environmental study of politics,⁴⁰ hence eco-politics. Just as ecology is the holistic study of nature and cultural geography, with its roots in nature and man's place therein, is the holistic study of man on earth, ecopolitics⁴¹ synthesizes these holistic views and brings them to bear on political man and the earth he lives on.⁴² Despite the emphasis which ecopolitics places on the physical environment,⁴³ its focus remains on the political. This is necessary to note because of the disciplinary squabbles which have centered on this overlap.⁴⁴

Any ecopolitical study with its concern with the environment and man runs the risk of slipping into the quicksand of environmental determinism. We will attempt to avoid this trap by stating the problem at the outset. Mackinder, in an often overlooked portion of his classic work - "Democratic Ideals and Reality", stated: "Man and not nature initiates, but nature in large measure controls."⁴⁵

* The writer uses the term ecopolitics with some reluctance. Revitalizing "geopolitics" might be preferable. As Robert Tucker said of his use of "isolationism": "Rather than accept the argument that isolationism must remain a millstone around the neck of anyone unfortunate enough to be tagged with it, the sensible course would seem that of rehabilitating a badly abused term. Whether isolationism is rejected or accepted, it ought at least to be seen for what it is and its disadvantages or advantages examined soberly." (41) Unfortunately "geopolitics" has been too thoroughly abused, hence the use of ecopolitics. Nevertheless, the writer's debt to the contributions of geopolitical theorists is great.

The degree of control is the central issue. Kristof offered
 us a man-nature spectrum:
 46

Nature-Directed Nature-Limited Man-Directed



The trend of history is toward "man-directed", but the factor of what the German's call "erdgebundenheit" or "Earth-dependence" constrains man to the middle ranges of the spectrum. Therefore the question is not of nature controlling man, but of nature imposing limitations on man's endeavors. The difficulty here is that "limitation" can be conceived too rigidly. A more desirable notion is that of flexible limits. Such a notion may seem inherently contradictory. To clarify this seeming contradiction we must recall that the idea of "nature" is a cultural phenomenon and that limits imposed by nature are always relative to the goals posited by cultural man. Thus the limits are flexible in the sense that they are determined by and respond to man's goals.

Despite this flexibility of natural limitations, to man with his persistent goals the limitations of nature often appear unbending. It is for this reason that mankind needs to be reminded of man's "earth-dependence". Social scientists, in particular, with their tendency to see man at the man-directed end of the man-nature spectrum, need to develop a stronger appreciation of such dependence. As

Aldo Leopold has observed:

There is value in any experience that reminds us of our dependency on the soil-plant-animal-man food chain, and of the fundamental organization of the biota. Civilization has so cluttered the elemental man-earth relation with gadgets and middlemen that awareness of it is growing dim. We fancy that industry supports us, forgetting what supports industry.

47

Toward this end, ecopolitics and the ecological perspective
48
can serve as a down-to-earth political frame of reference.

As noted above in our examination of the concept of power, "power" in the nuclear age is increasingly manifested in non-military terms. Of these alternative forms, economic power has come to the fore. The significance of this is very great in ecopolitical terms. Geopolitics' most serious failings were related to its static notions of power. Its concerns were strategic, but on a very low level which verged on the tactical. It has been said of Mackinder's "heartland" that:

When Mackinder first delimited his Heartland, it was very sparsely peopled, and there was little inkling of the immense store of natural wealth which it contained. In fact, the most remarkable thing about his area was that its geographical significance in the world power scheme was apparently almost independent of its population and resources, which imparted to it an almost mystical aura.

49

And it must be remembered that Mackinder's ideas were quite logical and rational when compared to some other geopoliticians. Their concerns were not with finity and resource

availability, but with control of territory for military advantage.

In contrast, ecopolitical concerns focus on resource finity and political man's reactions to such finity. Raymond Aron, in referring to the "temporary suspension of the struggle for space", said:

The present distribution of men and resources on the surface of the earth suggests that the struggle for space might not be over, despite the partial independence acquired by the human collectivities with regard to their environment."

50

As Saul Cohen stated:

Place, accessibility to resources, and qualitative use of these resources through historically derived cultural advantages continue to give power dominance to certain parts of the earth.

51

In terms of the economic-political power which a nation-state derives from either its possession of or assured access to natural resources deemed essential to meet the state's goals, one might visualize bases of power as positive power bases as contrasted with negative or passive power bases. Of the two categories, the positive power base - those which most nearly achieve resource and economic self-sufficiency, are the most powerful in ecopolitical terms. In times of international economic and political amicability the tensions between positive and negative bases are overcome by international trade. Such commerce, in con-

junction with the superpower stalemate, are in fact the factors which permit consideration of negative or passive bases of power. In harsher, more competitive times, it is doubtful that such a concept could be conceived. Until very recently it has been a virtually universal assumption that such harshness was a thing of the past. Such assumptions can no longer be immediately accepted. As man increasingly recognizes the finity of the earth and the future pressures man's numbers may create on finite space, competition for dwindling resources - both renewable and non-renewable - will become increasingly severe. These are the problems of man's future which we will examine under the rubric of ecopolitics.

Prior to turning to an examination of these problems, a word about the theoretical value of ecopolitical studies is in order. Theoretical social models have had a tendency to be faddish. They have followed the trends of their times. In the Newtonian age mechanical models prevailed. Darwinism led to a spate of biological models. The present era witnesses a surfeit of statistical models. What the future holds is, of course, debateable, but the ecological model would seem to hold a great deal of promise. Morgan has noted science's preference for simplicity - "the simpler the theory and the more it can handle the better".⁵² What

could be simpler than the unitary whole of the ecological perspective, yet at the same time handle the immense complexity political man faces in the ecosystem? The ecological perspective enables man to get a firm grasp of the issues which confront him. Aron has said that such an outlook "allowed the problem to be expressed, but dictated no solution".⁵³ It is true that specific solutions are not inherently suggested by using the ecological perspective, but what is wrong with clearly stating a problem? If we think of Thurber's Scotty, we will recall that "it is better to ask some of the questions than to know all the answers".* The conceptual framework of the ecological perspective offers us a vantage point from which to see ecopolitical problems clearly.⁵⁴ From there we may, in consideration of our goals, attempt to find normative solutions.

((Resources, Growth, and Doomsday))

Follow the path of civilization and the farther
you go the more nearly you approach a desert.

J.N. Darling

***** 55

What does the future hold for man on earth? Shall we continue to be complacent or attempt to re-shape men's attitudes toward the earth. These are the questions which

* See Chapter I, note # 44.

will be examined here.

It has been said of H.G. Wells that "his success as a futurist was based on a supreme confidence in man's worst instincts".⁵⁶ This characterization of a successful futurist is as applicable today as it was to past futurists. Man has provided little evidence for believing otherwise. As James Branch Cabell observed nearly half a century ago, "The optimist proclaims that we live in the best of all possible worlds; and the pessimist fears this is true."⁵⁷ Few would argue that the world today indeed offers man the best he has ever known. Yet at the same time this knowledge is hardly reassuring about the future of man. When we look at man's past record, we had better join Wells in his confidence in man's baser instincts.

The central problem with man as he relates to his earthly habitat remains his anthropocentric perspective on the ecosphere.* Few men would deny the veracity of Teilhard de Chardin's assessment of man:

Mankind represents the culmination^o of the whole movement of matter and life, so far as it is within the range of our experience.

58

Despite our acceptance of such a view, we need not neces-

* Man in nature views were evaluated previously in Chapter IV.

sarily posit man's supremacy over other natural phenomena. We need not, but we do. Despite Copernicus and Darwin, for contemporary man the center of the cosmos and of natural processes remains man himself.⁵⁹ Man as a natural and cultural being inevitably will effect the natural systems of which he is an integral part. The difficulty is that man's self-centeredness unbalances the system on which he depends. As William Vogt has noted,

Man is the only organism known that lives by destroying the environment indispensable to his survival. Parasites tend to do this, but their destructive effectiveness is limited by the absence of intelligence.

60

Man's vehicle for achieving such destruction of his supportive surroundings is his culturally derived economic systems. As will be seen below, economic systems do not necessarily have to be destructive, but for the most part they have been. John Stuart Mill said of economic man and nature:

Of the features which characterize (the) progressive economical movement of civilized nations, that which first excites attention, through its intimate connection with the phenomenon of Production, is the perpetual, and so far as human foresight can extend, the unlimited, growth of man's power over nature.

61

Any idea of man's conquest of nature is, as was illustrated in Chapter IV, an illusion. Yet the illusion persists. It persists in the form of political man seeking greater power via his economic system's ability to achieve growth.

Mr. Gabriel: Sir, you must face facts. You have a beautiful piece of property and undesirable tenants. By any conceivable rule of property management, you have but one choice. (raising a golden horn to his lips) Shall I sound the eviction notice now?

The Landlord (hesitating): No. Let's extend their short-term lease for just more year, Gabriel.

Mr. Gabriel: But you've been saying that for ages, Sir.

The Landlord (sighing deeply): I know, Gabriel. But I keep thinking that sooner or later they're going to stop acting as though they owned the place.

Art Hoppe
***** 62

Growth! This term has been a byword of modern civilization. Shall we grow or shall we stagnate? This has been the "either-or" set of alternatives which man has generally accepted. Until very recently, that is. By the mid-twentieth century, the excesses resulting from growth caused some to question the validity of such an either-or alternative.

The matter of growth as a question to be raised was brought before the public most forcefully by two publications. These were Meadows, et. al.'s "Limits to Growth"⁶³ and "Blueprint for Survival",⁶⁴ a special issue of Britain's "Ecologist". The conclusions of both of these efforts were that growth without restraints will be disastrous. In the words of "Limits...":*

* The title will hereafter be cited in this shortened manner.

We can thus say with some confidence that, under the assumption of no major change in the present system, population and industrial growth will certainly stop within the next century, at the latest.

65

That is, unfettered growth will cause a confrontation with the bounds of the ecosystem. That are are such bounds is virtually axiomatic. In Commoner's phrase:

One can argue whether the ecosphere, in its pre-human, natural condition or in its present one, operates near its intrinsic limit; but that there is some limit, and that the system's operation does not permit indefinitely continued growth, is undeniable.

66

That such limits are axiomatic creates difficulties because not everyone accepts the axiom. Those that do not insist upon pressing forward. The difficulty here is that by pressing forward - by advocating infinite growth - the bounds will eventually be met. When this occurs or when we can all see indisputable evidence of its immanence, it will be too late to change our course. The reason it will be too late is the exponential characteristics of growth. By the time we know that exponential growth is within reach of the limits, it will be too late.

67

Man on his finite world⁶⁸ is forced to face the inescapable facts which Vogt represented with the formula,
 $C = B ; E^*$ ⁶⁹ This "carrying capacity" is the limit. Again,

* C - "carrying capacity of any spatial unit; B - "biotic potential" or the ability of a spatial unit to produce resources of use to man; E - "environmental resistance" or limitations imposed by natural or man-made environments on productive ability.

as noted above, the limit must be considered a flexible limit but a limit nonetheless. Such flexibility is apparent in that Vogt's simple formula can easily be used to describe a balanced relationship. However, as we have seen, man's attitudes toward nature tend instead toward disequilibrium. As George Perkins Marsh wrote:

Man has too long forgotten that the earth was given to him for usufruct alone, not for consumption, still less for profligate waste.

70

Man's unbounded notions of growth and the resultant abuse of nature and gross wastage was aptly termed "growthmania".⁷¹ It is this facet of man which supports Art Höpfe's apocryphal dialogue cited above.

The most obvious consequence of man's growthmania has been the spread of man-made pollutants in the natural environment. Although man-made pollutants have been around as long as man's cultures, the industrial revolution transformed the impact of such pollutants. Of greater significance, however, was the massive increase in the scope of man-made pollutants which came in the wake of the technological revolution brought about by the scientific activities* generated by the Second World War.⁷² Pollutants were long considered to be necessary, if nasty, concomitants of success-

* The place of science and technology in the ecopolitical issues confronting mankind is examined in depth below.

ful modern life. Such an evaluation still persists in some quarters,* but for many people complacency was eradicated by the publication of Rachel Carson's "Silent Spring".⁷³ This watershed event brought the dangers of pesticides clearly into public focus. Concern over pesticides rapidly spread to incorporate the matters of which generations of environmentalists had long warned. The accumulation of long pent-up environmental concerns burst forth upon a receptive public. The result has been the eco-boom mentioned above.

Growth-oriented man and his waste products have been committing "terricide".⁷⁴ Despite man's awareness of his folly, the folly persists. It persists principally because men cannot agree on what levels of destruction and annoyance constitute intolerable levels.⁷⁴ The virtually uniformly accepted short-term answer to such problems among conservationists is recycling of materials. However, as Frank Graham has noted, "the obstacle is that conventional wisdom claims it is cheaper to pollute than to recycle. At present we are fighting a 'no-win war' on pollution".⁷⁶ The underlying problem is that of the character of economic growth. Central here is the notion of planned obsolescence to maintain a

* Third-World views are examined below. The meaning here is with reference to reactionary persistence.

continuing need. This is not a new phenomenon. At least as far back as 1900 Eduard Hahn had anticipated this feature of growth when he noted that "industrialization depended on the production of junk".⁷⁷ Unfortunately junk is waste and waste is the source of pollutants and resource scarcities. The problem is a severe one and, despite such semi-humorous "solutions" as Meadows' notion of placing every polluter's intake source downstream from the effluent outlet,⁷⁸ it remains a grim dilemma for mankind.

Growth is largely a concern of economics. Thus it is to economics and economists that we turn next. Ecology and economics have common etymological roots. The former is the study or science of the "house", while the latter is its management. At this point the similarity dissipates.

Economics was once known as the "dismal science", but that is a title which more legitimately belongs to ecology.⁷⁹

The rationale for this claim was well stated in Brubaker's comparison of the ecologist and the economist:

Economics, which has proved so valuable a tool in making short-term decisions where human wants are the supreme counter, is a weak reed when we extend our horizon. The economist can provide no rationale for decisions for the very long term. While the concept of option demand may be further developed along with evaluation of the desire to leave a legacy, at best these refer to the next generation or so. The true perspective of the economist is that in the long-run we are all dead. The economist, happiest with a simultaneous market, exhausts his boldness when he looks out twenty years and approaches it a year at a

time. We have no economics for the next thousand years.
By contrast, the ecologist looks far out - and trembles.
 (emphasis added) 80

Because of the different perspectives in these two disciplines the phenomenon known as the ecological crisis is also an indication of a profound economic, and hence political, crisis ⁸¹ - the dimensions of which remain beyond the understanding of many, both layman and professional economist. While these crises commonly focus on the capitalist systems which are our present concern, non-capitalist states are ⁸² faced with problems which are equally severe.* However, because of the character of the criticism of excessive or erratic economic growth which forms the core of contemporary environmentalism, the most vociferous response to critics such as "Limits...." and "Blueprint..." has come from capitalist economists.

While contemporary critics of rampant economic growth draw upon a long tradition of classical economists, especially Malthus and Ricardo who reached similar conclusions without the aid of computers, ⁸³ economists who are in the forefront of those attacking the critics also trace their heritage to classical economics. Of these critics' critics, some agree with the end conclusion, but quarrel with the

* See also the evaluations below of Malthus and Marx and of China's problems.

84
 means utilized to reach those ends. As the sponsors of "Limits....", the Executive Committee of the Club of Rome, said:

despite criticisms of its scientific accuracy and even its basic validity, it confirms the qualitative and intuitive conclusions of many.

85

Despite the empirical pretensions of the critics of excessive
 86
 growth, their goals break away from the scientific mode and become normative values. Acceptance of some of these values permitted a foremost American economist, Paul Samuelson, to concur in approaches of the critics of growth since
 87
 "Sometimes to sell you must oversell". However, many of those who attack the critics do not yet accept the values whether normative or supported by computer output.

Central to the opponents' views is another normative assumption - that modern man aspires to economic growth
 88
 regardless of his economic system. The factor which enables the opponents to hold such a view is their optimistic trust in ever-productive and ever-expanding technologies. Witness Evsey D. Domar:

Shall we reduce σ to zero and also abolish technological progress, thus escaping from unemployment into the 'nirvana' of a stationary state? This would indeed be a defeatist solution. It is largely due to technology and savings that humanity has made the remarkable advance of the last two hundred years, and now when our technological future seems so bright, there is less reason to abandon it than ever before.

89

Thus we have Arthur Okun asserting that "momentum is the name of the game in economic activity"⁹⁰ and John R. Maddox challenging what he terms the "doomsday syndrome" as a "paper tiger".⁹¹

Perhaps the most influential of the critics' critics has been Carl Kaysen in his "The Computer that cried W*O*L*F". Kaysen's views are the epitome of the opponents and are worth noting in detail. Kaysen attacks the notion of exponential growth by claiming the limits are not fixed, but are also exponential:

Once an exponentially improving technology is admitted into the model, along with exponentially growing population and production, the nature of its outcome changes sharply. The inevitability of crisis when a limit is reached disappears, since the 'limits' themselves are no longer fixed, but grow exponentially too.

92

Kaysen here demonstrates an abysmal lack of comprehension of the ecological paradigm. He is correct that limits are not fixed, but is in error when he transforms what are actually flexible limits bound by earthly constraints into exponentially growing limits. Limits can be reconstructed by man according to his goals, but finity cannot be transformed into infinity by human will. Technology as a panacea is a matter which will be taken up below. Suffice it to say that technology misapplied to nature's processes in the pursuit of growth or exponential limits is a guarantee of exponential problems.

Kaysen bases his views on two related points. Firstly, he properly notes that resources are economic entities in the sense that they are social values applied to physical phenomena. In this sense he maintains correctly that resources are "created" by man according to his needs.⁹³ Secondly, Kaysen criticizes the critics for not incorporating "adjustment mechanisms" which are present in economies into their calculations. Of these mechanisms, Kaysen asserts,

The most important of these is price; as a resource becomes scarce, the consequent rise in price leads to savings in use, to efforts to increase supply, and to technical innovation to offset the scarcity.

94

These assumptions of Kaysen, despite their truths, illustrate the danger of leaving ecopolitical problems in the hands of economists. The economist is extremely competent up to a point. It is at that point that the ecological perspective must be brought to bear. Kaysen and other economists offer us short-run answers to long-run problems. Consequently they tend to confuse the problem with the answer. Environmentalists recognize both the cultural character of resources and the role of the price mechanism. They just believe the pressures will become too great for compensation or substitution and that new approaches will have to be developed to handle the dilemma. In other words, the problem is the probable failure of adjustment mechanisms; they are not the answer.

95

As modern man increasingly arrogates to himself dominion over the physical environment, there is the risk that his false pride will cause him to take the resources of the earth for granted - and to lose all reverence for the land.

Stewart Udall
***** 96

Economic man and his use and abuse of his physical surroundings in his quest for usable materials - natural resources - have existed since the advent of human cultures. 97
The orthodox view of natural resources in economic systems is that while resources are necessary, they are not the determining factor. 98 The role of natural resources in the developing countries is assessed below, but for the moment the orthodox economic viewpoint is well represented by W. Arthur Lewis' statement that "What is lacking in most of these countries is not the means but the will." 99

In contrast to orthodox economic views the critics of excessive economic growth, led by "Limits...", state that growth must eventually come to a halt regardless of man's will due to the finity of available resources. The estimates of probable key resources offered by "Limits..." are instructive:

Estimate of Non-Renewable Natural Resources

<u>Resource</u>	<u>Number of Years Supply Remaining:</u> (presently known reserves)	(five times known reserves)
Aluminum	31	55
Chromium	95	154
Coal	111	150

Cobalt	60	148
Copper	21	48
Gold	9	29
Iron	93	173
Lead	21	64
Manganese	46	94
Mercury	13	41
Molybdenum	34	65
Natural Gas	22	49
Nickel	53	96
Petroleum	20	50
Platinum Group	47	85
Silver	13	42
Tin	15	61
Tungsten	28	72
Zinc	18	50

100.

Such figures should not be viewed as definitive. Reserves may be discovered, the "known" reserves may be faulty, or reserves may be depleted more or less rapidly than the criteria used in making such estimates. Nevertheless, the figures do suggest the trend which man has followed for centuries. The category of renewable natural resources must be seen in another light, of course. They are not finite, but neither are they infinite. Such resources are terribly vulnerable to man's manipulation. Well managed they will restore themselves indefinitely. However, man's management of renewable resources in relation to greatly increasing needs for such resources leaves much to be desired. In sum, the place of resources, renewable and non-renewable, in the ecumene is not determining but they are limiting. A shortage of resources will not necessarily be catastrophic if managed wisely, but with poor

management, shortages can range from depressive to utter catastrophe.¹⁰¹

In response to this situation, and to the man-in-nature dilemma it reflects, the so-called "new economics" has arisen. The key element of this type of economics as compared to "old" economics is that, as Nathaniel Wollman observed, "it pays greater attention to constraints within which economic behavior is observed and gives greater weight to the so-called intangibles".¹⁰² The "new-economics" places particular stress on the latter - intangibles. As Aaron Wildavsky noted,

The old economics was mostly economics. The new economics is mostly politics. The agonizing question confronting the new economics has troubled political theorists from the time of the Hebrew prophets to this very day: How shall society be organized so that the preferences of the morally or aesthetically sensitive minority will triumph?

103

A more important outgrowth of this sensitivity has been the development of reappraisals of the concept of Gross National Product. G.N.P. has been frequently misunderstood. It is too readily taken to be an indicator of success, wealth, and by extension - happiness. W. Arthur Lewis has argued in a noted article that a growing G.N.P. does not increase happiness but does increase "the range of human choice".¹⁰⁴ This in turn can presumably lead to greater happiness. Perhaps, but this has not proved to be the case in many instances.

James P. Grant (President of the Overseas Development Council) has warned the world, particularly the world's poor, that increased G.N.P.s do not relieve massive poverty nor do they assure happiness.¹⁰⁵ The problem here is to rethink G.N.P.. This will not be easy for as Kenneth Boulding has observed, modern societies are addicted to the types of numbers G.N.P. statistics provide: "We are really all Pythagoreans: Once we get a number, we sit down and worship it."¹⁰⁶ Both Paul Samuelson and Garrett Hardin have offered alternative standards for assessing economics and happiness. Samuelson offered his "NEW" (Net Economic Welfare) within which disamenities or economic "bads", as contrasted to "goods", would be incorporated and taken into account.¹⁰⁷ Hardin's "net national amenities" would assess only items which "contribute positively to human well-being".¹⁰⁸ Some such replacement for G.N.P. would seem to be a prerequisite for any concerted effort by mankind to define human goals as they relate to economic growth and exploitation of the earth and its resources.

* It should also be noted that Grant says relieving poverty and increasing happiness will not be achieved without economic growth, but such growth should be designed to achieve those ends - not merely to boost G.N.P..

** This can also apply to excessive scientific reductionism.

((Malthus and Neo-Malthusianism))

By land; they've stopped making it.

Mark Twain
***** 109

Although the importance of the so-called "new economics" is accepted here, the concern of this study is with what might be termed the "old-old economics". This is Malthusianism or its contemporary manifestation - Neo-Malthusianism.

Malthus' theory was a simple one:

I think I may fairly make two postulata. First, that food is necessary to the existence of man. Secondly, that the passion between the sexes is necessary and will remain nearly in its present state. Assuming then, my postulata as granted, I say that the power of population is indefinitely greater than the power in the earth to produce subsistence for man. Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio.

110

This theory, when modified by Malthus' "positive checks to population" (moral restraint, vice, and misery)¹¹¹ has been, since its inception, a source of much controversy.

Large families and the idealization of prolificacy have existed in Western civilization since the biblical era. However, it was not a major theme in Western social thought until the emergence of modern nationalism with its views of population in the power equation.¹¹² It was not a coincidence that Malthus' theory emerged in that context. Malthus'

theory was not truly a new one; merely his emphasis. Adam Smith's now "classical" principles of political economy stated the same relationship between man's quest for wealth and the paucity of the material bases of such wealth. As one authority on Malthus has observed, "Malthus only made more dramatic what Smith had earlier insisted upon: that men were as much subject to the laws of supply and demand as were commodities".

113

This idea of man's subordination to outside forces has made Malthusian ideas the subject of many attacks. The more rabid critics of Malthus are well represented by Colin Clark:

Many Malthusians have no knowledge of the simplest facts about population; and those who do know some demography seem to be almost universally uninformed on economics.

114

More qualified condemnation such as that of Frank Lorimer:

He (Malthus) did not comprehend the potentialities of science and technology, and his followers have persisted in minimizing their importance. They also minimize the importance of changes in social structure, culture and economic institutions. And, incidentally, they fix attention on absolute ratios of population to resources, as contrasted with the dynamic interrelation between demographic and economic changes, which may be more important over a considerable period than the absolute ratios.

115

gives Malthusians room to correct the error of their ways.

The common thread which runs among the critics of Malthus

is their assumption about the ability of man to overcome or avert obstacles placed in his path by non-human factors. It is therefore not surprising that some of the most consistent and continuing criticism of Malthus comes from socialists and communists with their dogmatic convictions regarding man's social power to master non-human and anti-socialist forces.

Engels, seeking to counter Malthusianism, wrote:

Capital increases daily; labor power grows together with population; and science masters natural forces for mankind to a greater extent every day.

Thanks to economics in general, our attention has been drawn to the productive power of the soil and humanity, so that now, having triumphed over this economic despair (Malthusianism), we are forever secure from the fear of overpopulation.

116

Josué de Castro in his extremely anti-Malthusian book, "The Geography of Hunger", declared Malthus to be "dangerous", proven wrong by science and history, and pro-imperialist.¹¹⁷ The attack on Malthus from the Left has given some the hope that a socialist state of economic equilibrium may offer man an alternative to excessive growth.¹¹⁸ In particular, Marxism has offered itself as the answer to the economic and ecopolitical difficulties of under-developed countries. Such countries have been haunted by the spectre of Malthusianism and deny its validity. Unfortunately they

are like a man trying to escape his shadow. As Benjamin Higgins has observed,

So far as pure economics is concerned, Marx's system is less directly applicable to problems of underdeveloped countries than that of Malthus. Marx did not really think of underdevelopment as an enduring state; underdeveloped countries were simply precapitalist ones, which unfortunately, would have to go through the capitalist phase before they could attain the Elysian Fields of communism.

119

Malthusianism, on the other hand, offers no panaceas. Its alternatives are to "bite the bullet" and face Malthusian facts. It is little wonder that "scientific" Marxism with its ready-made answers* and emotional appeals of total overhaul has been more widely accepted.

The wisdom of dogmatically denouncing Malthus because his notions do not conform to the world as we would like it to be must be questioned. Malthus addressed himself to the eternal dilemma of man on earth. His miscalculations and failures to adequately consider changing technologies and social adaptations ought to be sympathetically understood with the benefit of hindsight. Such errors do not detract from the validity of his assumptions. Even Engels, presumably at a weak moment, conceded a point:

* An inherent contradiction. The scientific approach is inherently sceptical and cannot condone the ready-made answers of Marxism. This topic is broached again below.

Let us not be very hopeful about our human conquest over nature. For each such victory, nature manages to take her revenge.

120

Malthusian concepts of man in his earthly habitat are critical for present and future ecopolitical concerns. The fact that man can stretch the limits does not mean that those limits can be made to vanish. As a leading study of man's resource dilemma stated:

The Malthusian limits are more likely to be extended by recognizing their validity and doing something about them than by uninformed ridicule.

121

Yet uninformed ridicule remains pervasive. How long this condition will persist is an open question.

One reason it is difficult to be definitive about the time-span within which Malthusian principles will be demonstrated more graphically is the problem of estimating population and its trends. The other is, what do we make of such figures once we have them?

One widely used estimate gives us the following data regarding population growth and growth rates:

Estimated Population of the World and the Number of Years Required for it to Double:

Year (A.D.)	Population (billions)	Years to Double
1	0.25 (?)	1650 (?)
1650	0.50	200
1850	1.1	80
1930	2.0	45
1975	4.0	35
2010	8.0	?

122

A more optimistic projection in which growth rates decline linearly to zero by the year 2000 states:

Area	1965	1970	1980	1990	2000
World	3,276	3,562	4,061	4,463	4,527
Africa	309	345	409	455	473
Asia	1,814	1,979	2,262	2,456	2,524
L. America	244	274	332	374	388
N. America	215	231	259	277	284
Europe	445	465	497	518	525
Oceania	17.5	19.3	22.6	24.9	25.6
U.S.S.R.	232	249	279	298	305

123

Such figures appear neat and clear-cut, but it must be remembered that the track-record of population forecasters is not impressive. The details of such projections need not overly concern us, but the direction of the trend should be of primary concern. The trend is toward larger and larger numbers of people on finite territory.*

What sorts of ultimate numbers are we dealing with? Harrison Brown projects that the earth could support fifty billion people at reduced levels of living. With man living on and in the sea perhaps one hundred billion could exist. Under conditions of extreme crowding and absolutely minimal caloric support, perhaps two hundred billion might eke out an existence. The questions then are would we want to

* In this regard it is worthwhile asking why we should consider population increases as "gains" and decreases as "losses" or "declines". In view of population-resource dilemmas should not we reverse our semantic priorities and consider population increases as social "losses" or "costs" and decreases as social "gains"? (125)

live that way and could we really do it? As for "could we", the question will remain unanswered until it is attempted. "Ratomorphic"¹²⁷ experiments on endurance of crowding would not seem any more reliable as a guide to the future than man's often ridiculous anthropomorphic notions about animals. The answer to "would we want to" is self-evident to all but formiphiles.

That our numbers will increase and that we must keep our numbers from becoming too gross is manifest. Despite our best efforts in this regard, the prospects are for some fairly substantial population increases before the time when our numbers can be controlled and stabilized. The question, then, is what will such relatively moderate numerical increases entail for man's confrontation with the ecopolitical dilemma. Two noted authorities,¹²⁸ Barry Commoner and W.S. Woytinsky,¹²⁹ contend that, for the short-range, population growth is not the crucial factor in exacerbating the ecopolitical dilemma, but rather it is the technological means man chooses in order to meet the dilemma. Futurologists Herman Kahn and B. Bruce Biggs follow in a similar vein when they contend that man's continued growth and progress in the short-run are necessary preconditions for finding long-run solutions because the wealth generated in the short-run will provide the means for finding long-run solutions.¹³⁰ In

contrast, and more convincingly, others - notably Lester
 131 Brown and Jean Mayer 132 - have argued that Malthus'
 argument that excessive numbers of the poor will lead to
 disaster did not go far enough. Their contention is that
 affluence is the culprit. Mayer says the problem is over-
 population but "not by the poor but by the rich". These
 views do not really undercut Malthus. Upon closer inspection,
 one can see that the result of excess affluence is wastage
 which in turn results in pressures toward more poverty.
 These views are opposite sides of the same coin.

((Malthusian Ecopolitics))

With development extended to the whole of planet earth
 What started with abundance may conclude in dismal dearth.
 And it really will not matter who started it or ran it
 If development results in an entirely plundered planet.

Kenneth Boulding
 ***** 133

Whether Malthus or his detractors will prove prophetic
 must await the verdict of history. However, if we merely wait
 for the verdict to come in, we will at the very least be
 guilty of complacency. Malthusian doomsdays are dependent
 upon man's ignorant complacency.

One Asian authority has claimed that by inventing
 agriculture primitive man "passed from a state of parasitism
 into a state of symbiosis". 134 This may have been accurate

at an early stage in cultures that emphasized beliefs in natural spirits, but once beyond this stage man reverted to some of his parasitic ways but in more destructive forms. The importance of this transformation is that man's invention of agriculture initiated the creation of a man-made world. As man's abilities to manipulate and benefit from this man-made world have expanded, man's dependence on his unnatural surroundings has increased.¹³⁵ Man, the cultural and natural being, has by his exertions achieved control over a portion of natural processes. Thus man, in the dualistic sense, is also an integral part of "controlled nature".¹³⁶ Of this complex natural and man-made world, Commoner has said:

Unwittingly, we have created for ourselves a new and dangerous world. We would be wise to move through it as though our lives were at stake.

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Indeed, they are at stake. Our dependence upon both the natural and man-made worlds increases constantly. In order to adjust to his initial dependence man devised technologies. Man's technological excesses have caused parasitic depletions of the supportive elements in the physical environment. To compensate for created scarcities man has resorted to newer and better technologies. In the process man has merely increased his dependency. He has added dependence on his technological man-made world on top of his original dependencies. As Watson and Watson have observed:

The most successful method possible for coping with the physical environment is one that makes man completely dependent on it. His technical skill makes him capable of controlling great parts of the physical environment. But because he simplifies the world's ecological system and because simpler ecological systems are more vulnerable to upset than are complex systems, man makes his culture as a whole much more vulnerable to overthrow by catastrophe than the cultures of ways of life that do not alter the natural ecology of the world so much.

138

Such a catastrophe is not impossible. Rather, man's tinkering with natural forces and his reduction of their capabilities to repair themselves tends to heighten the likelihood of a future catastrophe. Harrison Brown has noted that in the event of a catastrophe, industrial civilization probably would not be able to reestablish itself. Agrarian cultures are much more likely to endure a catastrophe because of their inherent stability.

139

In this regard, Brown has said:

Our present industrialization, itself the result of a combination of no longer existent circumstances, is the only foundation on which it seems possible that a future civilization capable of utilizing the vast resources of energy now hidden in rocks and seawater, and unutilized in the sun, can be built. If this foundation is destroyed, in all probability the human race has 'had it'. Perhaps there is possible a sort of halfway station, in which retrogression stops short of a complete extinction, but even this is not pleasant to contemplate.

140

The Watson's have echoed Brown:

The social institutions of the industrial state are exploitative; its technology is extractive. This technology depends on mining the resources of the earth and distributing the products made from them in nonrecoverable, nonreusable ways. The industrial way of life will

last only as long as both the fossil fuels that provide the energy and the raw materials in concentrations that can be refined with such levels of energy as are available. When these sources have been exhausted, man will have to revert, perhaps, to an elementary civilized way of life or to farming villages. The problem the physical environment sets for industrial society, then, is that of developing a technology which will permit a balance between the raw materials men use and the reusable material and organic wastes of man. ... Industrial man may not be in danger of destroying his habitat to such an extent that men can maintain no way of life, but he is in explicit danger of extracting and using raw materials from the earth in such a way that he will ultimately make the industrial way of life impossible.

141

There are some who would argue with this prospect and contend that man could withstand such a catastrophe.

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Perhaps, but is this what we want? Brown's description of a future agrarian world ought to make all mankind pause to ponder our options:

Collapse of machine civilization would be accompanied by starvation, disease, and death on a scale difficult to comprehend. There would be such violent competition for food that savagery would be the heritage of the survivors. Human life would be confined once again to those areas which can be most easily cultivated, watered, and fertilized, and the principles enunciated by Malthus would once again become the major force operating upon human populations. Only very slowly would the number of persons climb to the level which could be supported by a world-wide agrarian culture - about 5 billion.

143.

Unfortunately for man, his options must be tempered by the knowledge that his headlong race with the ecopolitical dilemma is characterized as exponential. The problem with exponential expansion within finite bounds is that, in Kahn

and Bruce-Biggs' phrase, "by the time you notice that you are in trouble you often have very little time left --- it is often too late to react adequately".¹⁴⁴ Mankind may well presently be in the position of the man who, after jumping off a skyscraper, passed a lower floor and shouted to someone at a window - "this seems to work out fine".¹⁴⁵ We may well have already fallen into a Malthusian abyss, but since we have not been there before we do not yet recognize the signs and will not really know what is going on until we can see the bottom speeding toward us or until we actually hit it. Our exponential race toward disaster will make the step from recognition to fulfillment exceedingly abrupt.

The ecopolitical dilemma of man's growing numbers in conjunction with growing scarcities of resources is most obvious today in two areas - food production and energy. Other resources are, of course, also being depleted, but not with such immediate consequences.

While energy shortages claim the headlines at the time of this writing, a problem of greater immediate and long-run concern is food production. In the recent past some authorities have postulated the year 1975 as the year in which famine will grip the world as it never has before. As that year approaches and food scarcities grow we have reason to pause. Whether a specific year was an accurate forecast or

not is, however, irrelevant. The important matter is that hunger is widespread and growing. Despite the fact that hunger is frequently cloaked by official listings of deaths by specific diseases rather than the hunger which weakened individuals and made them vulnerable to the diseases,¹⁴⁶ the presence of the apocalyptic horseman can not be hidden.

The prospects for increased food production on the scale which would be necessary to feed the world's present and future hungry masses are quite poor. Those who continue to look to the world's tropics and sub-polar regions as virgin territory,¹⁴⁷ cannot be given credence. Lateritic soils in the tropics and inadequate heat regimes in the sub-polar regions make the agricultural future of these areas extremely bleak. Food production must come very largely from presently known and developed regions.

The development of improved strains of crops such as "IR-8", the "miracle rice" developed in the Philippines, is recognized by most authorities as a temporary stop-gap which can, at best, provide man with some breathing space within which to devise methods to correct the social practises which have led to population pressures on the land.¹⁴⁸ The fact that such measures are not final solutions is emphasized by the appearance of what Paul Ehrlich calls "miracle rats"¹⁴⁹ and other specialized pests. In

this context, over-reliance on artificially generated seeds and their consequent simplification of their part of the ecosystem would well prove disastrous. The failure of such crops would leave a void which would be difficult to fill because of human reliance on artificially high crop yields. Most assuredly crop improvements on the earth's known agricultural-land resources will continue to provide more food for man, but aside from the ecological risks in such tinkering with natural processes, it alone will not be enough.

A more important approach is to encourage the more efficient use of known agricultural land resources. Land use efficiency is an acute problem in some of the underdeveloped and overpopulated regions of the world.¹⁵⁰ The industrialized West is not a paragon in this regard either. The labor-extensive methods of farming which dominate in the West reach a pinnacle in the United States. Such labor efficiency should not, however, be confused with land-use efficiency. In the latter terms the United States is quite inefficient and wasteful. The agricultural resources (land, water, and fertilizer) which are required for the support of one North American are in the range of fivefold that required to support an individual in the underdeveloped third-world.¹⁵¹ A more efficient use of agricultural resources is found in some of the "less advanced" agricultural areas. Although

there is some evidence that labor-intensive agriculture can benefit by the infusion of small scale mechanization,¹⁵² the individual care provided by intensive labor practices remains the most land-efficient.

An important concomitant of labor-intensive agriculture is the resultant emphasis on human consumption of foods that are of a low trophic level.¹⁵³ That is, they are lower on the food chain. Rather than eating the animal protein derived from consumption of lower foods, men in such circumstances rely on direct consumption and bypass the intermediate stages. In other words, men are by and large vegetarians in these conditions. The significance of this relationship of man and his eating habits is well illustrated by the following comparison:

1,000 calories of plant make 100 calories of insect which makes ten calories of trout which makes one calories of person. By skipping the insect and trout links in the food chain, we could get 1,000 calories input simply by eating the plant ourselves, rather than settling for ten calories of trout.

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Of course, not all insect food is edible by humans. Nonetheless, the principle presented here remains valid. This principle is that more men can survive per unit area if they are primary consumers than if they are secondary consumers.

Despite man's best efforts in regard to agricultural improvements and stabilization of population, we cannot assume that the food problem will be successfully dealt with. Agriculture is, always has been, and probably always will be* plagued by climatic vagaries. Climatic patterns traced on the earth are not static phenomena. They have shifted before and will shift again. There is, in fact, some substantial evidence that such a shift is presently occurring. Trends indicating colder weather and more severe droughts over many of the poorer areas of the world in the future ¹⁵⁵ do not auger well for man's future food production.

The second most crucial area of resource scarcities is that of energy. The concern over energy which pervades the world at the time of this writing is often termed a temporary crisis. To the extent that it is caused by narrowly political forces at play in the Middle East, this is a valid assessment,** but because of the spectre of more permanent resource shortages which hover behind the political actors it cannot legitimately be considered "temporary". Energy supplying resources are among the most crucial areas of projected

* Weather modification may become possible, but, if so, man would be well advised to question the advisability of such tinkering with his life support system.

** This topic will be returned to below.

shortfall in the estimates cited previously.¹⁵⁶ The situation varies from country to country, as will be seen below in the instances of the East Asian states. However, virtually all countries have become vulnerable to some degree to energy-resource scarcities because of their reliance on what Ubbelohde termed "energy slaves"¹⁵⁷ and consequently.

With the most highly populated nations of the world now striving to advance towards Tektopia, the prospects of energy starvation during the next Fifty years are very real. Energy famines are quite as real as food famines. The main difference is that their effects are insidious and take longer to reach the welfare of the individual, so that relief measures are more difficult to apply in good time.

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Despite the present gloom and short-run pessimism, the energy picture is not necessarily as bleak as it may appear. Unlike land finity and the finite amounts of many other currently irreplaceable nonrenewable resources, energy yielding resources offer a relatively bright very long-run future. The potentials for perpetually renewing solar energy sources, for extracting hydrogen from water via atomic energy, and for further advancements in nuclear fusion processes make man's very long-term energy problems more manageable.¹⁵⁹

The difficulty here is that if man plans on achieving such advances and acts on those assumptions in the interim, and then the assumptions prove to be illusory - i.e., the technological advances do not materialize, mankind will be caught

in the type of squeeze which could bring industrial civilization to a catastrophic end. For this reason, if for no other, prudence must be observed.

One of the most pernicious aspects of the energy crunch which will be with us for the next several decades at least is the interrelationship of energy and agriculture. High-energy agriculture as practiced in many of the "advanced" countries makes those peoples extremely vulnerable to energy scarcities. Energy fuels the farms and supplies much of the support products - such as chemical fertilizers - which are deemed essential to such agriculture. Should the availability of energy be reduced thus boosting its costs, the results will be rising consumer costs, cuts in production, or both. ¹⁶⁰ In any event, the "energy crisis" and high-energy agriculture do not mesh well. Taken to an extreme, such as the failure of energy-based industrialized societies, the result may be the appearance of low-energy agrarian ways of life such as have been suggested.

The ecopolitical dilemma of resource hungry man on a finite earth effects the economically developed countries and the less developed countries in different degrees. The have-not peoples find themselves in a quandry. The reasons for their situations have been the focus of numerous analyses. To expand on this topic would be beyond the scope

of this study. For present purposes Gunnar Myrdal's synoptic characterization - "nothing fails like failure"¹⁶¹ - will suffice as an explanation. Such peoples find themselves on a treadmill with little hope for a brighter future. When confronted by the ecopolitical dilemma it is not surprising that many third-worlders advocate views similar to those of Jusué de Castro:

The fundamental truth can no longer be concealed from mankind; the world has at its disposal enough resources to provide an adequate diet for everybody, everywhere. And if many of the guests on this earth have not yet been called to the table, it is because all known civilizations, including our own, have been organized on a basis of economic inequality.

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For them to admit otherwise would amount to tacit recognition of the validity of Malthusianism. As was noted above, this is not an admission they are yet prepared to make. They will not be prepared to make such an admission until economists in the leading countries revise their thoughts on the economic role of natural resources.

The assessment of resources and economics given above will not be repeated here. It is sufficient to note that the orthodox economic view believes that natural resources are more important to underdeveloped countries and less important to developed countries, that advanced countries rely on technological products more than natural products, and that

technological advance frequently equates with economic
 advance.¹⁶³ As Colin Clark said, "the principal factors
 in economic growth are not physical - natural resources and
 invested capital - but human".¹⁶⁴ In the face of such views
 it is very difficult, and probably too much to ask, for the
 peoples of the less-developed third world to accept the
 validity of Neo-Malthusian notions of limits. Their unwill-
 ingness to face Neo-Malthusian reality was reflected in the
 idealistic pressures placed upon the United Nations' Stock-
 holm Conference to produce an amenable final communique.*
 The conference's "Declaration on the Human Environment"
 declared, in part:

Man has constantly to sum up experience and go on
 discovering, inventing, creating and advancing. ...
 In the developing countries most of the environmental
 problems are caused by under-development. ... Along
 with social progress and the advance of production,
 science and technology, the capability of man to
 improve the environment increases with each passing
 day.

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Such defiantly anti-Malthusian precepts are an attempt to
 impose an idealized "reality" upon the ecopolitical dilemma.
 In time the veracity of one approach will be ascertained by
 events.

The elapsed time may prove to be rather brief for, as

* China's role in this process is examined below.

is the contention here, the role of the resources drawn from the physical environment is increasingly being accepted as a crucial limiting factor in economic and political affairs. Georg Borgstrom, in his "Hungry Planet", went so far as to assert:

The expression 'great power' no longer means the same as before; in effect only those countries are powerful which have natural resources in excess of their immediate needs, and in this sense only the U.S.S.R., Canada, Brazil, and the Congo qualify.

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For the moment this view remains hyperbolic, but in the future, Borgstrom and his kin may well be considered to have been prophetic. The prospect for increasing scarcities of a great variety of natural resources needed for continued growth or even mere maintenance of already achieved economic status in the advanced countries will be exacerbated by the increases in resource use by presently less-developed states as they develop to a point where they are capable of fully utilizing their own resource base. As Gabriel Kolko has observed:

The nations of the Third World may be poor, but in the last analysis the industrial world needs their resources more than these nations need the West,... In case of a total rupture between the industrial and supplier nations, it is the population of the industrial world that proportionately will suffer the most.

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Vulnerability to such a rupture of whatever cause and the resultant damage to advanced economies which would occur

will be heightened by the advanced economies' growing requirement to secure more of their needs from sources which will not greatly disrupt the world-wide ecological balance. These sources are primarily in the less-developed areas of the world.¹⁶⁸

It has been a commonplace in economically advanced countries that the economic development of less-developed countries should be fostered in order to close the gap between the rich and poor nations.¹⁶⁹ Some authorities have attempted to link such development and world-wide conservation efforts together.¹⁷⁰ While one must certainly wish the latter efforts well, it is apparent that success is very unlikely. The problems of development constitute a major hurdle, but perhaps a greater hurdle has yet to be fully appreciated. As the ecopolitical crises intensify, can we really anticipate that mankind will join together as brethren for the common good? This is not an impossibility, but on the basis of man's past demonstrations of brotherhood it would appear to be most unlikely. Is it not at least equally likely, if not more likely, that the threatened have-nations will seek to maintain their pre-eminence at the expense of the holders of what they consider to be "their" resources?¹⁷¹ In such a context the likelihood of continued support of developed countries for the development of poor

countries must be seriously questioned. This is particularly true in that the industries of less-developed countries use scarce resources less efficiently and to encourage their economic growth and hence greater use of resources can be legitimately equated with resource wastage. In this light Pavitt's warning about Neo-Malthusianism being in the interests of the rich and that it gives the rich a clear conscience ¹⁷² takes on added meaning.

Perhaps the most desirable goal for the rich and poor nations alike would be changed growth ethics. Indigenous pre-industrial values which retarded growth and fostered more harmonious relations between man and the natural environment ought to be encouraged in the poor nations. The aim would not be to keep the poor poor, but to prevent the poor from pawning their and our futures for the sake of short-term gains. The goal need not be no-growth, merely growth channelled into ecologically non-harmful areas. It would be what Ehrlich and Ehrlich termed "semi-development". ¹⁷³ This might well take the form James Grant suggested - small-scale rurally based industrialization utilizing local labor and agricultural resources. ¹⁷⁴ As long as such a scheme retained its limits there would be little reason to question it. However, if it expanded to broach the limits, it would become self-defeating.

Despite the desirability of changing goals among the would-be developing nations in favor of less ecologically harmful growth plans, it would be extremely difficult. The third-worlders have every right to query the right of developed countries to advise them to change their growth-related goals. As Sterling Brubaker said in relation to restrictive growth,

If we must restrict, how will we do it? And if we restrict, do we also select? Indeed, can any method for restricting be neutral with respect to selecting?

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The problem is immense and intensely emotional in a world barely removed from the throes of colonialism. Acao Augusto de Araujo Castro, Brazil's Ambassador to the United States, spoke for many in the less-developed countries when he stated:

In tackling the problems related to the preservation of the human environment the tendency is to place an unduly strong accent on the dangers of rapid industrialization. Emphasis is put on the dangers of pollution. These are certainly serious for the highly industrialized countries, but the larger part of the planet is still in a stage of pre-contamination since it has not yet had a chance to become polluted. Two-thirds of mankind are far more threatened by hunger and poverty than by the evils of pollution. ... It is clear that the less developed countries will not want to repeat the errors of the highly industrialized countries, but it is evident that they cannot passively accept the resurrection, in the twentieth century, of Jean-Jacques Rousseau's theory of the 'happy savage' which lent flavor and color to French romanticism. 'Do not let happen to your cities what has happened to New York.' 'Preserve your beautiful landscapes.' Such warnings are constantly hammered into the ears of the representatives of less developed countries. But these less developed countries start from the premise that schemes

to preserve the human environment ought to take into account the basic factors of development since underdevelopment is, itself, one of the worst forms of pollution.

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The errors in this statement are manifest. The less-developed areas of the world are not "pre-contaminated". The ecosphere is a unit. It cannot be compartmentalized artificially. Despite his disclaimer that the developing nations do not want pollution, want it or not they will get it if they pursue growth blindly. Words, however persuasive, will not be sufficient to convince the less-developed peoples to alter their ways while they still have time. Action will be necessary.

If the ecopolitical crises deteriorated sufficiently, coercive action upon the part of the threatened states may prove necessary from the viewpoint of those states.* Short of such drastic measures, the presently developed countries would be well advised to modify their own growth ethic in favor of greater man-nature harmony. Such a new ethic would, in addition to its inherent value as a means of re-directing advanced economies away from collision with the verities of the ecopolitical dilemma, serve as a living active model for the less-developed nations. With such an example set before

* This worrisome prospect will be examined in the conclusion of this study.

them and the promise of support for "semi-development" sufficient to lift the poor masses from their misery, the less developed peoples would be hard pressed not to follow the lead of the re-oriented developed peoples. In such drastically changed circumstances mankind would be able to recognize the wisdom in S.H. Nasr's argument:

Everyone talks today of the dangers of war, over-population or the pollution of air and water. But usually the same people who discern these obvious problems speak of the necessity of furthering 'development', or war against 'human misery' stemming from conditions imposed by terrestrial existence itself. In other words they wish to remove the problems brought about by the destruction of the equilibrium between man and nature through further conquest and domination of nature. Few would be willing to admit that the acutest social and technical problems facing mankind today come not from so-called 'under-development'. Few are willing to look reality in the face and accept the fact that there is no peace possible in human society as long as the attitude toward nature and the whole natural environment is on based on aggression and war.
(emphasis added)

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If mankind is unable to alter his ways and accept the necessity to live in harmony with natural systems, the future for both rich and poor in indeed bleak.

((Nature, Science, and Values))

If men, rich and poor, are to change their growth-related values, we must first achieve a better understanding of those values. In an earlier section the attitudes of both Eastern and Western man toward man's place in

natural systems were examined. As an extension of that assessment we will turn here to the place of growth-related scientific and technological values as they pertain to the ecopolitical dilemma.*

One of the more insightful criticisms of "Limits..." was Christopher Freeman's observation that the M.I.T. team failed to grant changing value systems adequate weight in their calculations.¹⁷⁸ While limits are an assumption of the ecological perspective, such limits do not negate the place of cultural values in determining man's reaction to the perceived milieu. Environment-related values are very much "values" in the sense that they are frequently emotional beliefs rather than rationally attained ideas. As René Dubos perfectly expressed it,

Whatever science may have to say about the fundamental processes and constituents of the natural world, we regard Nature holistically and respond to it with our whole physical and emotional being. Deep in our hearts we still personalize natural forces and for this reason experience guilt at their desecration. The manifestations of Nature are identified with unchangeable needs of human life and are charged with primeval emotions because man is still of the earth earthy.

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A related aspect of emotional environmentalism is the guilt

* East Asian science-related values will be assessed in the next chapter. This portion deals with such values in Western cultures.

man feels toward other generations about their common misuse of nature's abundance. As Sterling Brubaker observed, each generation "feels cheated of its inheritance and guilty about having even less to transmit to its heirs".¹⁸⁰ Because of this deeply ingrained emotionalism the ecopolitical dilemma mankind confronts cannot be resolved by objectively scientific means. Only emotion-laden value judgements can suffice.¹⁸¹

The Stone Age may return on the gleaming wings of science.

Winston Churchill
 ***** 182

Acceptance of the need to make value judgements does not, unfortunately, free mankind from an intellectual heritage which has become technology-oriented.¹⁸³ The most extreme form of this orientation is "scientism", which has been defined as:

the habit of dividing all thought into two categories, up-to-date scientific knowledge and nonsense; the view that the mathematical sciences and the large nuclear laboratory offer the only permissible models for successfully employing the mind or organizing effort; and the identification of science with technology.¹⁸⁴

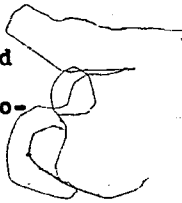
Defenders of this faith come in various shades,¹⁸⁵ but they are all undercut by two characteristics of science - both of which are crucial to improved environmental values. Firstly, science is not restricted to any single format. Any sceptical evaluation can be said to be a variation of the scientific

method. Secondly, science does not equate with technology. Each of these characteristics will be dealt with in turn.

Scepticism, the need to doubt, is inherent in the scientific method. One must question and seek truths. Lord Ritchie Calder offered a definition of science pertinent to ecopolitical concerns, "Science... is the everlasting ¹⁸⁶ interrogation of nature by man". The problem~~s~~ caused by this characteristic of the scientific method is that in the process of achieving science, in Nasr's phrase, "the substance of the cosmos had first to be emptied of its sacred character and become profane".¹⁸⁷ This vulgarized world-view is both similar and dissimilar to the pseudo-scientific views of the alchemist and astrologer who preceded modern scientists. It is dissimilar because the earlier approaches sought to outwit nature, while the latter approach seeks to understand and then use nature to meet man's needs.¹⁸⁸ The striking similarity is that both approaches approach natural systems as phenomena which can be mastered by man.

This mistaken notion of man's abilities has been reinforced by modern man's confused notions of science and technology. The two have quite different histories. Techno-

* In this regard, see below the assessment of Japan's "protestant ethic" as secularizing the sacred.



logy long preceded the scientific method as we know it today. Technology has been pragmatic, empirical, utilitarian, and decidedly lower-class throughout its history. The scientific method as pursued in the wake of the Newtonian scientific revolution had relatively little contact with the technology of its day. Science was something to be followed for its own sake. Science was speculative, intellectual, and very much the purview of the leisurely aristocratic classes. The union of science and technology in the industrial revolution of the nineteenth century* has well defined links to the earlier, and then continuing, social revolutions which forced social classes into closer contact. ¹⁸⁹ The merger of science and technology in that period does not mean that they are identical and interchangeable today. Yet, this is the way in which many people view them. The difficulty with this viewpoint is that it too readily permits technology to become the driving force. Technology must be seen as the subservient tool of scientific man which it is by definition. Unfortunately, this has not always been recognized.

Artificial trees?
It seems ridiculous, but then -
what did you expect to come from artificial man?

Charles Osgood
***** 190

* This timing is pertinent to the previous mention of the origins of pollution.

The joint scientific and technological revolutions have brought to modern societies advances so numerous and so rapid that they have had a disquieting effect on social institutions. Leaders of societies who do not personally possess sufficient scientific or technological backgrounds, and they are in the gross majority, have great difficulty in judging the achievements of science and technology. As Lord Ritchie Calder stated, such leaders because of their inadequacies often "concede the transcendental brilliance of the scientists and surrender as hostages to the technologists".¹⁹¹

The unfortunate result of this turn of affairs is that man has yielded the right to decide the values and priorities of science and technologies and has, by his forfeiture, permitted his creations to become the criteria of his worth and value.¹⁹² Among the most distinctive aspects of contemporary life is the widespread manipulation of men, as well as materials, to meet goals not directly chosen by the men. This has even produced technologies for the molding of men. Priorities have reversed themselves and man is the victim of his own laxity.¹⁹³

Technology has been an undeniable boon to mankind. Its products and services have alleviated human drudgery. However, technological man by de-naturing his natural environment has created an artificial world, what Ward and Dubos

referred to as man's "technosphere".¹⁹⁴ As noted above, man's dependency upon a technosphere which is, in turn, dependent upon an abused ecosphere makes modern societies extremely vulnerable. The significant fact here is that man has succumbed to the tantalizing prospects proffered by his own creation - technology - and permitted it to take the lead as a motive force behind society.¹⁹⁵ This has occurred at the expense of science.

The concept of technology as a tool of science must be revived. Several authors, such as Jacques Ellul¹⁹⁶ and Roger Revelle,¹⁹⁷ have suggested that, in Ellul's terms, technology is a "closed circle" and that man must use technology to solve the problems caused by technology.¹⁹⁸ On the contrary, technology is not a "closed circle". It might better be conceived of as a spiral. Ritchie Calder says the circular appearance of technology is due to the rapid spinning of what is, in fact, a spiral.¹⁹⁹ This may be, but a more important facet of its spiral-like character is that a spiral can lead one up or down. The factor which decides the direction of the trend is man's use of science.

Science in the hands of wise men will enable man to utilize a technology for the good of mankind. In the hands of the ignorant or malevolent, science and its handmaiden - technology - may lead the way to doomsday.²⁰⁰ The task

before mankind, then, is to approach science wisely. The scientific method allows man to search for truths, but it does not tell man how or when to apply those truths to his daily life. That is not "science" which must be controlled, but the abuses which stem from its product. The wisdom required to check such abuses and re-direct science will come from the recognition of man's integral relationship with nature. As Marston Bates stated,

Man's destiny is tied to nature's destiny and the arrogance of the engineering mind does not change this.

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Ecopolitical survival does not require the abandonment of technology per se. What it does require is the development of technologies which are compatible with natural systems. Such technologies will be conceived only by men who understand the ecological paradigm which underlies all science. Scientific man must intellectually and intuitively grasp the interrelationships of the earth both as a self-contained system and as man's habitat. ²⁰² Until this is achieved, the unifying role of science which is so often claimed on its behalf, ²⁰³ will remain a chimera. More likely is a uniform awareness of man's folly. This knowledge will be inescapable in the event science and technology, as presently conceived, lead man to ecopolitical disaster. Only in this distorted sense can science today lead man to unity.

The reordering of man's perception of science and technology in accord with the ecological paradigm will be a difficult task in and of itself. Moreover, it is not assured of success even if it is achieved. Under drastically changed growth-related and nature-related values, the pressures on the natural environment would presumably be abated. But this is not assured because the abatement would require new types of technologies. Whether such technologies could be developed by men in societies whose values have been directed away from the intense competition which motivated their old harmful values is an open question. With reduced competition or competition directed toward innocuous ends, would man's innovative urges remain strong? The yields of such innovation would be prerequisites for a successful future. If new values undercut the prospects for altered societies, can we have new societies? Can we have it both ways? These are presently unanswerable questions. Our course is to try to achieve such desirable ends without sacrificing too much for the sake of maintaining innovation. We must attempt to find a middle course. We have no real alternative.

An important aspect of such new values on the part of the people of the advanced economies, which are the most destructive of the earth's wealth, would be the exemplar

influence the values would have on the peoples of the presently less-developed world. The need to set such an example was presented previously. The path toward semi-development will require that they too adjust their science- and technology-related values to the ecological paradigm. What these states must seek is a new scientific revolution geared to their own ends. Such scientific revolutions would be closely allied to the host cultures' value systems and as a consequence indigenous technologies would be the resultant product. Not incidentally such a development would greatly enhance the indigenous self-esteem which would be crucial to any form of semi-development, for under such schemes dissimilar forms of development and achievement would be considered acceptable and equal before the peoples of the world.²⁰⁴ The effect here would be to encourage the traditional elements in less-developed nations. Such elements have to date been considered detrimental to growth and modernization because of their commitment to fixed and final truths.²⁰⁵ However, since the truths of man-in-nature and of earth's finity are fixed, such traditional elements need to be revived and brought to bear on cultural man's approach to science and the technologies he chooses to shape his future on earth.

Much that has been said in this section strays from the norm of man's views of science and technology. Yet, it is not unfounded metaphysical speculation. Increasing numbers of scientists are revising their own views of the scientific method, its relationship to technology, and its place in the system of man's knowledge. Dr. Herbert York, formerly the science adviser of the U.S. Department of Defense, has stated:

If the great powers continue to look for solutions in the area of science and technology only, the results will be to worsen the situation.

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Man is coming to realize once more that wisdom is a higher form of knowledge than that which science provides. Scepticism - the core of science - has now invaded the notions of science itself. Other forms of understanding - intuitive, subjective, and even mystical ways of understanding are gaining more acceptance. This is true even of some scientists, witness Harvard's biologist-historian E.I. Mendelsohn:
 "science as we know it has outlived its usefulness".²⁰⁷ In this vein, S.H. Nasr has suggested:

Although science is legitimate in itself, the role and function of science and its application have become illegitimate and even dangerous because of the lack of a higher form of knowledge into which science could be integrated and the destruction of the sacred and spiritual value of nature. To remedy this situation the metaphysical knowledge pertaining to nature must be revisited and the sacred quality of nature given back to it once again. ... Christian doctrine itself should be enlarged to include a doctrine concerning the spiritual significance of nature and this with the aid of Oriental meta-

physical and religious traditions where such doctrines are still alive. These traditions would not be so much a source of new knowledge as an aid to anamnesis, to the remembrance of teachings within Christianity now almost forgotten. The result would be the bestowal once again of a sacred quality upon nature, providing a new background for the sciences without negating their value or legitimacy within their own domain.

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This would be an ideal, but we need not seek such an ideal state. All that is required is for mankind to accept its place in the natural system and refrain from seeking dominance over the total system. Man needs to sign a pact with nature promising that he will cease his destructive ways and will seek to live a life in harmony with natural systems. Man needs to develop a universally accepted environmental ethic* and then live by it. Until man does this, his future on the earth remains very much in doubt.

((Western Ecopolitics))

Prior to turning to the ecopolitical situation in East Asia, we will pause briefly in order to examine the ecopolitical dilemma which confronts the advanced economies of the West as they relate to the world at large. This digression will better enable us to assess the specifics of East Asian ecopolitics as presented in the next two chapters.

* An example of a formal environmental ethic, as prepared by the National Wildlife Federation, is attached as Appendix "B".

As an American, the writer fully recognizes the ethnocentricity of viewing the American experience as a paradigm of the West. Europe and, especially, Latin America face problems of a different magnitude. Europe confronts the ecopolitical dilemma on a smaller but more intensified scale. Latin America, although Western, faces the problems of developing areas, not those of advanced countries. With this caveat, the West can be judged by the American experience, for as Zbigniew Brzezinski has observed,

It is in the United States that the crucial dilemmas of our age manifest themselves most starkly; it is in the United States that man's capacity to master his environment and define himself meaningfully in relationship to it is being most intensely tested.

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The United States has been in the forefront of contemporary technological modernization and its reaction to the excesses of such modernization will have great implications for the remainder of the West and to a lesser degree to the rest of the world. This is not to suggest that modernization should be equated with Westernization or Americanization as some

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have done. Modernization does not have to produce plastic copies of the West; other cultures can retain their élan vital and modernize just as easily as the West. It is necessary to bear this in mind when thinking of semi-development and East Asia's ecopolitical problems, as well as those of the United States.

The United States has had a long tradition of environmental concerns. Despite its youth as a nation, the United States is an elder in the environmental field. The history of these concerns is not our immediate interest;²¹¹ this is the character of the United States' problems and the effect those problems may have on the rest of the world. In the Fall and Winter of 1973-1974, as this study is being prepared, the United States is undergoing its so-called "energy crisis".²¹² The immediate cause of this "crisis" is a combination of economic imbalances aggravated by both the aftermath of price controls and the restrictive effects of eco-tactics, all brought to a head by Arab politics. The term crisis was placed in quotation marks to indicate the ambivalence of the term as currently used. In the sense that it reflects short-run influences, it is indeed a temporary crisis, but to the extent that it is a forerunner of things to come, it must be considered the baseline of an endemic condition and not a short-lived "crisis". It is this distinction which must concern us.

Studies have been made by authoritative groups which lead to different conclusions. Fisher and Potter are quite optimistic:

In this country (the U.S.) technologic and economic progress, building upon an ample and diversified resource and industrial base, gives assurance that

supply problems can be met. If this rather favorable prognosis is to be guaranteed in fact, scientific and technologic advance will have to continue unabated and the results will have to be translated into economic reality:

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On the other hand, the studies by Landsberg,²¹⁴ Lyons,²¹⁵ and Smith²¹⁶ are quite cautious in their conclusions that the United States will survive ecopolitically if, and only if, the American people and their government fully comprehend the problems and act accordingly without delay.

Economist Wilfred Malenbaum, in a report commissioned by the U.S. Government's National Commission on Materials Policy, found that by the year 2000 the United States' requirements will exceed its domestic production in most categories. Of six currently crucial items it was found that the percentage of imports will increase as follows:

<u>Material</u>	<u>% Currently Imported</u>	<u>% in 2000</u>
Iron Ore	32%	61%
Liquid Fuel	30%	44%
Zinc	19%	81%
Copper	---%	36%
Aluminum	---%	24%
Fluorspar	80%	94%

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To meet such demand both American and foreign production would have to expand greatly. In an era of increased recognition of scarcities it remains an unanswered question whether such increases are feasible. In this light the criteria of allowable dependency on foreign (energy)

imports, noted by one of the United States' leading resource experts - Prof. Carroll Wilson of M.I.T. - at anything less than ten percent of U.S. needs per year, ²¹⁸ will be extremely difficult to achieve without a drastic reorientation of the U.S. economy. Such standards, incidentally, make Europe and Japan hopelessly dependent by comparison. Their reactions to the 1973-1974 "crisis" bear this out.

How has the United States reacted to this emerging situation? In a word - slowly. The course of action the United States will take remains an unknown. Many proposals have been suggested, but as of this writing, the United States has yet to embark on a coordinated policy. The unfortunate aspect of this slowness is that the United States is looked to as a pace-setter in such matters and the pace set has been desultory and sporadic.

The United States' failure to take the lead so far is unfortunate with regard to resources used in industry both in the United States and abroad. The effects of such laxity can, to a degree, be ameliorated by economic adjustments. This allows man time to take corrective measures and seek other resources. These issues are beginning to be widely recognized today, and we can only hope that proper actions will be taken in time. More serious, however, are the

problems of the United States' place in world agriculture. In recent decades the world's hungry have looked to the grain reserves of the exporting countries and the intentionally idled cropland of the United States as a hedge against future starvation. This picture has changed markedly in the past few years. Despite the United States' use of formerly idle farmlands, the world's food reserves have dwindled sharply with little prospect of their being substantially rebuilt.²¹⁹ This has come as a shock to Americans who think about the issue at all. Americans have been blessed with land resources and have taken them for granted. That innocence is coming to an end.

Americans have been accustomed to thinking of their agriculture as eminently efficient. And it is - in terms of labor. This is not true in terms of land-efficiency. The United States is only six percent of the total world land area, but it possesses eighteen percent of the total world arable land area. And this is with a population of only seven percent of the world total.²²⁰ The United States is land rich. When Paul Ehrlich wrote of the United States,

Our agriculture is already highly efficient, so that the prospects of massively increasing our production are dim.

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he could not have been more wrong. More correctly, it is a matter of Americans being unwilling to give up their eating

habits to produce more food. Erich Zimmerman suggested some comparative data on North America and East Asia which, although dated numerically, indicate proportions which remain instructive:

	North America	East Asia
Acres cultivated/person	4.0	0.5
Original calories/acre/day	2,500	5,500
" " /person/day	10,000	2,750

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Obviously, North Americans do not each consume ten thousand calories per day, nor, unfortunately, do East Asians yet consume 2,750 calories per day. The missing calories represent those turned into animal protein. As Edward Higbee noted, "in the use of space the United States is the realm not of man but of his domestic livestock".

In contrast, the East Asian acre with heavy use of labor produced many more calories than the North American acre. Most of these Asian calories are consumed directly, while North Americans eat higher on the food chain. In the eyes of the land-poor world, the United States is a gross example of waste. As the masses of the poverty stricken increase upon their worn lands, will the United States be able to blithely continue such wastage? Perhaps, but not without banishing its conscience. The United States will, more likely, have to change its agricultural life-style and

provide more personal care for each square foot of its productive land to make it yield on the orders of magnitude which have prevailed in some areas of Asia. Such "Asianization" of American agriculture will not come easily or quickly. But as the pressures build up,²²⁵ Americans will find their agricultural future has already been pioneered by other peoples. Americans will have to shake off their complacency and look to the future.²²⁶

In agriculture the United States may well find itself in the unfamiliar role of student learning from other peoples. However, in the realm of industry and its by-product, pollution, the United States remains the model. It is the model in both industry and pollution and with effort could also become a model for change. The vehicle for such change is the United States' Environmental Protection Agency. The E.P.A. has the authority to determine permissible levels of environmental damage through its Environmental Impact Statements which potential polluters are required to file and adhere to.²²⁷ On the international level this authority is important because the E.P.A. also sets import standards based on environmental impact criteria. These standards are generally the same as those prevailing in the United States.²²⁸ This authority could be turned into a very powerful precedent-setting tool. Given the appeal

of the American market, other countries would have to bring their exports up to such standards. In time, the people of such countries would probably begin to ask themselves why they too do not adhere to such standards of health and safety. Such standards, if enforced in the United States and other prime import markets, could have a pervasive trickle-down influence.

The key word in the preceding paragraph is "if". The United States government is ambivalent. On the one hand it advocates policies and programs with which, in the words of former E.P.A. Administrator William D. Ruckelshaus, the United States "can set an example for the world by turning from exploitation to preservation, from growth at any cost to growth for a purpose",²²⁹ while on the other hand, when faced with hard choices such as the 1973-1974 "energy crisis", the United States backed away from its far sighted posture and retreated toward palliatives which are a step backward.²³⁰ The direction of the United States cannot remain ambiguous. If the United States backs down whenever it confronts difficult situations, it will neither solve its own problems nor set a worthwhile example. In such situations the United States can only lead the world over the edge of the Malthusian abyss.

What does the future hold for the United States in a world of growing ecopolitical pressures? How will the United States react to such pressures? These are, of course, questions to which only history can supply the answers. We will return to the policy-related alternatives the United States and all other states may choose between in the conclusion of this study. However, for the moment, we may take a broader perspective and note that the United States, despite its record of despoliation of nature, has evidenced a concurrent trait of future-orientation. Americans have attacked their habitat with the purpose of creating something new for themselves and their children. As a German visitor to the United States in the 1830s observed,

The Americans love their country, not, indeed, as it is, but as it will be. They do not love the land of their fathers; but they are sincerely attached to that which their children are destined to inherit. They live in the future, and make their country as they go on.
(emphasis in original) 231

This attachment to the future, amply evinced in the contemporary United States by the many works of "futurology", offers great promise. As Americans at all levels of society grasp the import of the ecopolitical dilemma faced by all men, and more particularly by the vulnerable rich, they will have to rethink their future. Perhaps the present "crisis", which will be followed by an "International Exposition on Ecology and The Environment" in which the U.S. Pavillion's theme

will be "Man and Nature, One and Indivisible", ²³² will bring about the prerequisite new start. Something drastic will be required to change a nation whose former chief energy spokesman can say on the eve of a dilemma:

We don't want to lose our nerve and give up and say we've come to the point in man's history where we're simply going to have to abandon what we've been doing. If it comes to that, I think we ought to go down trying.

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The direction of the United States must be altered for its own sake and for the sake of peoples who emulate the American experience. The ecological perspective is crucial to these new directions. To come to normative grips with the ecopolitical dilemma men must first grasp the inherent truths of the ecological paradigm. As President Nixon observed,

We are now growing accustomed to the view of our planet as seen from space - a blue and brown disk shrouded in white patches of clouds. But we do not ponder often enough the striking lesson it teaches about the global reach of environmental imperatives. No matter what else divides man and nations, this perspective should unite them. We must work harder to foster such world environmental consciousness and shared purposes.

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Until this "consciousness and shared purpose" is achieved and made the basis of everyday life on all levels of national and international society, man cannot but look to the future with apprehension.

CHAPTER VII

East Asian Ecopolitics

((East Asia, An Overview))

To what degree is East Asia effected by the ecopolitical dilemma faced by mankind? Some earlier commentators on this question summarily declared the countries of East Asia to have been hopeless cases.¹ As evidenced by Japan's postwar recovery and China's rejuvenation, these views have been found wanting. For the present that is, but what of the future? Are Asians free of the Malthusian quandry? As may well be surmized from previous chapters, the contention here is that they, along with other peoples, are not. The purpose of this portion of this study is to examine the support for this contention.

Rhoads Murphey, a University of Michigan geographer, had a ready solution to Asia's environmental problems - "stop wanting more".² This solution could work anyplace it might be accepted. The difficulty is in securing its acceptance. People do want more. This is particularly true of Asians who have had so little and now see material wealth within their grasp. In recent decades Asians have, on their own and with outside aid, greatly increased their economic wealth. This is evidenced by a glance at recent G.N.P. data for East Asia:

<u>Country</u>	<u>G.N.P.</u> (in billion of U.S. dollars)
Japan	167.4
China	56.2
S. Korea	7.0
Taiwan	4.8
S. Vietnam	3.0
N. Vietnam	1.4
N. Korea	1.0

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Such data are ambiguous. On the one hand, they indicate higher levels of productivity and wealth, but, on the other hand, they do not indicate the continued poverty which persists despite the new wealth. Juxtaposed are wealth, with its implication for environmental excesses, and poverty with its demands for improved conditions and more wealth. An answer to this imbalance may be found in concepts of semi-development referred to above. However, until such an answer is arrived at, man in East Asia will be confronted with increasing demands for improved livelihood and the consequent threat such demands pose for the natural environment. Improved economic conditions in East Asia promise to lead to exponentially increasing demands on resources both within Asia and elsewhere. The less developed countries of Asia seem ready to pay the price. As Sri Lanka's U.N. representative, H.S. Amerasinghe, stated:

All developing countries are aware of the risks, but they would be quite prepared to accept from the developed countries even one hundred percent of their gross national pollution if thereby they could diversify their economies through industrialization. ... We must not, generally speaking, allow our concern for the environment to develop into a hysteria.

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This willingness to accept ecological devastation, held in common with many third-world peoples, says more about their acute distress than it does about their understanding of ecopolitical problems of the future. The true costs of short-term gains will remain on the books to be paid by future generations.

The less developed countries of Asia, East or South, will be strongly influenced by the developmental processes which China and Japan have experienced.* Both countries clearly dominate in their respective communist and non-communist realms. Their assessments of and reactions to the ecopolitical dilemma will be influential over the future course of Asia. The probable results of following either experience as a model may be more adequately ascertained upon completing our examination of each.

At the outset of this portion of the study it ought to be indicated that studying the ecopolitical situation in East Asia via the ecological perspective of the Sprouts is a new undertaking. If the Sprouts' framework and theory are not very well known in the West, they are virtually unknown

* India is, of course, another potential Asian model, but one which is beyond the scope of this study. In passing, though, it may be noted that India as a model would seem to be less appealing than either China or Japan because of the latter nations' greater successes.

in East Asia.⁶ Chinese works on international politics, whether Communist or Nationalist, to the extent that it is mentioned at all, stress the place of man over nature and denigrate Malthusian notions. Japanese works tend to stress a historical-legalistic approach to international politics with minimal proto-behavioral emphasis and virtually nothing which might be equated with the Sprouts.⁷ This, however, does not reduce the applicability of the ecological perspective to an Asian setting. The ecological perspective is a world-view and hence can legitimately be applied to any portion of the globe. The Sprouts have not sought to focus on East Asia as a region simply because they consider it beyond their personal range of expertise.⁸ In fact, as Dahlberg has suggested, applying the Sprouts' framework and theory to culture realms beyond the competencies of the majority of Western theorists may well enhance the common appreciation of the Sprouts' works by enabling theorists to escape the blindness imposed by Western assumptions upon their notions of such matters as science, nature, and development.⁹ In this regard we might also note Edward Soja's comments that the views held by various peoples of "political space" is largely determined by their cultural vantage point. Soja points to Western ethnocentricity as the villain in this lack of understanding.¹⁰ However, as we will see in the

instances of China and Japan, other cultures can be equally ethnocentric and impose equally restrictive, if different, notions of political spatiality.

The matter of mutual influences between cultures as diverse as those of the West and those of East Asia has not been widely studied. Emphasis in both East and West has been on the West's influences over the East. The converse will here be considered of equal importance - in the words of one older effort, emphasis will be placed on "Eastern industrial-¹¹ization and its effect on the West". And, of course, its effect on its home habitat - East Asia.

The issue of mutual influences raises a basic question - that of comparative modernity. This issue was raised briefly above in connection with the United States' role of leadership in the West and in relation to land use efficiency. Westerners have developed a somewhat confused sense of what constitutes modernity. To the West, modernity has become equated with technological sophistication and too frequently measured in terms of gadgetry. There is, of course, some justification for this interpretation of modernity in a social milieu which accepts the everlasting primacy of man. However, since such a premise is demonstrably erroneous, what can we make of the resulting concept of modernity? In

a social milieu oriented toward the ecological paradigm, wherein man is seen as but one part of a complex ecosystem, modernity must be described in terms of Man's position on the spectrum of man-nature disruptions. In these terms Asia is a much more modern area than is the West. As Georg Borgstrom observed, "Asia is.... ahead of us on the way down-
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 hill".

However, in what is an apparent contradiction, Asia - despite its advanced state of "modernity" - remains a more viable and stable world region than the West when measured in terms of ecopolitical vulnerability. In William Vogt's comparison:

The Asiatic civilizations were like colonies of that lowly and relatively unspecialized animal, the sponge. If one part were destroyed, the rest lived on unperturbed and re-established itself in the devastated area. Modern, western civilizations may be compared to a more complex animal, such as an anthropoid; if it becomes sick in any one of its members, so interdependent are its parts that it may well die. Some of the sickness of modern Asia is seated in the complexity imposed on it from the West.

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The issue then is to resolve the manifest tensions between the two genres of modernity and their relationships to stable and vulnerable societies. Such a resolution can only come about as a result of greater comprehension of each other's ecopolitical situation. This, then, is our present task.

((East Asia: Environmental Determinism))

Prior to turning to a country-by-country assessment of East Asian ecopolitics, it is worthwhile mentioning the pertinent background of this issue. Studies by Westerners of Asia's natural and geographic setting have been of varied quality. While there are currently some excellent works,¹⁴ there are many lesser works as well. The reasons for the latter works' inadequacies are due principally to their tendency to be either semi-travelogues or very much tinged by environmental determinism. These tendencies stem from the time period in which the first such works were written. Their authors were commonly Westerners seeking to describe a region which was totally foreign to their readers. To make matters worse such authors, in retrospect, seem to have been only once removed from the popular level of ignorance. The impressions passed on to the West were frequently the result of a quick tour of Asia. The not very dissimilar contemporary phenomenon of instant experts on the People's Republic of China is instructive in this regard. Compounding this superficiality was the popularity of environmental determinism at the time of the Western intrusions in Asia. Environmental determinism, mixed with a large dose of Social Darwinism and white supremacy, yielded some very distorted pictures of Asia.

Asian views of Asia's natural setting were not much better. Until the early advent of Westerners in Asia, Asians had not been particularly proficient at realistically assessing and locating their position on the earth.¹⁵ Asians, in general, seem to have been content to know that they existed and all else dwelled around them. Until Western explorers, with their intense need for accurate maps, arrived, cartography and its supportive sciences were dormant in Asia. Unfortunately, the advent of Westerners and the consequent admixture of ethnocentric perspectives did not, as noted above, produce a particularly worthy product.

Analysis of Asia's natural setting gradually improved in both East and West as experts in both areas gained knowledge of and appreciation for the similarities and dissimilarities in their home habitats. However, in the intervening years, Asia - and particularly East Asia - played a crucial role in the development of geopolitics' progenitor - geopolitics. Geopolitics is most widely noted for its past focus on South-East Europe. This area of tiny states led to the geopolitical appellations - "fracture zone", "buffer zone", and "Balkanization". This principal focus of geopolitics was due primarily to both the concerns and expertise of Euro-Americans. Asia was neither an area of great concern nor were many Westerners capable of understanding geopolitical relation-

ships in Asia. However, the most notorious geopolitician, General Haushofer, developed many of his notions in Asia. Haushofer was influenced by, and in turn influenced, Japan's geo-strategists. His knowledge of Japan's developmental experience in an area poor in resources and of the existence of needed resources in South-East Asia led to some fundamental theorizing of "geopolitik" which was later applied to and popularized in Europe.¹⁶

Geopolitics of the worst sort had a semi-independent existence in East Asia, principally among the Japanese. Japan's expansionism in the pre-war era, under the umbrella of the "Greater East Asian Co-prosperity Sphere", was based on political theories which were close parallels to Haushofer's geopolitik.¹⁷ The Chinese, who as a land-poor people were frequently considered a prime candidate to succumb to the pseudo-science of geopolitik with its rationale for territorial expansion, were too weak to realistically consider any such adventures. Their task was to simply survive. In fact, it is interesting to note that modern China's founding father, Dr. Sun Yat-sen, feared that China might be engulfed by the teeming masses of the West - a sort of "Yellow Peril" in reverse.¹⁸

The old schools of geopolitics, in both East and West, largely slipped from the scene in the postwar era. However,

their legacy was too potent to entirely evaporate. It and its close kin, environmental determinism, still persist, sometimes in surprising quarters. A gross example of environmental determinism has been read by virtually every English speaking student of Japan and Asia:

In the islands of Japan nature fashioned a favored spot where civilization could prosper and a people could develop into a strong and great nation. A happy combination of temperate climate, plentiful rainfall, fairly fertile soil, and reasonable proximity to other great homes of civilized man predestined the ultimate rise of the inhabitants of these islands to a place among the leading peoples of the world. ... The mountains of Japan have pushed the Japanese out upon the seas, making them the greatest seafaring people of Asia. Sea lanes have been great highways within Japan; sea routes have beckoned the Japanese abroad. (emphasis added) 19

Another scholar, after describing the awe-inspiring magnitude of Asia's landscape, stated:

The Orient could not avoid a temper of mind which looks on human contrivance as weak, on human existence as valueless, and sees real force and permanent sway only in the vast, mysterious powers of earth and sky. 20

Environmental determinism is bad enough, but when compounded by imputing political values to the physical landscape the result is old-style geopolitics. A mild example of this is the all too common references to Okinawa as a "geographically key Pacific bastion".²¹ Far grosser examples are Harrison Salisbury's statement:

It may seem like a line out of a bad Nazi propaganda picture, but Chinese Lebensraum is no figment of a

Chinese Goebbels. It is a basic criterion for the existence of China into the twenty-first century.

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and Stefan Possony's (an unreconstructed geopolitician's)
view:

The possibility that the Chinese may be a Volk ohne Raum has been feared for about one hundred years. This possibility is now turning into a reality, possibly a nightmare.

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The latter writer - a rabid anti-communist - even goes to the extent of foreseeing Chinese expansion into Africa.

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Despite their grossness, these examples pale into insignificance when compared to the infamous, yet once popular, "domino theory" which deluded so many and led to such great death and destruction. The notion of states toppling like dominoes before some irresistible force is truly geopolitics of the old school.

Lest the reader get the impression that only Westerners have continued to propagate outdated notions, we must hasten to note the Chinese response to the domino theory as enunciated by Lin Piao. Lin argued, in what might be termed the "Mahjong theory", that the domino theory had a converse side which was to China's benefit. Moreover, Lin argued that this toppling of states toward China was indeed inevitable.

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As time has shown, neither view was correct. It is significant that such a view was stated by a Chinese, for China has largely replaced Japan as East Asia's strategic thinker.

In very recent years Japan has begun to become active again in this arena,* but for most of the postwar era the Japanese have largely forsaken their geopolitical heritage.

Having acknowledged geopolitics' and environmental determinism's heritage in East Asia, it is now appropriate to turn our attention to the individual countries of East Asia. In doing so, however, we must bear in mind the relationship between analysis and synthesis. While the ecological perspective fosters holistic views toward the end of greater synthesizing of knowledge of mankind's earth-related predicament, in order to attain synthesis one nonetheless must analyse the ecopolitical problems of man the way they are in real life - that is, in terms of nation-states.

* The reemergence of Japan in Asia is treated more fully in later chapters.

CHAPTER VIII

East Asian Ecopolitics: China

((China: Taiwan))

Any study of contemporary China must come to grips with the issue of the two claimants to the title of "official" China. To the writer, this archaic dispute is meaningless. China is China and Taiwan is something else. What that something else is is a matter to be resolved by the Chinese and need not concern us in this study. The reason for treating Taiwan first and then turning to China relates to the role of the Nationalists in modern Chinese history, rather than an indication of priorities.

China's history as a modern state began with the Nationalist's victory in the revolution of 1911. The Chinese state which lasted until the expulsion of the government in 1949 was the Nationalist's state. The ideology and policies of that state are directly traceable to today's government in Taipei and, in part, are also claimed by the government in Peking. For this reason we turn first to the policies of the Nationalists as they have survived on Taiwan.

Chiang Kai-shek, in his 1973 New Year's speech, cited as one of his reasons for rejecting reunification with the

mainland the charge that "the Maoist regime has dug up ancestral graves in search of treasure, imprisoned 700 million people in communes and disfigured the mountains and rivers of our Chinese mainland".¹ Chiang's criticism of Mao and his followers for disrupting China's traditional man-nature relationships requires closer scrutiny. As was noted above, nature in Chinese tradition has different implications for the Chinese than it does for most Westerners.⁴ With this caveat in mind, we may further query Chiang. Are the Nationalists on Taiwan less abusive of natural processes than the Communists? The answer is an unqualified "no".

If we look back to the ideology of Sun Yat-sen we become aware of several key elements of the Nationalist's attitudes toward man-in-nature, science, growth, and the other facets of the ecopolitical dilemma. Dr. Sun considered Chinese culture to have been a product of man's "struggle against nature".² Sun believed in the primacy of man. In his famed "Three Principles of the People" he wrote:

Evolution on this earth depends not alone on natural forces, it depends on a combination of natural and human forces. Human agencies may displace natural agencies and 'the work of man overcome Heaven'. Of these man-made forces the most potent are political forces and economic forces.

3

* The contrast between man-effected "nature" and nature as wilderness.

Sun's logic led him into confirmed opposition to what he considered "the poisonous Malthusian theory".⁴ Instead, Dr. Sun became an advocate of the efficacy of science and technology to achieve man's victory in his struggle against nature.⁵ The importance of Sun Yat-sen's ideas is twofold. Firstly, they were not in accord with traditional Chinese concepts of man-nature harmony. Secondly, the ideas are very much alive in Taiwan today. Chiang and his underlings consistently swear their continued allegiance to the principles of Dr. Sun.⁶

If we bear in mind the influence of Sun Yat-sen when compounded by Western economic and cultural influences⁷ - particularly in the postwar era when Taiwan has been so closely tied to Western support, it is not surprising that the Nationalists have followed policies which are damaging to natural processes. Central to these policies have been the pro-growth attitudes which have fostered Taiwan's economic boom. The Nationalists have become paradigms of the Chamber of Commerce ethic; believers in progress and growth with little thought of either its ultimate end or possible consequences.⁸ The Nationalists take immense pride in their economic growth - which, measured in G.N.P., averaged 8.9% annually from 1952-1971 and 9.6% annually during the 1960s.⁹ The Taipei government anticipates that Taiwan's economic

growth rate under its sixth four-year plan, which began in 1973, will average 9.5% annually.¹⁰ Their enthusiasm is, to a degree, understandable. However, it will not be without costs; costs which Taipei has yet to fully recognize.

Central to Taiwan's ecopolitical prospects is the size and growth rate of its population. As of mid-1973 Taiwan's population was approximately fifteen and a half million. On a small island this yielded an average density of four hundred and twenty two persons per square kilometer.¹¹

Taiwan is among the most densely populated areas on earth. To meet the potential problems posed by a large and growing population the Taipei government has instituted a five-year family planning program, which will end in 1976, to reduce Taiwan's population growth rate to below two percent per year.¹² Forecasters have predicted both positive and negative projections for Taiwan.¹³ Overall it seems fairly safe to conclude that Taiwan, following in Japan's footsteps,* will achieve a relatively stable population in the not too distant future. In any event, Taiwan will be in a better position vis-a-vis population than their fellow Chinese on the mainland will be.¹⁴ Thus population, while important, does not presently stand as the major problem for Taiwan.

* Japan's population policies, which will be assessed below, have been influential on Taiwan, its former colony.

A more important issue is what those people will do in the future.

Taiwan's populace, if they were content with an ecologically moderate way of life, could probably, barring political or military intrusions by the Communists, maintain that way of life indefinitely. However, contentment or moderation do not characterize Taiwan today. Rather, Taiwan is a hard-driving, business-oriented, growth-at-any-price, expansive society. Modeling themselves on the Japanese experience,* the Taiwanese have successfully sought to develop into a workshop which imports raw materials and exports finished goods. Their primary resource has been their human resource. In the face of a natural resource base deemed inadequate for their aims the Taipei government looked to imports and to the panacea of science.**¹⁵ Taiwan has placed and continues to place emphasis on rapid technological and industrial growth. While Taiwan's G.N.P. grows at a rate of from eight to nine percent annually, its industrial growth rate has been on the order of twenty to twenty five percent annually in recent years.¹⁷ Taipei

* This will be assessed below.

** It is worthwhile noting the view of one eminent Chinese scientist who looked at science as "alchemy" which would reduce man's dependency on the whims of nature. (16)

clearly expects this to continue, witness Economic Affairs Minister Y.S. Sun's proclamation of the 1970s as the "decade¹⁸ of heavy and petrochemical industries" for Taiwan. Taiwan continues to promote economic growth, development, and foreign investment.¹⁹ The difficulty with all this optimism is that Taiwan is not alone in the world.* It is dependent on other countries for resources and trade. Continued growth and industrialization only serves to intensify Taiwan's dependency.

Dependency is a fact of life for Taiwan. Nevertheless, Taipei continues to claim that it too is striving for self-sufficiency in natural resources.²⁰ Taiwan as the "Republic of China" is pressed politically to assert that it can do for all of China what is best for China. Hence it echoes the claims made in Peking about Chinese resources.** Despite such rhetoric, Taiwan's dependency remains clear to all. Taiwan's hopes for continued growth rest on limited improvements in its available domestic resource base²¹ and in achieving continued stable international trade.²²

Unfortunately for Taiwan, neither of these paths appear

* Although if relations continue to be severed, it might be more alone than it expects. This would, of course, heighten Taiwan's dilemma.

** China's ecopolitical dilemma is examined in the remaining sections of this chapter.

to be very promising. Taiwan's resources are acutely finite in the face of a booming economy. Taiwan's access to foreign sources of raw materials will be constrained by the growing shortages of many such materials world-wide and complicated by Taiwan's decreasing prestige in the shadow of China. Taiwan's best hopes would seem to lie in the direction of tempering its growth with wisdom. In other words, Taiwan needs to face ecopolitical reality squarely and adjust its goals accordingly. While Taipei pays lip service to the ecological paradigm in the form of promises to conserve natural resources and combat environmental pollution,²³ the reality of Taiwan is an attitude of unconcern. Both Taiwan and South Korea* epitomize the type of careless attitude toward natural processes which has led to so much destruction and waste in the advanced economies. Perhaps indicative of such attitudes is the viewpoint which looks at Taipei's fourfold greater pollution than Tokyo as a mark of advancement.²⁴ Rather than seeking to alter their ways, the Taipei government continues to encourage wrong-headed attitudes and to discourage remnants of the man-nature in harmony perspectives of old China.²⁵ With respect to man-in-nature concepts and all that they imply for the ecopolitical prospects of an industrializing state, Taiwan's claim to be the repository

* South Korea is assessed in Chapter X.

of traditional Chinese values is distinctly hollow. The result of this situation is that Taiwan is well on its way toward ecopolitical disaster. As a small and agriculturally rich state, Taiwan still has some room to maneuver and correct the error of its ways. However, time is growing short and if Taiwan procrastinates unduly its prospects will be sorely limited.

((China: The Ecological Perspective))

President Nixon, during his 1968 presidential campaign, stated:

We simply cannot afford to leave China forever outside the family of nations, there to nurture its fantasies, cherish its hates and threaten its neighbors. There is no place on this small planet for a billion of its potentially most able people to live in angry isolation.

26

In the five years that have since elapsed, one of President Nixon's major achievements has been to bring the People's Republic of China* into closer contact with the Western world. The place of China in the contemporary world will be examined more closely in Chapter XI,²³ but prior to turning to that we must seek to understand the basic relationships of the Chinese people to their earth - relationships which

*Hereafter referred to simply as "China", except in instances as specifically noted.

** Along with that of a re-emergent Japan.

are central to their place in the world. In an earlier section we had occasion to examine the character of man-in-nature relationships and their effects on pre-1949 China. Now, we shall assess that continuum as it has evolved to the present.

The ecological perspective takes as a premise the importance of man-in-nature relationships. Man's view of his habitat is crucial to this conceptual framework. Hence the ecological perspective is doubly applicable to China. For as Ross Terrill has observed,

Of no country on earth could it be more absurd to separate the location from the essence of the nation.
(emphasis in original) 27

To separate the Chinese from the Chinese earth is inconceivable. The people and the earth have melded over the ages into a whole. To speak of one is to speak of the other.* The normative theories which arise from the ecological perspective in a Chinese context may differ markedly as will be apparent below. However, the perspective itself admirably fits Chinese culture with its past and present concerns over man's place in nature.

* An excellent indicator of the Chinese people's close relationship with their land may be seen by observing the very close correlation between landform maps and population distribution maps.

Despite the disclaimer noted earlier, there are several excellent works on China's physical setting.²⁸ Such works are useful adjuncts to the present study. Ecological studies of China are, as yet, at a rather early stage of development. One of the better studies is that of Whitney.²⁹ Its prime value would seem to be the questions it asks about China, but both the questions and the answers are handicapped by the author's lack of expertise in Chinese affairs. Such studies, if done by ecologists trained also in Asian studies, would be of far greater value.* However, until ecological studies reach that level of area-related expertise, they cannot be relied upon very heavily. This section's concentration on the roots of power in China as seen via the conceptual framework of the ecological framework must not, therefore, be confused with studies of China's physical setting by ecologists.³⁰ Our concentration here will, instead, be on man's relationship with natural systems as they effect the political power of contemporary China.

((China: Nature, Society, and Science))

Let's wage war against the great earth!
 Let the mountains and rivers surrender under our feet.
 March on nature,
 Let's take over the power of rain and wind.

Chang Chih-min
 ***** 31

* Studies in this field by Chinese are seriously hampered by communist dogma.

Contemporary China has been characterized by conscious efforts by man to conquer and subdue nature.³² The Chinese have steadfastly heeded Sun Yat-sen's advice to use science in the "struggle against nature".³³ This use of science presents us with two related issues. Firstly, how do the Chinese conceive of science? Secondly, how do the Chinese use science? These issues are central to China's ecopolitical dilemma and will be returned to repeatedly throughout the remaining sections on China.

Westerners frequently possess a certain smugness when they confront Chinese science. The technological advancement of the first Western intruders in China left a hardy legacy of superiority.³⁴ European advances in science came concurrently with widespread changes in social, intellectual, and economic conditions prevailing in the late Middle Ages and early Renaissance. That these conditions did not prevail in other culture realms is not any reason for smugness.³⁵ As Joseph Needham has observed,

The word 'stagnation' was never applicable to China at all; it was purely a Western misconception. A continuing general and scientific progress manifested itself in traditional Chinese society, but this was violently overtaken by the exponential growth of modern science after the Renaissance in Europe. China was homeostatic, cybernetic if you like, but never stagnant.

36

* Earlier sections have focused on this characteristic of Chinese culture.

Whether one views China's past as stagnant or homeostatic, these appellations no longer fit Chinese science. As was noted above, the Chinese have placed great emphasis on science as the answer to problems posed by socialist transformation into a modern³⁷ society. The Chinese have conceived of science as a virtual panacea. The difficulty with this conception is that the Chinese have tended to equate science with technology. This equation did not materialize overnight, but by 1957, when the Chinese Academia Sinica and the Communist Party ordered that all scientific research be performed in accordance with pre-targeted plans and not in accordance with the interests of individual scientists, the scientific method had been downgraded and technologized. Scepticism was not encouraged. Man's place as a creator of technologies became paramount in the man-in-nature relationship. Science of a peculiar genre has emerged supreme in China. Whether Western man can afford the luxury of continued smugness vis-a-vis this type of "science" is debateable. The contention here is that others cannot afford to glibly denigrate contemporary Chinese scientific efforts. Smugness based on erroneous and outdated notions of Chinese science are manifestly unwarranted. More pertinent, however, is the

* "Modern" is used here and throughout the remainder of this study in the standard, if misleading, manner and not in the specialized sense introduced above.

need to recognize that the Chinese, by positing a technologized "science", have - perhaps unwittingly - accepted the unpleasant trends of much of so-called science; trends others choose not to admit until the excesses of uncontrolled science/technology overwhelm them and cloud their future.

The excesses of Chinese science/technology will be returned to below in relation to China's environmental pollution, but for the moment we shall turn to the relationship between science and society in China. The effort to subdue and conquer natural forces has cost a great deal in terms of the socialist society advocated by the Communists. Such a society would be egalitarian - without entrenched elites. However, the degree of training required by specialists in science/technology has tended to elevate such specialists into an elite class. Such specialists, and some centrally located bureaucrats, had gained too much influence from the vantage point of the central government. Such burgeoning elites were recognized by Peking and as early as 1958 were forced to submit to 'hsia fang' or "down to the countryside" programs.³⁸ By mixing with the rural masses it was thought that elitist tendencies could be dissipated. As evidenced by the recurrent need to repeat such a campaign - witness the Cultural Revolution and today's May 7th camps - the efficacy of Peking's efforts remains in doubt.

China's long-term attempts to integrate its men of science/technology into an egalitarian society depend on Peking's success in creating public attitudes compatible with achieving what one author termed "technical democracy" - i.e., the attempt to prevent expertness from overwhelming redness.³⁹ In order to do this, science must be made subservient to politics. The Maoization of science is geared to produce communist experts rather than expert communists. This has two important aspects of present pertinence. Firstly, this effort to Sinify technologies which are new to China is very reminiscent of old China's unsuccessful attempts to retain the best of the old ways while adopting the mechanics of foreign cultures. This is instructive today because it indicates contemporary China's essential Chinese-ness - which in terms of Mao's philosophy also indicates a large dose of romanticism, of glorifying the heroic peasant-soldier. It also indicates rather bleak prospects for success, for science/technology cannot be fully abstracted from its host culture. Secondly, attempts to politicize science merely yield dogmatic technicians who - because they do not accept the scientific method and scepticism - cannot advance the cause of science. This in turn locks the path of the future into a set course - a technological course, which in the light of experience elsewhere, promises to lead the Chinese toward ecopolitical disaster.

Science/technology as manipulated by politics has been effected by the Sino-Soviet split. Chinese science/technology had been strongly influenced by China's Soviet benefactors. However, as a result of the Sino-Soviet split, each nation's men of science/technology have gone their separate ways.⁴⁰ Central to China's attacks on Russian "revisionism" has been the charge that the Soviet Union is dominated by social elites who are frequently technocrats. Russian technocrats hold the key to its economic, military, and political strength. They have made themselves indispensable. China's men of science/technology do not hold comparable status largely because China's economic, military, and political structures are less integrated, less specialized, and less interdependent. The guerilla ideal of interchangeability⁴¹ still prevails.

China's separate course of scientific/technological development was greatly intensified by the Cultural Revolution. Since 1966 China has focused its energies on applied science and local technologies, rather than "pure" science.⁴² Perhaps the most meritorious facet of this devolution of the scientific method is the concurrent introduction of "science" to the broad spectrum of China's masses. One of China's handicaps in the past had been a low level of scientific and technological exposure on the part of China's masses;

a level low enough to preclude their readily adapting to the introduction of sophisticated technologies. However, Peking's enforced encouragement of popular involvement in scientific experiments and technological projects related to the daily lives of the people has the potential to remedy this handicap.⁴³ Crucial here is the hope that the Chinese do not carry this process to the extreme of completely renouncing the scientific method of inquiry. To do so would defeat any future prospects for widespread use of science. China would evolve into what the Japanese have been unjustly accused of being - a nation of copiers and adapters. Solely as technocrats - albeit egalitarian - the Chinese could expect little more.

A sign of such an unwanted trend has been present in other communist societies. They have witnessed the appearance of categories of politicized scientists⁴⁴ which one author referred to as "scientific commissars". The difficulty with this genre of scientific leader is that he is unable to lead the way into frontier areas precluded by state policy. Thus science is hobbled and restricted to "safe" areas of inquiry. The result of such ineffectual leadership is the development of scientific and technological cadres who in Krushchev's terms are "always reinventing the bicycle".⁴⁵ China too must face this prospect,⁴⁶ and, in an era of

intensifying ecopolitical crises, it is not a prospect to be welcomed by either China or the world at large which will inevitably be effected by China's future problems.

((China: Growth and Goals))

China is a poor country. While it is neither a new nor an undeveloped country, its post-1949 society is a new experiment operating in a nation which at best might be termed a developing country. China's annual per capita income has ranged in the vicinity of one hundred fifty U.S. dollars. This is far below advanced economies of both the West and non-communist Asia. There are, of course, extenuating circumstances which must modify any such comparisons. These circumstances focus on Chinese attitudes toward growth and how it ought to be achieved. These attitudes will form the theme of this section. The attitudes are critical in an Asia where the bulk of the people find themselves in situations more comparable to China than to the advanced economies which are frequently proffered as models of development.

Economic growth in China, while rapid in the immediate post-revolutionary years - due largely to recovery from war's devastation, has not been overwhelming in subsequent years. Economic and social upheavals, in the form of the Great Leap Forward and the Cultural Revolution, along with

uninterrupted population growth have minimized the overall gains. The following table is instructive in this regard:

Chinese Economy: 1949-1971

<u>Period and Year</u>	<u>"V"</u>	<u>"W"</u>	<u>"X"</u>	<u>"Y"</u>	<u>"Z"</u>
1949-52, Rehabilitation					
1949.....	36	538	67	25	54
1950.....	43	547	79	31	64
1951.....	50	558	90	42	71
1952.....	59	570	104	51	83
1953-57, 1st 5-Year Plan					
1953.....	63	583	108	64	83
1954.....	66	596	110	73	84
1955.....	72	611	117	74	94
1956.....	78	626	124	91	97
1957.....	82	642	128	100	100
1958-60, Great Leap					
1958.....	95	658	144	131	108
1959.....	92	674	137	166	86
1960.....	89	689	139	162	83
1961-65, Recovery					
1961.....	72	701	103	108	78
1962.....	79	710	112	111	90
1963.....	82	721	114	122	90
1964.....	90	735	122	137	96
1965.....	97	751	129	155	101
1968-69, Cultural Rev.					
1966.....	105	766	137	137	106
1967.....	101	783	129	143	115
1968.....	100	800	125	154	106
1969.....	109	818	134	182	109
1970-71, Regular Planning					
1970.....	122	836	146	215	116
1971.....	128	855	150	239	115

(V: GNP in billions of dollars

W: Population in millions

X: GNP/capita in dollars

Y: Industrial Production; 1957 = 100

Z: Agricultural Production; 1957 = 100)

47

China's lack of sustained and large scale growth has caused some observers to seek the answer to their economic problems

in terms of increased capital investment. The difficulty with such views is that they are exclusively oriented toward capitalism. The Chinese, of course, do not see things in that light.

Capitalism in pre-communist China got off to an uneven start. It was not well received in a Confucian society.⁴⁹ However, in an ossifying society the worst forms of capitalism did find receptive niches. With encouragement from Western capitalists an elite class emerged in China whose base was a parasitic form of capitalism. The Kuo Min Tang leadership forswore the egalitarian principles of Sun Yat-sen and enriched itself via abuses of the people and their lands. It was, therefore, little wonder that the Communists found many people ready to accept their panaceas. Neither is it any wonder that today's Chinese leadership has little regard for solutions proffered by capitalists.

The Chinese have their own ideas about economic growth. This was less true during China's first two five-year plans (1953-1962) when China's economic development was quite closely modeled on the early stages of Soviet economic development. The stress was on heavy industry aimed especially at defense production and at further expansion of heavy industry.⁵⁰ This changed rather dramatically as a partial result of the Sino-Soviet split. In order to assess these changes

we must first view the changes which have occurred in Chinese society.

In the early post-revolutionary years Russia was China's mentor and China was the anxious student. As a result of Sino-Soviet upheavals China's leaders saw the danger of excessive reliance on a single support. Their theme turned from interdependence to independence. In the 1950s when China and the Soviet Union were closely cooperating in the area of China's industrial development, agriculture had been downplayed. This was in accordance with the Soviet development model. Nevertheless, China with its huge and growing population needed a continuously expanding supply of food. In response to this need China's leaders in 1957 called for enhanced self-reliance ("tzuli kengsheng"). This term was revived during the Great Leap Forward and became very prominent following the breakdown in Sino-Soviet economic relations in 1962.⁵¹

It is necessary to understand China's zeal for self-reliance in order to appreciate China's economic growth. The desire for self-reliance is difficult if not impossible to quantify. Thus it is difficult for capitalist economists to include it in their calculations. This is doubly true in China's case since socialist self-reliance would seem to be

inherently contradictory.* In China's case, self-reliance is more of a political, perhaps even an emotional, factor than an economic factor. This is what makes it difficult for many economists to comprehend. As Wheelright and McFarlane have observed,

The performance of the Chinese economy cannot be judged by purely economic standards, such as real productivity per man-hour or rate of return to the State on invested capital, because noneconomic aims are being 'fed' into the planning system.
(emphasis in original) 52

The Chinese are opposed to the exalting of economic values over socialist values. They are strongly opposed to what they consider "economism" - the revisionist sin of placing material well-being above socialist ideology with which Liu Shao-chi is identified.⁵³ This, of course, creates a dilemma for a nation which desires and advocates economic growth. Apparently, however, Mao has decided that China's revolutionary zeal might well be sacrificed in the process of achieving rapid economic growth. This was considered too high a price to pay. The end result has been to seek modernization via slower means which would, however, also foster continued revolutionary spirit. Mao did not want to permit modernization to become a goal in itself at the expense of the revolution.⁵⁴ China's leaders did not want

* This contradiction is dealt with below.

to give up economic growth; rather they wanted to restructure the values which guide economic development. As part of the effort noted above to deflate scientific elites, the Chinese sought to undercut elites by fostering popular participation in economic planning and practice. ⁵⁵

Central to China's reorientation of economic values were Mao's pronouncements on how the Chinese ought to conduct their lives:

Observe the principle of diligence and frugality... Oppose extravagant eating and drinking and pay attention to thrift and economy. ... We must stress regeneration through our own efforts. We stand for self-reliance. We hope for foreign aid but cannot be dependent on it; we depend on our own efforts. ... In times of difficulty, we must not lose sight of our achievements, must see the bright future. ⁵⁶

Thus, a good Communist is hard-working, frugal, self-sacrificing, and self-reliant. These values are not terribly difficult for Westerners to comprehend. Indeed, they used to prevail in the West. Yang Chen-ning, a Chinese-American Nobel laureate in physics, found upon his return to China after an absence of more than twenty years that the Chinese believe the West, and particularly the United States, "is characterized by the principles of acquisition, competition and consumerism, and China does not want any of them". ⁵⁷

The paradox here is that the West frequently advocates idealism and China advocates philosophical scientific mater-

ialism, while in practice the converse is true - the West is materialistic and China is idealistic to the point of being romanticist.

The basis of China's economic and social ethic is found in the idealized commune of "Tachai". The Chinese people are constantly encouraged to emulate the model of Tachai.⁵⁸ The Tachai spirit embodies the "good scout" virtues as advocated by Mao Tse-tung. This approach to economic development is what Selden termed the "Yennan Way" or a "guerrilla model for economic development".⁵⁹ The connotation of continued revolutionary fervor is important here. What is perhaps most notable about the Tachai spirit is that, although it is allegedly communist, some of its ideals are quite unsocialistic. Socialist independence or socialist individualism do not seem to mesh well internally. To understand this concept in Chinese terms we must cease viewing independence and individualism in personal terms. This is not the way of Tachai. Rather, one must see Chinese society as a hierarchy of group individualism. Instead of the self-interests considered the norm in the West, the Chinese under Mao have chosen to stress self-less devotion to self-reliance. This self-reliance pertains to the individual only as a member of a small group and to the group as part of a hierarchical national society.

All of this reevaluation of the growth and development ethic in China came about in the wake of the trauma of separation from the Soviet Union. The spirit of Tachai is an outgrowth of earlier efforts to achieve "self-reliance". The Chinese have sought to achieve economic growth in ways markedly different from their former model in Russia. Despite the knowledge of what China's economic system is not, it is nevertheless difficult to describe it in precise terms. As Robert Dernberger observed,

Western observers have been unable to determine the exact nature of the planning mechanism in operation in China today, but there obviously is no nation-wide plan which incorporates the enterprises at all levels of the economy. Rather each level of authority appears to be responsible for planning and coordinating the activities of those enterprises it controls, with each successive level of authority responsible for planning and coordinating only the resource flows between those political units directly under it. (It is) a planning system which can best be described as decentralized-planning or a decentralized-command economy in contrast to a market economy.

60

China's national economic system would seem to be a combination of Tachai-like units roughly shaped like a pyramid.

For our present concerns with economic growth and the effects of growth on political man's place in the physical environment - with ecopolitics, the Tachai spirit has many implications. On the plus side, the Chinese have already created a mood which others still seek. Witness this quote from an unexpected source, which fits the Tachai spirit quite well:

A person can be expected to act responsibly only if he has responsibility. This is human nature. So let us encourage individuals..... to decide more for themselves. Let us locate responsibility in more places. And let us measure what we will do for others by what they will do for themselves.

61

The source is, as the phraseology indicates, President Nixon. Perhaps Chairman Mao passed on a few gems of wisdom during the celebrated visit to Peking. Voluntary efforts are necessary, but on the other hand, the ecopolitical issues involved are too immense to be relegated to individual efforts alone. This is one of the lesser attributes of the Tachai spirit. Activities are too diffuse and uncoordinated to be effective on a large scale. Greater central control and direction is a prerequisite to successful management of ecopolitical problems.

Another partial plus is the slow-growth policy which the Tachai-induced sustained revolutionary fervor has, in effect, yielded. Although Mao sought this political fervor as a first priority and only accepted slow-growth as an unavoidable side-effect, for our present concerns the slow-growth is a positive result. Contrary to the critics cited above, China's lack of rapid growth need not be viewed as "stagnation" which must be cured. A slow-growth and, eventually, a homeostatic no-growth status for China has many desirable characteristics. On the minus side, it must be recalled that slow- or no-growth is not being sought by the

Chinese. It is merely a necessary evil given their priorities.* If the Chinese were able to achieve rapid growth without diluting the revolution, there appears to be little doubt that they would seek such rapid growth.

Probably the greatest liability of the Tachai spirit and its implications for both economic growth and the ecological dilemma is its reliance on a premise which pervades Chinese society and debilitates contemporary Chinese man-in-nature relationships. This premise is the notion of man's supremacy on and over the earth. As we have seen above, this is in direct conflict with the ecological paradigm. As long as China accepts this premise, its course is set. Unless China undergoes a massive transformation, it will some day be confronted by the Malthusian dilemma. Malthusian ecopolitics were assessed above. It is appropriate now that we turn to an examination of Malthusianism in China.

((China: Malthusianism))

Works on China's economy, detailed as they frequently are, seldom touch upon the consequences to China's physical life-support system which may accrue from contemporary policies.⁶² This is largely due to past concerns with

* This needs to be remembered when Western Sinophiles posit Mao-think as an alternative to Western environmental excesses.

China's economy as an indicator of China's military capabilities. Environmentalists have not carried much weight with the military establishment. More important, however, is the basic lack of concern economists en masse have shown for truly long-range issues. The unsuitability of the economist's perspective was described above. Suffice it to indicate the gaps in economic studies of given states. The changes that have occurred in this academic realm in very recent years, i.e., the "new" economics, have not yet spread to the domain of area-related economic studies.

As a result of the lack of interest of many economists the issues which may be encapsulated under the heading of Malthusian ecopolitics have not received much attention in the West. Those few who have attempted to view China from Malthus' viewpoint have frequently succumbed to the extreme black-or-white alternatives for which Malthusians are often criticized. A notable example of such failure was William Vogt's description of China's plight via a character sketch chronicling the death of a poverty-stricken man named "Wong". Vogt stated that "millions more are going to die in the same way. There can be no way out."⁶³ Vogt then proceeded to commit the cardinal sin of Malthusianism when he recklessly observed,

There is little hope that the world will escape the horror of extensive famines in China within the next few years. But from the world point of view, these may

be not only desirable but indispensable. A Chinese population that continued to increase at a geometric rate could only be a global calamity.

64

The excesses of knee-jerk Malthusians need not, as indicated previously, decree out-of-hand rejection of Malthus' principles. To say that Malthus was in error for the short-run does not diminish in the least the long-run efficacy of his principles. Neo-Malthusianism, when incorporated within the bounds of the ecological perspective and brought to bear on the ecopolitical dilemma of man on a finite world, can offer many pertinent insights.

The Chinese, however, are not yet ready to accept Malthus. China's experience with Malthusianism has been of two types. The main experience has been with Western introduced Malthusianism. There was also a lesser known strain of "Malthusianism" of indigenous origin. Malthus had a Chinese contemporary, Huang Liang-chi (1746-1809), who, after witnessing an expansion in China's population brought about by the introduction of New World crops,* stated:

The increase in the means of subsistence and the increase of population are not in direct proportion. The population within a hundred years or so can increase from five-fold to twenty-fold, while the means of subsistence, due to the limitation of the land area, can increase only from three to five times. Some may ask,

* From 1700 to 1850 China's population tripled to four hundred and thirty million people.

Do Heaven and Earth have remedies? The answer is that their remedies are the form of flood, drought, sickness and epidemics.

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The similarity with Malthus is more than mere coincidence. This now largely forgotten historical oddity demonstrates that the phenomena Malthus described were not unique.

Liang was not the primary advocate of "Malthusianism" in China. That role fell to the many Westerners who saw in China the paradigm of Malthusian principles. Up until the revolution of 1949, Malthus seemed to have been China's prophet. However, the Chinese Communists set a goal for themselves of refuting Malthus. In doing so, they were following in the traditions of China's earlier generation of revolutionaries who followed Sun Yat-sen's lead by refuting what Sun termed "the poisonous Malthusian theory".⁶⁶ Revolutionaries, as we have seen, have an inherent abhorrence of Malthus' conservative precepts.

China's only recent brush with Malthusianism was during the "hundred flowers" movement of 1957-1958. Mao had given a speech in early 1957 in which he outlined distinctly Malthusian views of China's population/resource balance. The speech was kept under wraps, but the essence of the speech was spread widely. Chinese intellectuals followed Mao's lead. Rapidly, however, Malthusian logic led to

questions with which Communist dogma, despite its affectation of science's mantle, could not successfully contend. In this situation, and concurrent with other aspects of "hundred flowers" rectification, Peking clamped down upon Malthusian speculation.⁶⁷ With notable exceptions, China has subsequently steered a course clear of Malthus. China's official views of Malthusianism, as illustrated by man's place in the physical environment, were presented at the United Nations' Stockholm Conference in 1972. Delegation leader Tang Ke stated:

The history of mankind has proved that the pace of development of production, science and technology always surpasses the rate of population growth. The possibility of man's exploitation and utilization of natural resources is inexhaustible. Moreover, with the progress in science and technology, man's use of natural resources will increasingly grow in depth and scope. Mankind will create ever greater quantities of wealth to meet the needs of its own subsistence and development. Mankind's ability to transform the environment will also grow continuously along with social progress and the advance of science and technology... Of course, this in no way means that we approve of the unchecked growth of population. Our Government has always advocated family planning, and the publicity, education and other necessary measures adopted over the years have begun to produce some effects. It is wholly groundless to think that population growth in itself will bring about pollution and damage of the environment and give rise to poverty and backwardness.

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The spirit of Tachai with its emphasis on organized human will power is in evidence in Tang's statement. Tachai is even more clearly present in the official position presented by Delegate Chi Lung at the Twenty Ninth session of the

United Nations' Economic Commission for Asia and the Far East (ECAFE) in April 1973:

We hold that, of all things in the world, people are the most precious. People are the decisive factor in the social productive forces. They are first of all producers and then consumers. ... Those views which regard people as a negative factors that people are purely consumers and that growth in population means an obstacle to economic development, do not correspond to the historical facts in the development of mankind. Some Malthusians have prated that when there are too many people, the question of feeding them cannot be solved, that too many people obstruct the progress of society, and so on. Facts have thoroughly refuted such nonsense. ... Population increase in a planned way is China's established policy. We follow such a policy not because the question of 'over-population' exists in China. In China, social production is carried out in a planned way and this requires that the population increase is planned too.

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China's birth control programs have been of varied quality and consistency. There have been many fluctuations. Despite these fluctuations, China appears to have settled down to a policy of limiting births. Chou En-lai has said this is China's policy and that his hope is that China will succeed in emulating Japan's birth control success and bring its birth rate to below two percent. China's paramount statistic is its population. China's numbers effect everything else in China. Policies and programs cannot be initiated without first looking to China's population. The principle difficulty regarding this statistic is that nobody is certain of its dimensions. China's Vice Premier Li Hsien-nien

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frankly admitted the problem when he stated in a Cairo interview:

We have been racing against time to cope with the enormous increase in population. Some people estimate the population at 800 million and some at 700 million. Unfortunately, there are no accurate statistics in this connection. Nevertheless, the officials at the supply and grain department are saying confidently, 'The number is 800 million people.' Officials outside the grain department say the population is '750 million only' while the Ministry of Commerce affirms the 'the number is 830 million.' However, the planning department insists that the number is 'less than 750 million.' The Ministry of Commerce insists on the bigger number in order to be able to provide goods in large quantities. The planning men reduce the figure in order to strike a balance in the plans of the various state departments.

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Despite the admitted handicaps, there are some things one can state about China's population.⁷³ The most undeniable comment one can make is that China's population is immense. A leading authority on the somewhat nebulous subject of China's population accepts current figures in the range of eight hundred million and projects population growth which by 1990 will yield a population which will be in excess of 1,300,000,000.⁷⁴ For present purposes the important aspect of such mind-boggling data is not their precision, but rather the fact that there will be a lot of Chinese in China. China's is a young society with approximately forty percent of its population under eighteen years of age.⁷⁵ The image of venerable China is misleading in demographic terms.

China is primarily a peasant-farmer nation. The significance of this is that China's peasant population supports in excess of 1,300 people per square mile of cultivated land.⁷⁶ What will be the result if nearly twice that number attempt to live in virtually the same amount of space? A partial answer to this question may be found in China's plans for industrial urban centers. Urbanized industrial societies can support greater numbers of people. However, to accomplish this China would be compelled to abandon its preference for self-sufficiency and to rely more on food and other imports. Whether they would wish to do so in a world grown wary of material and agricultural resource scarcities remains doubtful. Moreover, urbanization, industrialization, and general economic growth would equate with increasing wealth. The effects such growth and wealth might have on China's revolutionary fervor have already been noted. More crucial, from an ecopolitical standpoint, is the effect new economic wealth might have on China's physical environment. As Jean Mayer observed,

It might be bad in China with 700 million poor people, but 700 million very rich Chinese would wreck China in no time.

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This may seem a far-fetched potential, but even partial advances in wealth could prove more harmful than many anticipate.

China's essentially rural life-style has an additional benefit that is not commonly recognized. Georg Borgstrom, in comparing China's massive annual leaps in population to Western conditions, stated:

Even an economic giant like the United States would find it difficult to deal with an additional population equivalent to a Greater New York every year.

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He might better have said "particularly" rather than "even". Advanced technological societies would, indeed, have great difficulty in absorbing huge annual increments in population. Automated societies have diminishing needs for increases in labor. On the other hand, China's, and other labor-intensive societies', can more easily incorporate growing numbers of people. There are limits to this process also, but the limits are more elastic than they are in technologically sophisticated societies. This factor must also be considered when China contemplates transforming itself into a society which might well prove less capable of adjusting to demographic changes.

((China: Resources and Growth))

Population is only one half of China's Malthusian dilemma. The other half is China's resource base. Marxist-Leninist population theory proclaims the paramountcy of human will and social organization. That theory has not had to be

tested in its homeland, the Soviet Union, because of that country's vast spaces and wealth of natural resources. However, China's communization is putting Marxist-Leninist population theory to a true test.⁷⁹ The test results have yet to come in. Only when the resource dilemma spreads world-wide and trade becomes restrictive will the heavily populated states be forced to stand the test.

Is China, with its huge population and finite land area, a Malthusian "Paper Dragon"?⁸⁰ To answer this question one must examine two basic resource-related areas: China's agricultural resources and its industrial resource base. The former will be treated in the next section. Resources required for industrial growth are our present concern.

China's natural resources were exploited largely by foreign interests prior to the Communist's victory. However, China's resources were not exploited to the degree they might have been, primarily because neither the Chinese nor the foreign imperialist interests recognized the extent of China's natural resource wealth. Due to inadequately performed explorations and surveys, China had long been considered under-supplied with natural resources.⁸¹ Adding to this uninformed condition was the seemingly logical assumption that a nation with a long sedentary history must have long since played out its base of valuable resources. Lacking in this logic was

awareness of China's past cultures' minimal depletion of resources related to industrialization. China was worn, but not in this area.

The Communists changed this picture dramatically. They initiated broad geological surveys of China to determine the extent of their resource base. The results of these still ongoing surveys have upset past calculations about China. In contrast to past desultory efforts, the Chinese have located and are developing many sites capable of producing over one hundred different types of useful mineral resources.⁸² China has been found to encompass an ample industrial resource base. As economist Arthur Ashbrook has noted,⁸³ "China has the natural resources of a superpower".

The Chinese, as part of their development effort, are actively engaged in the pursuit of their available resources. However, they take great pains to indicate that, whereas the imperialists were guilty of "predatory exploitation", they are utilizing China's natural wealth for the good of the masses.⁸⁴ Their distinction has some validity, but one is compelled to inquire whether exploitation of any finite resource can ever be anything other than "predatory"? Regardless of man's rationale, to draw upon irreplaceable raw materials is a parasitic act.

Man's parasitism, while crucial to the long-run ecological perspective, has been overlooked in China's short-run. China has illustrated very graphically one of the most important concepts in geography; the concept that natural resources are cultural appraisals. By altering their culturally derived goals the Chinese have changed the demands they place upon the supportive elements in the physical environment. In seeking growth and industrialization, albeit modified by Maoist ideology, the Chinese have seen their resource base in a new light. As we have noted, the Chinese have shifted their emphasis from harmony with nature to struggle with nature.* Thus their short-run goals and gains have placed them on a course which will perforce bring them face to face with the Malthusian dilemma. Short-run irresponsibility toward the natural environment will, in China's case as in all other instances, lead to eventual confrontation with man's parasitic character. Should China ever fully industrialize and achieve a technologically sophisticated society, it would place itself in a predicament similar to that of the other currently vulnerable advanced economies. China's gross dimensions would, however, magnify its problems. It would very likely verify the adage - "the bigger they are, the harder they fall". In that event, China would again be

* Recalling always that Chinese "nature" was idealized and not the wilderness of the West.

in a position to illustrate the truths of natural resources as cultural appraisals. Unfortunately, China - unlike the United States or the Soviet Union - with a large and industrialized population, would not have the leeway to maneuver or the spatial cushion to fall back upon in the event of the sort of industrial collapse referred to by Harrison Brown and the Watsons.* China's reversion would be devastating.

To forestall such a prospect China would have to be more cautious and more respectful of the physical environment than it has proven to be.** China's leaders seem to have reached the conclusion that the best defense against the dangers posed by the ecopolitical crises will be to conduct a spirited offense. Their attacks against natural systems are conducted with a great deal of enthusiasm and vigor. Norman Vincent Peale has many compatriots among the Chinese. They are attempting to raise the "power of positive thinking" to new heights by seeking to subdue and conquer nature by the force of their collective will.

The Chinese set forth their views in the spirit of Tachai during the Stockholm Conference on the environment. China's belief in the power of man to transform his world

* See Chapter VI, notes # 140 and 141.

** China's alternatives will be assessed further in later sections.

and their opposition to outside interference in the developmental policies of developing nations profoundly influenced the conference.⁸⁵ As Walt Patterson, of The Friends of the Earth, noted, China's position and attitude "struck the assembly like a shock-wave".⁸⁶ Here were the Chinese advocating positions which contradicted the guiding spirit behind the Stockholm Conference.

More important, however, than what the Chinese say is what the Chinese do. At first glance it would appear the Chinese are attempting to follow their own advice. However, appearances can be misleading. The Chinese have not been as harsh and ruinous as their precepts might lead one to believe. The truth of this will become evident in the remainder of the sections on China.

Of the natural resources prerequisite to successful industrialization, energy sources are paramount. Of these sources, oil is first among equals. This is true for China as well. Hence China's views of energy and its shortages, present and future, are instructive.

China's actual situation with respect to oil is an unknown factor. One authority has stated that China probably has sufficient oil reserves for its own presently limited needs, but that any estimate about China's future oil

production or consumption would be sheer speculation. ⁸⁷

The Chinese themselves may not know much more about their known reserves than do we in the West. When one adds the uncertainties of their population data and the irregularities and fluctuations of their economic growth record, one is forced to the conclusion that China and oil remain unknown quantities. However, their attitudes toward oil are quite well known.

The Chinese are somewhat ambiguous about the energy crisis of the 1970s. They are well aware of the effects an oil shortage can have on the industrialized West and Japan. ⁸⁸ The effects of oil shortages are too obvious to deny. However, there is a great deal of latitude in interpreting the causes and "solutions" of resource shortages. Authoritative experts can be found on all sides of the issue. It is little wonder, then, that the Chinese have been ambiguous.

China's ambiguous stance is, however, due to more than mere confusion. China's ideological biases put the Chinese on two sides of the issue. On the one hand, the Chinese argue with conviction and some justification that the energy "crisis" was artificially created by imperialist-capitalist oil profiteers of the West. ⁸⁹ Communist anti-capitalist

* For the sake of stating the issue, it is assumed temporarily that a "solution" can, indeed, be found.

dogma predisposes the Chinese to make this argument. Similarly communist anti-Malthusianism and belief in the man-centered spirit of Tachai precludes the acceptance of man's dependence on the earth's resources - of what Hua Chih-hai termed "reactionary concepts of geography".⁹⁰

On the other hand, the Chinese, despite their dogma, seem to have accepted the reality of energy and other resource shortages. Their acceptance is indicated by their active advocacy of national sovereignty over resources. As delegate Fu Ming stated at the May 1973 Vienna session of the United Nations' Industrial Development Board:

We have always held that the exploitation and efficient use of natural resources is of great significance to the industrialization of the developing countries. The permanent sovereignty of the developing countries over their natural resources is the prerequisite for the exploitation and efficient use of these resources. Only when the developing countries have controlled their economic lifelines in their own hands can they talk about the question of the independent exploitation and use. However, some people advance another theory saying that 'the sovereignty over the natural resources depends to a great extent upon the capability of utilizing these resources by the industry of the developing countries.' We absolutely cannot agree to this argument. It is the inalienable right of the developing countries to fully exercise their permanent sovereignty over all of their natural resources whether the level of their present industrial development is high or low. The sovereignty of the developing countries over their natural resources is unconditional and inviolable.

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Sovereignty over a nation's resources in a world of growing shortages is an integral part of China's overall campaign

against super-power domination of the world. China's United Nations' representative, Wang Jun-sheng, made the linkage explicit during an April 1973 debate in the United Nations' Economic and Social Council. Wang stated China's vehement opposition to big-power hegemony over key areas of resource wealth.⁹² China is, of course, by Chinese definition - not a big-power.

China's ambiguous position on resource shortages indicates the essentially ambivalent character of China's reaction to the dilemma of Malthusian ecopolitics. They do not wish to recognize its reality and try to fight forces which seem to compel that recognition. Yet, the momentum of population and economic growth within a supportive system of finite, if elastic, limits inexorably focuses their policies on essentially ecopolitical issues. This can best be seen in the realm of agricultural production.

((China: Agriculture and Growth))

Previously the question was raised of whether or not China is a "Paper Dragon". With regard to its industrial base the answer must be a tentative "no". China has the capacity and will to back up its words. The answer will remain tentative until China's prospects for the future can be more fully assessed.

An answer with regard to China's agricultural resource base is seemingly much easier to achieve. China's masses, confined to well-worn lands, would seem to indicate China's ripeness as a paradigm of Malthusianism. A closer examination of China's agriculture will permit an evaluation of the accuracy of outward appearances.

China's agriculture is notable for two interrelated attributes: its labor-intensiveness and the role of rice. China possesses in excess of ninety percent of the world's rice acreage and produces a corresponding percentage of the world's rice.⁹³ Rice is admirably suited to heavily populated nations. As the following table indicates, rice is capable of supporting a significantly higher number of people per land unit than are other common grain crops:

	<u>Rice</u>	<u>Wheat</u>	<u>Corn</u>
Calories per 100 grams	352	350	362
Production of calories per 0.1 hectare (in thousands).....	1,059	627	561
Potential supportable population per hectare(*).....	15	9	8

(*): At the rate of 2,000 calories/day or
730,000 calories/year/person.

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The lower figures for wheat and corn must also be seen in terms of "population equivalents". This will lower the data in terms of Western dietary habits. The high yield of rice

is due, in large part, to intensive labor practices. Heavy-labor transplant paddy yields more than broadcast paddy. Inherent in this is the symbiotic relationship between intensive labor and intensive rice production. It requires a lot of people - with their muscles and human waste - to produce the amounts of grain a lot of people can consume. ⁹⁵

The generalizations in the previous paragraph have been applicable to China for generations past. Somehow, by dint of effort, the Chinese survived the centuries with only occasional Malthusian decimations of their ranks by famine. In the modern era the Chinese have sought to ameliorate population pressures by means of transferring population from the fields to the industrial and extractive labor forces. This process began with earlier industrialization, but did not become conscious and large scale policy until China's experiments with Soviet style economic planning and development.

China's agriculture was neglected under such planning schemes. As noted above, during the 1950s the Chinese sought to achieve self-sufficiency in agriculture. This was somewhat of an afterthought. Industry was ranked as a much higher priority and agricultural self-sufficiency was looked to as a stop-gap. When China took stock of its economic position

in the wake of disruptions in Sino-Soviet relations, however, it was apparent that the pragmatic "model" China had devised indigenously for agriculture was more appropriate to China's needs than was the imported Soviet model. The Chinese, in their questioning mood, also looked askance at the priority granted industry. What emerged was China's continuing policy of "walking on two legs". The Chinese have said of this policy:

China balances the relations between industry and agriculture,... she does not emphasize one to the neglect of the other but develops both simultaneously in such a way that they coordinate with and promote each other. (96)

In China the development of industry is based on agriculture; the advance of agriculture and rise of its labor productivity cannot be separated from industry's leading role. The two are interdependent and promote each other.

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The results of the policy of "walking on two legs" have been most noticeable in two areas. China's industrial base is being dispersed spatially throughout the countryside. One authority, Keith Buchanan, has viewed dispersion and rural industrialization as a solution to China's ecopolitical woes,⁹⁸ but as will be seen below this apparent "solution" is not all that it seems. More important, for our present concerns, has been the renewed emphasis on China's agriculture.

The pre-liberation Chinese farmer was both the core of China and the dreg of China. His lot was that of the down-trodden and oppressed. This, however, did not diminish his love for the Chinese earth. Despite his love and respect for the soil he worked, the Chinese farmer was handicapped by the legacy of ossified and sometimes ruinous techniques of farming.⁹⁹ For all his love of the land, the Chinese farmer had wrought much destruction. While their fertilizing practices had been very beneficial and had enabled the Chinese to till the same soil for centuries,¹⁰⁰ Chinese soil had¹⁰¹ been cut and gouged by man-induced soil erosion.

The Communists changed the picture of Chinese agriculture.¹⁰² China's farmers remained the core of China, but no longer were they the dregs of society. China's massive land reform measures, efforts to modernize agricultural techniques, and placing of agriculture in a co-equal position with industry gave the peasantry the stature appropriate to their central role. The farm-laborer, in the guise of Tachai, became the model of China.

Rural China has been transformed under the Communists. The small scattered paddies, so characteristic of Asia, have - except for the more mountainous areas, particularly in the South of China - given way to larger, more easily mechanized

fields.¹⁰³ This transformation began shortly after the Communists seized control. Mao, as a believer in the efficacy of human will power, did not see any need to wait for mechanization. Mao instituted forms of regimented manpower to achieve collective effort.¹⁰⁴ Despite criticism of the coercive and repressive character of such means, the Maoists persisted. Their initial success was indicated by the creation of twenty six thousand People's Communes by 1960. These were supplemented by approximately twenty five hundred larger and more mechanized* state farms.¹⁰⁵

Mechanization in the West is a sign of sophisticated agriculture, but in labor-rich and land-poor China wasting labor by not using it to fully cultivate the available land is inefficient. As virtually all areas of labor-intensive Asian agriculture have discovered during the 1960s, the best approach is to mix intensive labor with small-scale mechanization. This approach yields¹⁰⁶ the highest blend of labor, land, and machine efficiencies. The Chinese too made this discovery and retrenched. They partially reversed course and expanded the number of smaller scale communes. By 1963 the number of communes had reached seventy four thousand - a number which, significantly, is roughly the equivalent of the marketing areas which had¹⁰⁷ previously existed in China.

* Ranging in size from 2,000 to 40,000 hectares and about 40-50% mechanized.

The results of China's agricultural experimentation have been mixed. The Chinese, as they frequently point out, have defied Malthus and are feeding a massive and growing population. As Edgar Snow summed it up, "Mass starvation? No."¹⁰⁸ The recent spate of visitors from the West to China have provided ample support for Snow's assertions. China is not starving. Not today, anyway. But what of the future? The overall prospects for China will be assessed in the following section, but with regard to agriculture, contemporary optimism needs to be tempered. China's prospects for expanding arable land areas are very poor. Neither are their prospects for water or soil conservancy and fertilizer improvement considered very bright.¹⁰⁹ China still, despite its Herculean efforts, lags behind Japan, South Korea, and Taiwan in production of rice per unit of land.¹¹⁰ Such problems loom large in any answer to questions of China's future. Perhaps the key to this issue lies in an area close to the ecological perspective. The Chinese peasants have been renowned for their attachment to the land. The attachment was not mere sentiment but reflected direct human recognition of man's link to and dependence upon the life-giving earth. As China's arable plots expanded from a pre-liberation average of 3.5 acres to a contemporary commune average of seventy five square miles,¹¹¹ the toll upon the immediate daily recognition of man-nature interdependency cannot but have been

significant. Collective human action removes the awareness of personal ties to earthly life-supports. The spirit of Tachai and the denial of human dependency on anything other than collective humanity stands in direct opposition to the ecological paradigm. In these terms, the Chinese have succumbed to the same foibles as the industrialized advanced economies with their mechanized "engineering" perspective. This picture of China and its food-production potentials is not an encouraging one. Despite China's advances, it would seem to hint at a "yes" answer to the question of whether or not China is a "Paper Dragon".

((China: A "Paper Dragon" ?))

The preceding two sections have attempted to suggest that Chinese policies are leading to a China with a moderately strong but growing industrial base and a satisfactory but fragile agricultural base. Outward appearances and China's official positions would seem to make this a logical conclusion to be reached. However, as noted above, Chinese performance is more important than Chinese proclamations.

In order to determine whether China is truly a "Paper Dragon" we must look at Chinese acts. Man in China has, over the ages, greatly altered the landscape by his culturally induced changes. ¹¹² In recent decades man's impact on the

physical environment of China has become concerted and centrally directed to a degree unknown previously in either China or the world at large. Never have so many concentrated on transforming a society and, by extension, its physical supports than is the case in contemporary China. This transformation will determine whether China is or is not a "Paper Dragon".

Central to this transformation are Chinese attitudes toward man-in-nature. Such attitudes, which have been examined above, lie behind every attempt to reorganize China and set its course for the future. They will be decisive in determining whether or not China is a "Paper Dragon".

Barring China's brief escapade with Michurinist biological principles, within which Darwinian survival notions were denounced as unsocialist, which led to some strange ecological concepts during the 1950s,¹¹³ the Chinese have not explicitly denied the validity of the ecological paradigm. Rather, they have, by means of their advocacy of progress at virtually any price, implicitly attacked the paradigm.

We have seen above that China is a strong supporter of the under-developed world's position that it is premature for them to worry about environmental pollution.

In such countries billows of black sooty smoke emanating from a smokestack remains a sign of progress; not a cause for anguished wringing of hands. However, China's position has been ambivalent on the issue of pollution. The Chinese view at the Stockholm Conference, as presented by delegate Tang Ke, is instructive:

(pollution is serious and) cannot but arouse the deep concern of the people of all countries. To conserve and improve the human environment, to fight pollution, has become an urgent and vital issue in ensuring the healthy development of the human race. However, this problem can be solved along with social progress and the advance of science and technology. We must not give up eating for fear of choking nor refrain from building our own industry for fear of pollution and damage to the environment.

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The contradiction between economic growth and environmental protection which is apparent in the Chinese position was "explained" by Fang Hsin:

The socialist system provides favourable conditions for protecting and improving the environment while swiftly expanding the economy. This does not mean, however, that the question of environmental protection does not exist under socialist conditions. On the contrary, we must pay great attention to it while developing the socialist economy. ... Environmental protection must be carried out in order to develop the economy faster. ... Like all other things, the contradictions between economic development and environmental protection are constant and absolute and their unity is temporary and relative. Economic progress will give rise to new problems in environmental protection, and new problems in this field will arise and call for solution after the old ones have been solved. This is the dialectical relationship between economic development and environmental protection. We must have a correct understanding of it. Under the socialist system the ability to protect and improve the environment is decided, to a consider-

able extent, by the economic and technical level. Only when the economy develops at a faster pace can this ability be raised more rapidly. Therefore, we can only solve the problem of environmental protection by developing the economy, and not seek a good environment by slowing down economic development or by other negative methods.

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The fallacy of the short-run economic perspective is manifest in this "explanation". The Chinese have succumbed to the same mistakes that Western capitalists made when criticizing the Malthusian ecopolitics represented by such works as "The Limits to Growth". Both groups of critics have confused the answers with the problems. The ecological perspective, in effect, begins where the economic perspective terminates - at the end of the short-run. The panacea of science and technology was dissected previously. It is not necessary to repeat that analysis here, but merely to indicate that the dangers of relying on such a panacea apply equally well to Asia and China.

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The ambivalent contradiction in China's stance is not adequately explained by the Chinese. Until they come to accept the veracity of the ecological paradigm, they will be unable to resolve the contradiction. Acceptance by the Chinese of the ecological paradigm may well be a long way off. Nevertheless, their acceptance or lack of acceptance will not appreciably effect their inexorable course toward confrontation with the man-resource dilemma. China will

eventually have to come to grips with the issues posed by this dilemma. Their reaction to those issues will finally answer the question of whether China is or is not a "Paper Dragon".

Long before the final answers are provided we will have indications of what they will be. As was noted at the outset of this section, we presently possess some tentative indications that the "Dragon" possesses a strong industrial base and a fragile agricultural base. Its "two legs" seem not to be of equal strength.

The contention here is that, indeed, the "two legs" are not of equal strength. However, contrary to appearances, the weaker "leg" is industry and the stronger "leg" is agriculture. This apparent paradox is explainable. To do so we must compare China's words, acts, and prospects in the industrial and agricultural sectors in relation to the ecological perspective.

In agriculture the Chinese had a huge task before them. They had to restore a land worn thin by human excesses and
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ignorance. To accomplish this task, the Chinese resorted to a great deal of rhetoric. They continue today in the same vein, witness this representative statement from an official of Peking's Ministry of Water Conservation and Electric Power:

We have a long way to go in our fight to conquer nature and turn water from a menace into a benefit for the people. But what we have done in the past 23 years has shown us the power of the socialist collective. For a long time the Chinese people were dominated by the feudal and idealist idea that man can only abide by the will of heaven. This, no more. Today our motto is 'Man's will, not heaven, decides'.

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The Chinese are engaged in many attempts to reshape natural systems for what they consider the benefit of man.

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Were the Chinese to attempt such changes with the vigor and thoroughness indicated by their words, the results could well be ecological disaster. However, in the realm of agriculture the Chinese have tempered their rhetoric with folk wisdom. The peasant-laborer, despite his relatively greater detachment from the land when contrasted with his ancestors, is still attuned to natural cycles. His knowledge of natural cycles has helped to modify potential excesses. Perhaps most importantly, the government has been willing to accept such leadership from below. It has been accepted as a sign of revolutionary fervor and made a key part of the spirit of Tachai.

The most significant aspect of this tempering effect has been in the realm of conservation. As was noted above, China's potential for expanding its arable land area or improving its conservation activities has not been considered very promising.

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The objective facts and Chinese

rhetoric confirm such a conclusion. Yet, the commitment of the Chinese people, in the spirit of Tachai, enables them to accomplish a great deal with limited means. This has been very much the case in Chinese agriculture. Confronted by finite land resources the Chinese have, while sprouting rhetoric, acted in accord with principles close to the ecological paradigm.

Central to this paradigm is an attitude which might well be expressed by the popular aphorism - "Waste not, want not". This phrase could well be the motto of contemporary China. Prevention of waste has become a way of life in China. This is what was referred to previously as the "Mao ethic".* This ethic grew out of China's revolutionary and wartime hardships. This formative period in Mao's thinking led him to conclude:

Wherever we happen to be, we must treasure our manpower and material resources, and must not take a short view and indulge in wastefulness and extravagance. Wherever we are, from the very first year of our work we must bear in mind the many years to come, the protracted war that must be maintained, the counter-offensive, and the work of reconstruction after the enemy's expulsion. On the one hand, never be wasteful or extravagant; on the other, actively expand production. Previously, in some places people suffered a great deal because they did not take the long view and neglected economy in manpower and material resources and the expansion of production.

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* Chapter IV, Note # 107.

China's peasantry had long lived the life style Mao advocated and idealized. Conservation was a way of life for them. With the Communists they finally had a like-minded government. When communist bureaucrats, unfamiliar with the ways of the land, attempted to operationalize their "conquer-nature" rhetoric, the leadership from below - with forceful encouragement from Mao - modified "conquer" to mean "cooperate".

An early example of such tempering can be seen in the massive effort to control "pests". The case of the sparrow is instructive. The government had concluded that, since sparrows eat grain rightfully belonging to the people, the sparrow must be eradicated. The government ordered the people to beat gongs so that the sparrow could not fly in the vibrating air. Many sparrows died. Without the pest-consuming sparrows, other "pests" increased in numbers and much more grain was lost. ¹²² It did not take long for the leadership from below to correct the error of the ideologue's ways. The balance of nature, well understood by the peasant-labourer, was reinstated. It did not take many such experiences for the Chinese to learn that trial and error experimentation on ones food supply can be dangerous. They became much more cautious - another attribute congenial to the ecological paradigm. One heartening sign of China's newfound

caution and respect for natural systems, in the realm of agriculture, has been their increased wariness of chemical pesticides and receptivity to biological pest control.¹²³
The Chinese seem to have taken a leaf from Rachel Carson's book.

The Chinese are attempting conservation in many sectors of their economy. In rural and agricultural areas their efforts focus on afforestation, erosion control, and water conservancy.¹²⁴ Their success has been greater in these areas than in urban industrial areas for two primary reasons. Firstly, tampering with natural systems in the realm of short-cycle food production yields results which, if harmful, are immediately apparent. This shorter span has served to show the error of their ways more quickly. Secondly, in line with two policies of the government - fostering the Tachai spirit of local leadership and sending officials and scientists/technologists to the country - a blend of official agro-science policy tempered by folk wisdom has emerged. This blend has made China's agriculture, despite its handicaps, a potentially more durable portion of the Chinese economy.

The Chinese have attempted to conserve in the industrial sector as well. Here, again, the motto is "waste not, want not". Conservation of resources and prevention of pollution

are seen as part of economic development. The Chinese position is that:

The recovery and utilization of wastes is an integral part of national planning for basic construction. Projects for this purpose are required to go into operation at the same time that new factories and mines go into production. Industrial departments are working together with research units to improve production processes so as to reduce or eliminate pollution.

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Despite these apparent intentions to control pollution and environmental excesses, as was indicated above, the Chinese remain more attached to a socialist growth ethic. This ethic allegedly applies to the entire economy, but, as we have seen, it has been pragmatically tempered in the agricultural sector. The factors which operate in the agricultural sector do not, however, come into play in the industrial/extractive sectors of the economy. Tampering with natural systems related to industry does not bring about immediately apparent results. In the long-run the harmful results of excessive tampering are no less harmful, but it requires a different perspective to adequately perceive the potential dangers before they occur. This long-run ecological perspective is too close to Malthusianism for the Chinese to accept. Short-run acceptance in agriculture is more feasible because it can be pragmatically tacit and understated. To be effective in the industrial/extractive sectors it would be necessary to accept the ecological perspective openly and explicitly.

This the Chinese are manifestly unwilling to do. Related to this unwillingness and exacerbating it are the differences in outlook of the individuals concerned in the agricultural and industrial/extractive sectors. Unlike the peasant-laborer, the industrial worker does not have a long heritage of empathy with natural systems. Rather than tempering rhetorical excesses, the industrial worker is frequently a technocrat whose notions complement the rhetoric. This mutual encouragement does not bode well for China's future. China's industrial "leg" is in long-run danger of falling victim to the same ills which threaten the advanced and technologically vulnerable economies. China, as a developing economy, still has time to change course, but, as of this writing, there has not been any indication that such a change is in the offing.

Thus the contention here is that, when seen from the ecological perspective, of China's "two legs", agriculture is the stronger and industry is the weaker. However, threatening this division is the tendency in China toward greater industrialization of the countryside. Urbanization and urban industrialization have brought many ills to Asia.¹²⁶ China, too, has witnessed the development of these ills. Despite attempts at urban communes¹²⁷ and relatively successful efforts to create a better urban social milieu via better housing,¹²⁸ and improved sanitation,¹²⁹ the Chinese have

decided to place most of their eggs in the basket of industrial dispersion. They argue that this is a means of alleviating population, industrial, and environmental pressures:

We are pursuing a policy of building more industrial towns elsewhere in order to avoid over-concentration of industry and population in the older big cities. This means less industrial waste and garbage to be disposed of in any one place. It also facilitates the policy of combining industry and agriculture, city and country. we have developed a lot of industry throughout the vast areas of central China, and the northwest and southwest. While benefitting economic and cultural development in these regions, it also makes it easier to bring industrial pollution under control.

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Some Western authorities have agreed with the Chinese in this regard.¹³¹ In principle there is little wrong with the idea. If conducted in moderation, it is very promising. This approach to "walking on two legs" might prove to be ecologically sound if kept within the bounds of some form of semi-development. Unfortunately, moderation and ecological soundness are not characteristic of Chinese growth paradigms. Rather, China seems to be enroute to tipping the balance of the "two legg" back toward industry; recalling that this industry is the weaker sector in the long-run perspective. China is in danger of taking the path which Prime Minister Tanaka of Japan has offered his people.* In brief, what is proposed is to spread the dirt a bit thinner

* Tanaka's remodeling plan is assessed in the next chapter.

over a wider area so that it will not be as noticeable. This is, at best, a short-run palliative - the costs of which will inevitably be paid by future generations. ¹³²

Returning to the original question of whether or not China is a "Paper Dragon", the tentative answer is "no" for the present and an increasingly likely "yes" for the future. The long-run "yes" is not a result of the more commonly cited Chinese weaknesses. For example, George Ball has alleged that China cannot be considered a "great power" because, despite its nuclear arms and mass army and labor force, modern political power requires advanced technology, a large G.N.P., and a high level of industrialization. ¹³³

From the ecological perspective, in future ecopolitical scenarios the factors Ball and many others assume to be crucial for claiming to possess power may well prove to be liabilities. China's present alleged weaknesses would, under adverse ecopolitical circumstances, become assets. The China of today is less susceptible to catastrophic collapse due to technological Achilles' heels in a world of scarcities. However, China is not content with the present and looks toward a future which would bring sophisticated but far more vulnerable power. The irony is that the Chinese, while denying big-power aspirations, posit goals

which if carried to fruition would make them a defacto big-power - a power at least as vulnerable as any other. ¹³⁴

From the ecological perspective, the answer to China's problems is one held in common with virtually all other countries. Essentially it is a mixture of caution and prudence in the management of economic growth in conjunction with omnipresent respect for natural systems. This is not a final "answer". There are no final solutions; only means of coping with infinite problems. Until societies reach a state of homeostasis in the economic interface with natural systems, the problems will worsen. ¹³⁵ At this writing the Chinese have given little indication that they are going to alter their ways. Chinese spokesmen have on occasion had the humility to admit that China has a lot to learn in the environmental field, witness delegate Tang Ke at Stockholm:

China is still a developing country, and the level of our science and technology is still not high. We still lack experience in conserving and improving the human environment and have to make greater efforts. We wish to learn from all successful experience of other countries in the field of the protection and enhancement of the human environment.

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Such statements are very exceptional, however. This is the same Tang Ke, who, at the same conference, had so forcefully criticized the principles of environmentalism. No, China is not an environmentally "humble" nation. ¹³⁷ Until this changes, China will increasingly become a "Paper Dragon".

CHAPTER IX

East Asian Ecopolitics: Japan

((Japan: Malthusianism ?))

At the end of a recent Japan Society conference held to discuss Japan's future the following dialogue took place between a member of the audience and Prof. James Morley of Columbia University:

Questioner: I'm gratified but surprised that none of the speakers have mentioned population pressures or food as being any part of the problem in Japan for the future.

Dr. Morley: This is now a problem in reverse. Population growth is under control,... Population and food are not the problems any more. It's what to do with overabundance. It's the farm surplus that's the problem.

1

This exchange typifies common assumptions about recent Japan. The contention in this portion of the study is that such assumptions are too facilely made; that Japan is not free of the Malthusian dilemma.

The present contention is not a new one. Malthusianism has been a spectre which always lurked in the shadows. Neither is it a popular view. In addition to the dangers of being accused as an "environmental determinist", the experience of past Malthusianism in Japan has been full of pitfalls.

In contrast to present assumptions, the pre-war period's assumptions about Japan were almost universally Malthusian. Japan's needs for resources and "lebensraum" for her confined but growing population were seen as motivation for her expansionist policies. These circumstances were seen in the same light both within Japan and abroad, although the reactions to a territorially expansive Japan were understandably different.² That these assumptions were commonly held and were acted upon does not serve to make them any more true. As Moulton and Marlio observed, in a prescient but little known work, "The Control of Germany and Japan", Japan at that time was not in truly Malthusian straits. They correctly based their view on the seldom recognized circumstances of Japan's original economic growth in the Meiji period. Rather than seeking autarky, Japan's initial modernization had been founded on "(1) the abandonment of economic isolationism in favor of extensive international trade based on natural specialization; and (2) the application of science and technology to the processes of production both in agriculture and industry".³ The difficulty in the 1930s was something approaching a "self-fulfilling prophecy". The Japanese were considered expansive and grasping and consequently had to be restrained. Attempts at restraint and concurrent embargoes led the Japanese to cherish the notion of self-sufficient autarky. Such autarky could only be achieved by fulfilling

the prophecies of Japan's detractors - that is, by territorial expansion. Thus a vicious circle was created which brought about the Second World War.⁴

The allegedly "Malthusian" circumstances of the pre-war and wartime era were decidedly man-made phenomena. The same can be said of the postwar era, although in different and lessening respects. In the immediate postwar period, Japan was confronted with conditions which many Malthusians saw as a paradigm of Malthusianism. They were wrong. A gross example of such Malthusian views was that of William Vogt:

If Japan is to regain anything comparable to her former status as an industrialized world power, she will either have to be subjected to harsh policing to contain her war potential - or her population must be systematically reduced by cutting her birth rate, until her own ability to supply her needs is far nearer to the demand than it has been since 1880. Reduced to a population approximately that of Scandinavia, she might well take an honored place in the world, comparable to that of Scandinavia.⁵

As recently as the mid-1950s, one found such respected and knowledgeable individuals as demographer Warren Thompson stating:

The outlook for restoring the living conditions of Japan's people to prewar levels in the near future is quite discouraging, to say nothing of the outlook for improvement beyond that level.⁶

and biologist Julien Huxley stating that India's future is "not quite as desparate as Japan's".⁷ The weakness in

the above assessments was their failure to anticipate the ameliorating effects of social institutions. Man created the difficulties Japan was in and man was able to extricate Japan.

Contemporary Japan seems to belie the former experts. To the degree that this is true, it is due to the social institutions of international commerce. As Moulton and Marlio observed, Japan's loss of both colonies and controlled access to foreign resources would only be debilitating if one assumed the Japanese posited goals of near-autarky. Barring such goals, they saw no obstacles to Japan's economic revival in a free-trading world.⁸ Their prescience is amply evinced by Japan's postwar economic recovery and rapid growth to levels undreamt of in the pre-war era.

As noted above, the contention here is that complacency about Japan's freedom from Malthusian fears is unwarranted. The fact that previous Malthusian scares were artificially induced does not mean that the spectre of Malthusianism has waned. Neither the Japanese, nor any other people, have yet had to confront a world in which other states were constrained from free and open trade, not by political artifice or fear, but by limits imposed by their recognition of their own dependency upon finite resources. Such a world

would be significantly different from that which has previously placed Japan in pseudo-Malthusian peril. In this regard the Neo-Malthusian view of Harrison Brown, circa 1954, is instructive:

Today Japan is confined once again to her home islands, and the pressure of her population is now far greater than it was prior to World War II. She must import a substantial portion of her food and raw materials, yet she is cut off from many of her former sources of supply. In the long run her situation is unstable in the extreme, and it is highly likely that serious trouble lies ahead. The Japanese now express the desire to live in peace with other nations, but as time goes on and the pressures become still more intense, it is likely that they will attempt again to extend their area to the point where they can attain some measure of self-sufficiency.

Reading this in the 1970s it appears outdated and too tied to concepts of Japan's needs more appropriate to the 1930s. But is it really? The "long run" Brown refers to is not the economist's long-run, but, rather, the ecologist's. This is a crucial difference. When ecopolitical pressures of high population and increasingly scarce resources mount worldwide, what will Japan's alternatives be? In this portion of this study, we will seek to answer this and related questions.

((Japan: Economic Growth))

Attitudes toward economic growth are crucial in any assessment of a nation's place in a Malthusian world. A lengthy investigation of the evolution of Japanese developmental thought, while related to the present study, would

be beyond its scope. In its stead, brief mention of the most salient and pertinent aspects of Japan's past economic development will be made.¹⁰

There are two overwhelmingly significant features of Japan's post-1868 modernization. Unfortunately, neither are widely recognized outside Japan. Common beliefs about Japan's modernization posit a quaintly primitive Japan being massively changed by a sudden influx of notions and habits derived from vastly different Western cultures. There is, of course, an element of truth in such beliefs, but not a dominant element.

Japan's modernization and industrialization after 1868 did not signify a sharp break with its past, but rather, in Sir George Sansom's phrase, "only a gathering of speed".¹¹

Japan was already well on its way toward a changed future when the upheavals of the nineteenth century occurred. The indigenous trend toward modernization most assuredly owed a debt to the limited Western influences permitted by the Tokugawa Shogunate,¹² but this trend owed much more to the character of Japanese social institutions - particularly commercial institutions - which were markedly similar to those which prevailed in Europe as it developed. Japanese society was more attuned to the development of modern capitalism than were other Asian societies.*¹³

* A key aspect of this receptivity was Japan's "protestant ethic" which is discussed in the next section in relation to growth attitudes and the environment.

Japan's economy has expanded quite steadily except for the devastation wrought by the Second World War. Japan's postwar economic development has been heavily influenced by Japan's ties to the United States. However, frequently made assumptions that the United States was responsible for that development are unwarranted. The United States was the catalyst, but the spirit behind the recovery and expansion of Japan's postwar economy was Japanese.¹⁴ The outer facade of occupation induced economic forms dissolved with renewed independence and the Japanese regained their own momentum.¹⁵ That momentum has been pushing Japan forward since the mid-1950s.

During the 1960s Japan's G.N.P. grew by an annual average of more than 16 percent. Its G.N.P. per capita averaged 15.3 percent annually for the decade. G.N.P. per capita went from ¥ 140,000 (\$388) in 1959 to ¥ 504,000 (\$1,399) in 1968.¹⁶ If one is to believe the estimates of Herman Kahn, the Japanese economic system will continue to expand relentlessly until, in the next century, the world will be oriented toward Japan.¹⁷ One must take such predictions with a grain of salt and bear in mind Mark Twain's comments on simple minded extrapolation and the pitfalls of "science".¹⁸ Despite such overt optimism, even the more moderate observers of Japan's economy contend that it will

continue to expand rapidly. Okita Saburō estimates that Japan's G.N.P. will grow in "real terms" about nine percent annually during the 1970s. At this rate Japan's per capita income by 1980 would be approximately eight thousand dollars per year or about the same as that anticipated for the United States in 1980.¹⁹

For the moment we will accept such data at face value.* They are important in two major respects. Firstly, they reflect a growing economy. Secondly, the frequency with which such data are mentioned in Japan and abroad reflects the Japanese preoccupation with growth. As Herman Kahn has observed, the Japanese "watch growth rates the way Americans watch baseball standings or football scores".²⁰ This comparison is instructive in ways not intended by Kahn. As in sports, the Japanese public's interest in growth-rate "scores" has had a detached sense of unreality about it. It has been as though the scores were unrelated to their personal lives and were merely the affair of some remote and abstract "team" of which they were a supporter. The Japanese seldom gave thought to their membership in the team. They would actively cheer on the team's local club (i.e., the company),²¹ but did not consider the "score" to be directly related to their lives.

* Factors which might disrupt this projected pattern of growth are assessed below.

Two related topics have served in recent years to refocus the attention of the Japanese on these "scores" and what they imply for their lives. The first is the notion of the Japanese as "economic animals". This widely used expression²² has given the Japanese reason to pause. They dislike the phrase both because of its tinges of racism derived from the use of "animal"²³ and because of what it says about the single-minded character of their society. Whether the Japanese are, in fact, "economic animals" which inhabit "Japan, Inc." is a very controversial question. Leading authorities can be found on both sides of the issue.²⁴ This question will not be resolved here,* but it seems well to note in passing that the Japanese do not appear to be any more "economic animals" than do Americans or Europeans. To a large degree the faults which are encompassed by this catchword are common to all advanced economies. This similarity will be seen to be critical at a later stage of this study.

The second topic is the reexamination of the purposes of growth. The Japanese have increasingly begun to introspectively ask themselves why they want to grow or, indeed, if they want to grow. Attention in Japan has focused more on questions of "why" rather than "if".²⁵ However, even

* However, it will be returned to below in reference to the primacy of broadly political values in Japanese culture.

this is a vast improvement over the condition which prevailed previously of docile acceptance of tacit assumptions. Japanese awareness of the difficulties accruing from excessive and unwise economic growth was belated. It was not until the dangers of environmental hazards became too apparent to deny and other peoples, who were suffering from similar maladies, began to point their collective fingers at Japan, that the Japanese en masse awoke to the problems confronting them. The Japanese were late-comers.²⁶ Prior to the late 1960s Japan's primary fear related to economic growth was that they might once more fall into the trap of building an economy based on war material. In this context, Ronald Dore has noted that "economic growth can sometimes be bought at a higher price than it is worth".²⁷ Although the context has changed, the truth of that statement has not been diminished.

Were Japan merely a small and insignificant island nation in the far reaches of the Pacific, their growth-related attitudes and policies would not overly concern anyone else. But, on the contrary, the Japanese occupy a major portion of the world economy. What the Japanese think and do about growth and about the prospects for a Malthusian world are of great importance to the entire world. The importance is continually enlarging as Japan's place in the world's economy expands. And it is expanding as a consequence of

the proportion of international commerce bound up within an ever-expanding economy. As economist Okita observed, "the impact of Japan's economic output on the outside world will be felt even more strongly in 1980 than it is at present"

(1973).²⁸ The world at large does recognize Japan's economic role.²⁹ However, the world has not yet given much

thought to the negative role of Japan in a future world of Malthusian dimensions. This is a serious omission. In order to rectify this omission a better understanding of the complex of attitudes toward economic growth which are found in Japanese culture is required. Such understanding will be sought in the following several sections.

((Japan: Culture and Growth))

To fully understand the ways in which economic growth can change a society one must view the changes from afar. If one is involved in the society as it changes, the changes lose some of their impact. However, viewing from a distance also has disadvantages. On the one hand, one is never fully associated with the observed society; on the other hand, one is never fully disassociated from the observed society because rapid communications keep us abreast of changes as they occur. Spatial distance is insufficient to gain the proper viewpoint.

Students of Japan are fortunate to have had the opportunity to witness and observe an individual eminently qualified to pass judgement on the changes which have transpired in Japan over the past thirty years. Unlike expatriot Japanese, who cannot but have been aware of a changing Japan, ex-Imperial Army sergeant Yokoi Shōichi, upon his return to Japan after twenty eight years of hiding in the underbrush of Guam, stated "I feel like Urashima Tarō".³⁰ Sergeant Yokoi was understandably unsettled by the changes which have transformed Japan. He summed up both his feelings and the changes in Japan very well with the statement: "I never dreamed that Japan could be this far advanced."³¹ The temporal distance enjoyed by Yokoi is unique. However, his feelings can well be imagined. The society he left has been outwardly transformed virtually beyond recognition.

It is important to differentiate between outer and inner manifestations of a society. Materially Japan has been undeniably transformed. But how much has Japan's economic growth transformed the culture which spawned it? A culture and the economy it hosts are not independent entities. They are integrally related to each other. It is because of this relationship that economic growth is

* A character in a Japanese fairy tale who returned home after years spent in an undersea castle. Urashima Tarō is roughly the equivalent of Rip Van Winkle.

so greatly effected by culturally derived attitudes. The two-way street character of this relationship is less commonly recognized.

Japanese attitudes toward growth and modernization have had a complex history. This is not the place to thoroughly examine the experiences of Japan's more distant past.³² It is more important to focus on a theme which is crucial to the issues of growth and a Malthusian future. This theme is the character of the man-nature relationships which have prevailed in Japan. This theme was addressed earlier in Chapter IV. Bearing that discussion in mind, it is worthwhile introducing Bellah's conception of the protestant ethic at work in Japan. The man-nature values which are embodied in the Shintō-related essentials of Japanese culture were not compatible with the destructive activities which accompany modernization and industrialization. However, as Bellah notes of Japan,

It is possible, however, that an industrial society may develop without a shift in basic values, but rather through a process in which economic values become very important in certain spheres and the economy as a whole reaches a certain level of differentiation where it can develop freely and rationally with only minimal restrictions.

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This compartmentalization of values is a crucial characteristic of modern Japan. It has permitted the addition of new

values without excluding the old values. The key to this complex of values was well described by Bellah:

The processes both of economic rationalization and of political rationalization require a considerable degree of freedom from traditionalism before they can begin to have an effect in leading to the development of industrial society. Virtually the only way this freedom can be attained is through the re-definition of the sacred, so that values and motivation favorable to the rationalizing processes will be legitimized and traditionalistic restrictions overcome.
(emphasis added) 34

The danger present in re-defining the sacred is that, if carried to an extreme, it can undermine the basis of the whole society.³⁵ The pertinent question now is whether the sacredness which lies within Japan's inner essence has been defiled sufficiently to threaten Japan's social structure?

This question will never be fully answered in the affirmative unless Japanese society does collapse. A more likely prospect is that Japan will remain threatened by this social quicksand indefinitely. A negative answer, implying a return to sacred values whose idealized forms probably never were the norm, seems an impossibility. The unstable middle ground implies that Japan will forever remain "in transition"; never gain to be traditional and never becoming fully modern.³⁶ In short, the Japanese have defiled the sacred and have modernized to a degree.

The price they pay now and will continue to pay in the future is the tensions evident in Japan between traditional and "modern" ways.

The Japanese have relied on policies separating economics and politics. This was most evident in the positions formerly held vis-a-vis the two Chinas ("seikei bunri"). This, as events have demonstrated, was an artificial and fragily contrived position. Despite the pronouncements of the United States' Constitution, the basics of politics and religion are closely linked. In turn, religion and aesthetic/environmental values are very closely linked. As we have seen previously, the latter link has been as strong in Japanese culture as it has anywhere. The linkage between religion and aesthetic/environmental values is at the core of the Japanese defilement of the sacred. To defile one portion of a whole is to threaten the unity of the whole. This is what the Japanese have done in their quest for modernization.

As was noted above, the core of traditional Japanese values is rurally based. Japan's rural and hamlet lifestyle has been correctly compared to the American frontier as the base lines for their respective cultures.³⁷ The analogy is also instructive in that each has undergone a steady decline in viability and in the process has been the subject of retrospective idealization.³⁸ The importance of Japan's

rural heritage in the make-up of contemporary Japanese values is what substantiates those who agree, along with Bellah, that in Japan "the polity takes precedence over the economy."³⁹ The terms "polity" and "economy" here must be seen in a broad sociological sense and not in their narrow vernacular usage.

It is one of the paradoxes of Japan that, despite the importance of rural/traditional values, most Japanese today favor the introduction of newer more "modern" ways of life.⁴⁰ Despite their preferences, the Japanese of today remain intellectually and emotionally tied to their rural origins. Anesaki Masaharu, describing Japan of the 1930s, wrote:

When one lives in Tokyo and observes the changes, both physical and moral, that have taken place, one feels that old Japan has gone; but when a city like Kyoto, or some rural district, is visited, the changes seem rather superficial.

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For the student of Japan with even minimal knowledge of traditional Japan, this statement seems doubly true of contemporary Japan. Not a few visitors to Japan have rambled about the islands only to declare upon visting some remote hamlet that finally they have found the "real" Japan. To the extent that the Japanese continue to return to their rural origins to replenish their spirits from these regions' deeply

* It is in this sense that the phrase "economic animal" is erroneous.

sunk wellsprings,⁴² such travellers have a valid point. However, a far more salient matter is that the reality of contemporary Japan is that portion of Japan which visitors quickly pass through in their quest for the "real" Japan.

Japan, despite the continued prevalence of rural values, is an increasingly urban nation. This trend is evidenced by the shift in population from rural areas to urban centers. The population of rural areas (defined as 50,000 or less) which was 54.5% in 1955⁴³ is expected to decline to 20% by 1980.⁴⁴ One authority, speaking of Japan's future, stated, "the country as a whole will come to resemble an urban state".⁴⁵ A still unanswered question is what effect will mounting urbanism have upon Japan's rurally based value system?

This is a crucial question because the answer to it will effect the delicate balance between a growth-oriented society and its prerequisite limits upon the redefinition of the sacred. The Japanese attachment to rurally based values in a technologically sophisticated society has permitted the Japanese to compartmentalize their value into areas that do not detract from the continued activity of that society. As Ezra Vogel observed,

Unlike certain Western values that would actually be counter to group loyalty, the acceptance of aesthetic values provides individual gratification

without threatening to interfere with group demands. If anything, by helping the individual to resolve his own ambivalences and achieve personal integrity, it makes it easier for him to follow the demands of his group.

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The difficulty here is that increased urbanism and the transfer of value roots to urban bases lessens the ties to vicariously harmless value systems. This has two related effects. Firstly, the rurally based values are diminished. This constitutes a further attack upon the sacredness intrinsic to Japanese traditional culture. Secondly, the urban based values which may be expected to replace rurally based values will likely be some form of the technocrat's ethic. Such an ethic may well constitute a death blow to the sacred qualities upon which traditional Japanese culture rested. This is the very danger of which Bellah warned if the protestant ethic should be carried to an extreme.⁴⁷

In short, as the "group demands" of Japanese society - which increasingly have been equated with continued economic growth and prosperity - come into growing conflict with Japan's rurally based aesthetic notions of man-nature relationships in an age of mass urbanism, the result is anything but the resolution of internal ambivalences or the fostering of greater integrity. In fact, the internal tensions are heightened by the value dilemma posed.

Until very recently the Japanese have been content with the ways in which their society was developing. A nationwide poll in 1970 indicated that three-quarters of the Japanese people believed they were living better than they had five years previously. The same poll found the same percentage to be confident that the future would bring them continued improvement.

⁴⁸ The Japanese have long had an active concern with "people's livelihood" ("kokumin seikatsu"). From the depths of postwar deprivation the Japanese have witnessed a great improvement in their living standards. One of Japan's leading economists has recently forecast that Japan's per capita income will equal that of the United States' by 1980. He says, "this will mean that the living standard of the Japanese will have attained one of the highest levels in the world".⁴⁹ Such a prediction would once have raised unanimous huzzas from the ranks of the supporters of the "team". However, a growing minority of Japanese have reservations about such growth and what it means for them and their country.

The Japanese are beginning to doubt the efficacy of equating G.N.P. with living standards and general happiness. Such doubts are by no means universal, but in a society previously so single-minded they are very significant. In part such doubts stem from hard data such as the slower rate

of growth in wages paid to labor - an annual average increase of 9% during the decade of the 1960s - than the rate of growth in per capita G.N.P. which was 15.3% annually for the same time span.⁵⁰ However, even nine percent is not bad and the Japanese do not complain too loudly on that account. The area which does gail the Japanese is the matter of what they can do with their new-found wealth.

Not many years ago in his famous study of Japanese white collar workers in "Mamachi", Ezra Vogel found that,

Unlike citizens of Western countries who enjoy only Western culture, Mamachi residents feel they can share the benefits of Western and Japanese culture. They can, for example, have Western electrical equipment along with Japanese gardens and tatami mats, Western and Japanese-style food, Western and Japanese-style clothing, Western and Japanese music, Western and Japanese-style painting. Although there are difficulties in reconciling specific traditional practices with modern ones, the over-all goal of building a superior culture by combining the best of the East and West does give a general perspective for the solution of these difficulties.

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This has become less and less true of Japan. The Japanese aesthetic paradigm of a frugally rustic life style has been overwhelmed with the gadgetry of technological sophistication. Arnold Toynbee cut to the core of the problem with the following description:

In the past, when Japanese families had, on the average, more living-space than they have now, the whole of the space was at the disposal of the human inhabitants because they had few inanimate material possessions to compete for the space with living human bodies. Nowadays,

when a family's living-space is becoming more and more painfully cramped, its possessions are becoming more and more profuse. A family that cannot afford to buy more than a minimum of living-space, which is the dearest of all commodities on the Japanese market, is able to afford to buy the consumer goods.... that are now being produced in Japan at a relatively cheap price and in abundant quantities thanks to the efficiency of Japanese industry. The increase in the amount of consumer-goods that is now being crammed into a Japanese home runs directly counter to the shrinkage of the amount of space that the goods and their human owners have to share between them. The combined effect of these two conflicting developments is literally to drive human beings to the wall.

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Conditions have worsened in Japan since Toynbee wrote. ⁵³

Japan has sometimes been referred to as an unacquisitive society. This is accurate with regard to the idealized forms of traditional Japan. There is also some truth to this appellation as it pertains to Japanese savings practices within their economic system. ⁵⁴ However, in more commonplace contemporary terms, Japan is becoming the epitome of an acquisitive society. The problem is, as Toynbee suggested, the Japanese are being glutted with a surfeit of material possessions. Yet, despite these possessions and despite the rising G.N.P.

"scores", they by-and-large do not see any improvement in the quality of their life. As an American economic specialist in Japan observed, "thus far, economic growth is making conditions worse, not better". ⁵⁵

Signs of discontent have been growing among the Japanese. Of greatest significance in economic terms has been the

changes evident in the renowned^{ed} Japanese work ethic. These changes are most evident among today's youthful workers - those who will form the bulk of labor in not too many years. Recent polls taken by the Prime Minister's office indicate that Japanese workers, particularly the young, care less about their work and more about their leisure activities than did their predecessors.⁵⁶ Even within the job Japanese workers entering the labor market have shown a significant shift away from personal security and toward personal interests and, to a lesser extent, personal profit.⁵⁷ Japan's industrial leaders recognize this as a problem for their interests. It is a threat to docile growth at any price. In terms of the ecological perspective, however, this trend in Japan is not viewed as a problem at all, but as a very encouraging sign. Kawamata Katsuji, the President of Nissan Motor Company, made the following telling, if unwitting, comment:

The Japanese spirit of diligence at work, which all of us have always taken for granted as something traditional, has recently shown signs of changing. (This has occurred in many advanced countries, but...) In the case of Japan, it may be possible to revive the former spirit of industriousness when those social inequities created during the process of the nation's rapid economic growth are properly adjusted. The traditionally agrarian frame of mind remaining in Japanese society could also help.

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The protestant work ethic is, as we have seen, not at all "traditional" but is, in fact, predicated on the depredation

of sacred traditions. If the "agrarian frame of mind" and the values that phrase implies can, indeed, survive the onslaught of technological encroachments, then the prospects for Japan's future will be markedly brighter than present indicators suggest. Assessing the changes for survival will be the task of the remaining sections on Japan.

((Japan: Growth and the Environment))

Excessive economic growth has become generally recognized as detrimental to and destructive of the natural environment. Few would argue with that contention today. Solutions, if they are to be found at all, will lie among alternative ways of living which are not so destructive. Those alternatives have been and will be discussed elsewhere in this study.* Looking for such alternatives many Westerners have looked to Asia. As we have seen, their assumptions about the wisdom of Eastern notions of natural harmonies often receive rude shocks when exposed to the reality of Asian life and to clarification of cross-cultural differences as to what constitutes "nature" and "harmony".

A principal result of Japan's clash between idealized yet supportive rurally based values and the devastation wrought by gross industrialization has been the reevaluation

* Chapters IV and XII.

of past smugness. The Japanese have had and still retain a certain sense of cultural superiority. This sense has been particularly acute in the realm of aesthetic appreciation of natural beauty. Because of this reputation, partially self-inflated for tourist purposes, the Japanese have become renowned for their sensitivity to nature. Their normal mode has been to look down upon less gifted peoples. It has, therefore, been unsettling for the Japanese to discover that their aesthetic veneer has been tarnished and pitted by the effluents of industrial excesses. The Japanese have complacently assumed that "different" was inherently "better". They had not asked themselves the question asked by Moncrief:

If non-Judeo-Christian culture has the same levels of economic productivity, urbanization, and higher average household income, is there evidence to indicate that these cultures would not exploit or disregard nature as our own culture does?

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Such assumptions have been unwarranted as the Japanese discover day by day.

The transition in Japan's aesthetic sensibilities was well illustrated, if somewhat caricatured, in a poem by Japan's Prince Hitachi:

The Shimano flows
Through the mist of rain
And an oil tanker
Is now ready to leave.

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The Prince might well have added a fifth line such as "leaving a slimy wake" or, in the words of the song title, "is that all there is to life?". As many Japanese now recognize, the latter are more fitting concerns for Japan today. The Japanese could in their not too distant past look to their idealized ancestral ways of living for aesthetic guides to the present. These guides still persist, but they are increasingly irrelevant for contemporary Japanese. The incongruity of a tanka on a tanker demonstrates this.

Japan's idealized ways were keyed to the acceptance and glorification of a paucity of material wealth. The rigors and austerity of the past were linked to material poverty. In this regard, one is reminded of Jean Mayer's comment on China:

It might be bad in China with 700 million poor people, but 700 million very rich Chinese would wreck China in no time.

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Even with the saving grace of relatively free trade which relieves the Malthusian pressures an autarkic Japan would confront, the Japanese are enroute to proving Mayer's point as it might apply to Japan. One hundred million-plus increasingly rich Japanese are indeed enroute to wrecking Japan.

The Japanese were, at first, slow to recognize and

accept what they were doing to their habitat. Some Japanese still refuse. However, in a world grown leary of ecological catastrophe at some ill-defined point in the future, Japan was recognized as a test case. One Western authority has described Japan as an "ecological nightmare".⁶² Or in the words of the great title of an otherwise mediocre article: "Environmental Disruption in Japan: Again the Japanese Outdo Us".⁶³ What makes Japan such a test case is the physically narrow confines within which the Japanese have managed to squeeze so much industry. Cramped space, plus an operational work ethic which sanctions the violation of the sacred, has yielded pollution of a magnitude sufficient to transform the renowned beauties of the Inland Sea into what one Japanese termed a "vast cesspool".⁶⁴

Several years ago it would have been virtually inconceivable for a Japanese to describe their beloved Inland Sea as a cesspool. That it is no longer unthinkable is a measure of the changing perceptions of the Japanese. Pollution or, in the more comprehensive Japanese term, "kōgai" ("public hazards")⁶⁵ has become a vital issue in Japan as elsewhere. Delineation of the details of Japan's "kōgai" is not the function of this study.⁶⁶ Rather, it is to assess attitudes related to "kōgai" as they effect Japan's ecopolitical situation. Not too many years ago it would have been diffi-

cult to gauge Japanese attitudes toward "kōgai". Despite the evidence swirling around them, the Japanese ignored the swill as the price of progress and contented themselves by referring to the litany of man-in-nature-harmony rhetoric. Now, however, the Japanese have turned about face and are engrossed in problems of the environment.

((Japan: Tokyo))

If Japan may be considered a test case for the world, then Tokyo is Japan's test case. Tokyo, with a population of eleven and a half million people, is the world's largest city.⁶⁸ Opinions of Tokyo vary widely. Herman Kahn stated, "since a more attractive and livable environment cannot be found anywhere in the world, if the Japanese are persuasive enough I may move there myself".⁶⁹ In contrast, Japan's iconoclastic critic, Kawasaki Ichirō, described Tokyo with the adjectives "overwhelming ugliness and unbelievable congestion", "polluted", and "seedy and unkempt".⁷⁰ Reality is somewhere in between these poles, but is closer to the latter than to the former.

Tokyo shares many common problems with other Japanese cities⁷¹ and, in fact, with urban areas abroad. Japan's Economic Planning Agency has estimated that Japan's three urban hubs (Kantō, Nagoya, and Ōsaka) will increase their

percentage of the total population from the present 43.9% to 56% by 1985 (approximately sixty nine million people). The Agency expects housing to remain poor and predicts that living conditions will be "very miserable".⁷² The pressures of urban life have become sufficiently well known throughout Japan so that the appeal of migrating to the largest urban areas is lessening among the remaining non-urban peoples.⁷³

Urban clusters have attempted to keep pace with changing circumstances. Tokyo has been in the lead in this realm. Most notable in this respect have been the efforts to develop "new towns". Tokyo's Tama is probably the best example of this phenomenon.⁷⁴ Unfortunately, these new and rootless settlements share a attitudinal problem also found in older towns which have been transformed by new labor attracted by growing industries. A housewife in Tokuyama, complaining of these urban values, stated: "The feeling of wanting to take care of our own town is gradually being lost."⁷⁵ The shift from rural values to urban values is evident.

Attempts at improvements have been made in other sectors. One sore point in Japan's urban areas has been transportation. Two types of transport are available to Tokyoites: rail and road. Rail transport in Japan is excellent compared to most other countries, but suffers from overcrowding during peak periods.⁷⁶ Road transport

suffered from poor roads. In response the Japanese engaged in a massive campaign to improve conditions. They seem well on their way toward the environmentalist's universal nightmare of paving their country.⁷⁷ While attempting to improve road conditions, the Japanese have focused on the needs of the automobile and not of the people.⁷⁸ The ubiquitous "ōdanhodō"* are the bane of the pedestrian.

The point of this brief digression into urban affairs is to indicate that solutions to urban environmental problems are frequently plagued by their slighting of the underlying issues posed by the imposition of an artificial "environment" upon a supporting physical base. Perhaps man and his cultures are not capable of becoming massively urban. Such an experiment has never been attempted previously. Given the present state of man's empirical knowledge, we do not have any assurances that success is possible. And the risks of failure are immense.

In any event, Japanese urban areas - with Tokyo as their epitome - are in desperate and worsening ecological straits. Tokyo has been "officially" pronounced a polluted area.⁷⁹ Of course, this has been known for some time, but the stamp of officialdom does achieve a certain distinction. Perhaps

* Pedestrian overpasses. These curious "improvements" unfortunately seem to be catching on elsewhere in Asia among peoples anxious to mimic Japan's "advances".

a good symbolic martyr to the mess which is Tokyo was the man who, while at first reported to have drowned while swimming in the Sumida River, was later discovered to have not drowned but "suffocated from inhaling methane gas, a by-product of sludge and pollutants"⁸⁰. Tokyo suffers from some of the worst pollution and, hence, living conditions in the world.⁸¹ What Ezra Vogel described, barely a decade ago, as the Japanese people's future "bright new life" ("akarui seikatsu")⁸² has been severely smudged and beclouded by "kōgai".

((Japan: Conservation))

The Japanese have perforce, if belatedly, recognized the ecological havoc their economic activities have wreaked on their physical environment. In a manner reminiscent of Japan's nineteenth century conversions to then foreign processes, the Japanese by-and-large have switched positions from docile polluters to environmental minutemen.* Commenting on this, Kaya Yōichi, a systems analyst and member of the Club of Rome which sponsored "The Limits to Growth", has said, "There is no use in wringing hands. We can and must

* This would seem to be an instance of "tenkō", the Japanese cultural characteristic of making a sudden conversion from one position or belief to another - one often quite opposed to one's former stance. Other examples of this are the pre-war switch to militarism by Leftists and students who "sell-out" and become staunch company men after graduation.

try to do what is humanly possible, and we must act soon."⁸³
The range of the emergent attitudes is broad indeed. On the one hand it reached the extreme of some of Japan's youth romanticizing and idealizing the solitary existence of ex-Sergeant Yokoi in an environment free of all forms of "kōgai".⁸⁴
On the other hand, the Japanese have produced excellent analyses of what their problems are and what they need to do about them.⁸⁵

Foremost in the Japanese wave of new environmental concern has been Prime Minister Tanaka Kakuei's best-selling book entitled "Plan for Remodeling the Japanese Archipelago"⁸⁶ (Nihon Rettō Kaizō Ron). In essence, this plan calls for continued economic growth but growth which is carefully guided and redistributed more evenly throughout the Japanese islands. Such growth would incorporate more attention to social overhead capital. Effective in FY 1973 the Japanese government adopted a five-year plan designed to create a "Dynamic Welfare Society". Japan will spend ¥90,000,000 million (\$366,000 million) for social overhead, social security, and environmental projects. It is expected that environmental disruptions will be cut by one half of the present level. Central to its environmental programs, the government has adopted the "Polluter Pay Principle" (PPP) in which firms must pay to correct their own problems. In

addition the government will spend directly ¥6,000,000 million (\$24,250 million) on anti-pollution projects under the five-year plan. All of this is expected to yield a society which, while reducing "kōgai", continues to grow. 87

The plans of the Tanaka government were welcomed by Japan's "Keidanren" (Federation of Economic Organizations) as a means to "help the healthy growth of underpopulated areas". 88 Approval by Japan's economic establishment of an environmental action plan is an indication of its potential efficacy. There have been numerous critics of the plan. 89 In general criticism has focused on the contradictions manifest in proposals to contain "kōgai" by fostering greater growth and on the policies which, in effect, permit a license to pollute. The latter is particularly pertinent to the "PPP" system. The Japanese government has yet to devise an argument equivalent to the Chinese dialectic to rationalize their plans to spread the dirt thinner. Critic Ōmori Shigeo was correct when he stated:

Tanaka's grand premise that the cost of improving social security and the environment can only be wrung out by further economic growth presents a direct challenge to popular concepts in Japan, whose citizens are undergoing a 180-degree change in their sense of values as a result of their disillusionment and distrust of economic growth.

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This direct conflict between governmental goals and changing

popular values poses the greatest long-range threat to Prime Minister Tanaka's plan.*

Despite the Tanaka administration's ideas of controlling pollution via more growth, the people via their elected representatives have been more pragmatic about controlling "kōgai". The legislature has created a very thorough law entitled the "Basic Law for Environmental Pollution Control" which clarifies environmental responsibilities for the public and private sectors and sets overall pollution standards.** The legislature also established a "Central Environmental Disruption Countermeasures HQ" in 1970 to coordinate nation-wide efforts.⁹¹ This was the result of the 1969 "White Paper on Environmental Hazards" which outlined areas of critical importance for the 1970s.⁹² Capping these was the creation in 1971 of the Environmental Agency (Kankyōcho) to oversee all the government's conservation and pollution fighting activities.⁹³*** The Environment Agency works closely with other interested branches of the government. For example, the Ministry of Agriculture and Forestry initiated a "pollution information bank" to be used cooperatively

* Short-range political obstacles which may well preclude any long-range difficulties will be assessed in a later section.

** See Appendix "D".

*** See footnote for the subdivisions of the Environment Agency.

by the public and private sectors to secure data on pollution problems.⁹⁴ Acting in conjunction the various agencies of the bureaucracy produced an extremely comprehensive yet concise statement on Japan's environmental problems and the measures the government is taking to alleviate them for presentation to the 1972 Stockholm Conference on the environment.*

Japan's revised official attitudes toward environmental issues is indeed heartening. Hard evidence of these changes can be seen in several areas. Japan's judiciary, reflecting both public and official attitudes, has asserted itself in a series of cases involving "kōgai". The courts have been severely critical of advocates of growth at any price.⁹⁵ In response to such attitudes Japan's industrial leaders have, albeit reluctantly,⁹⁶ decided to increase their efforts in the related areas of conservation and pollution prevention.⁹⁷ The government, itself, has greatly increased its own efforts, particularly with regard to research projects and - via the Environment Agency's planned Institute for Environmental Pollution Research - it expects to re-double its efforts.⁹⁸ Such activities are noteworthy, but perhaps most significant was the government's view set forth in the Economic Planning Agency's September 1973

* See Appendix "E".

"white paper" which suggested that a better life can indeed be had without continued growth.⁹⁹ Such an admission is of the greatest importance among a people who have been wholeheartedly committed to growth, growth, and more growth.

But growth as an end in itself has become decreasingly desirable for the Japanese public. They have expressed a willingness to pay the price of the excesses of their past.¹⁰⁰ This willingness has been reflected in the growth of environmental action and consumer groups. Such groups are not yet as well developed in Japan as they are elsewhere, but they have made a start and cannot be ignored any longer.¹⁰¹ One of the difficulties with such groups and their motivation is that they do not yet seem to fully comprehend precisely what the costs of Japan's past ecological excesses may be. To correct this situation the Japanese government has undertaken educational campaigns to spread knowledge of the extent of Japan's plight.¹⁰²

A greater difficulty related to environmental attitudes and the costs of alleviating pressures is related to a characteristic of Japanese society. The Japanese have in the past succumbed to a succession of fads, each in turn swelling and then subsiding into obscurity. Thus when a Japanese authority, Professor Etō Jun of the Tokyo Institute of Tech-

nology, states "The production cult is being deflated. It has simply gone out of fashion.", we must look askance at the implications.¹⁰³ The dangers of faddish interest in "ecology" and "environment", referred to in the introduction as an "eco-boom", are world-wide dangers. The Japanese are not alone in confronting the cry-wolf syndrome, but with Japan's experience of notoriously quixotic fads we have ample reason to question, along with cautious economist Henry Rosovsky: "Are we confronting merely another fad of Western origin, or do they mean it?"¹⁰⁴ Apparently the Japanese do mean it, but whether they will continue to be as obdurate in the future as problems mount remains a serious question.

Central to their future problems are the ecopolitical relationships which the Japanese have yet to fully comprehend. The Japanese have admitted that the good life can be had without environmentally destructive economic growth.¹⁰⁵ This is admirable, but it is a long way from recognizing that such a life can only be had without excessive growth. An environmental ethic which posits the desirability of a homeostatic world economy is glaringly absent from the otherwise excellent Japanese statement on the environment presented at Stockholm.¹⁰⁶ The Japanese have yet to confront an ecopolitical future of political man struggling for survival in a world of resource

scarcities. What this future might be and how the Japanese may react to it will be the subject of subsequent sections.

((Japan: Population))

Pollution is a serious issue, but it is merely the tip of the ecopolitical iceberg. Central to that "iceberg" are the relationships between population and both agricultural and industrial resources. As noted at the outset of this assessment of Japan, the contention here is that Japan is not free of the Malthusian dilemma. To better evaluate this contention each portion of the Malthusian balance will be assessed in turn.

It was said of pre-war Japan that "Japanese foreign policy will be determined by her population problem".¹⁰⁸ Such a Malthusian pronouncement would sound strange to the ears of many today.* The works of Irene Taeuber and others, stressing Japan's dramatic seizure of control of a burgeoning population and its continued stability,¹⁰⁹ have led to the prevalence of assumptions that Japan no longer has a population problem. In the sense that Japan's population has indeed stabilized¹¹⁰ such assumptions are undoubtedly valid. The Japanese are justly proud of their achievements

* As noted above, it should have sounded strange in its time too since Japan was in reality beset by pseudo-Malthusian circumstances, i.e., man-made conditions.

in the control of population growth and have taken an active leadership role in Asian population planning sessions. ¹¹¹

However, as demographers are wont to point out, population numbers do not tell all. Such numbers must be seen in some context.

If one assumes that conditions of resource availability and world trade will remain amenable to Japan's interests, then the role of Japan's stabilized population would not be a significant determinant of the future. However, such assumptions are not made here. In contrast, under assumptions of a finite world and increased competition for the resources such a world can produce, Japan's population - albeit stabilized - again becomes a crucial factor. In order to understand just how crucial a factor Japan's population might be, we must examine Japan's resource base. Of Japan's agriculture it has been said:

There is nothing in Japan but the volcanoes and the volcanic wastes that men have not handled. There is no getting away from men anywhere; from the sight of men in the made fields or from the smell of their dung in the paddy water. ... In other countries a farm is meadows and a wood lot and a corner that the plow leaves room to turn about and time to turn about in. In Japan a farm is as rigid and tight a thing as a city lot - a patch here and a triangle there and a square or so somewhere else; every road corner of land diked and leveled off even though the growing surface is less than a man's shirt; every field soaked with manure and worked and reworked as carefully and as continuously as a European farmer works a seedbed.... nothing thrown away, nothing let go wild, nothing wasted.

The frugal and industrious character of Japanese agriculture has permitted it to develop apace with and foster the economic growth of modern Japan.¹¹³ This does not imply that Japanese agriculture has been problem-free, for it was plagued by both natural* and social problems.¹¹⁴ Leading the list of Japan's agricultural problems was the simple fact that Japan's arable land, which is only fifteen percent of the total land area, has been unable to support a large population on its own. By means of intensive care, double cropping via new seed varieties, and such techniques as inter-culturing and rotation of crops¹¹⁵ the Japanese have been able to greatly increase the yields of their principal crop - rice.¹¹⁶ Japan's reliance on primary food crops is itself a cultural adaptation¹¹⁷ to finite land resources.

Japan's agriculture became very labor-intensive. It appears to have reached a point where further application of human labor would be both land- and labor-inefficient.¹¹⁸

As a result the Japanese have successfully supplemented their labor-intensive agriculture with small scale mechanization.¹¹⁹ This development in Japan had an additional facet. Not only had Japanese agriculture reached a peak of land-efficiency, by surpassing that peak the returns diminished

* Recognizing that "natural" in East Asia often means man-induced.

in terms of labor-efficiency. Land-efficient agriculture is inherently labor-inefficient, but Japan's agriculture had yielded a great deal of underemployment. This contributed to the appeal of urban areas. However, as farm labor left the land, it had to be compensated for especially during planting and harvesting seasons. Hence the enhanced role of machines in Japanese agriculture. Mechanization is reflected in Japan's rural social structure in which approximately one-third are full-time farmers, while the other two-thirds are part-time farmers.¹²⁰ As in so many other Japanese instances, Japanese agriculture presents a paradox. Japanese agriculture is undoubtedly among the most labor-intensive in the world, but, in terms of investment in machinery per unit of land, Japanese agriculture may be the most mechanized in the world.¹²¹

Japanese agriculture, despite its advances, has reached a stalemate with the pressures of a large population on a small amount of land. The Japanese long ago recognized that their agricultural posture was akin to that of the British Isles.¹²² Neither can sustain their desires for food domestically. Both conceive of themselves as industrial states bartering for food from their positions of economic natural advantage. In Japan's case these circumstances have been magnified by social and biological changes. While the Japan-

ese people may not grow much larger in numbers, they have been growing in body size and weight.¹²³ These physically larger Japanese require greater amounts of food to meet their minimum needs. Moreover, Japanese palates have undergone a transformation from a desire for a spare fish and rice diet to a more exotic and plentiful variety of foodstuffs, many of which are comparatively wasteful of land resources. The oddity here is that while Japanese rice production has increased, the domestic demand for rice has lessened to be replaced by imports of other types of foodstuffs.¹²⁴ Despite the superficial appearance of over-production, Japan's new food desires have made Japan dependent upon foreign sources. It is doubtful whether the Japanese, or the English, could ever make the transition back to an agriculturally autarkic economy. If it were ever compelled by inadequate foreign sources, the costs in human suffering would be stupendous. As we have seen above, the agricultural wealth of the relatively underpopulated lands is not a bottomless pit. World agricultural resources are distinctly limited * and nations whose economic natural advantage is in the industrial sector may find themselves hard pressed to sell their inedible manufactures for increasingly scarce foodstuffs. The Japanese are squarely in this category.

* Recalling our usage of "flexible limits".

Hence, Japanese warnings to food producing peoples to be less protectionist or the Japanese will turn to alternative markets ¹²⁵ has the distinctly hollow ring of a person whistling in the dark.

Reference to Japan's economic natural advantage in the industrial sector of the world economy must be held up to further scrutiny. Japan is a great industrial nation. However, unlike many other industrial giants, Japan did not achieve this status on the basis of a wealth of indigenous natural resources. Rather, Japan's industrial might was achieved despite its paucity of natural resources. It was based essentially upon Japan's wealth of human resources. Japan's industry was built upon readily available foreign sources of raw materials and Japan's hard-working, skilled, and poorly paid labor. Japan's economic cycle of imports and finished exports yielded a system which R.B. Hall ¹²⁶ correctly termed the "world workshop".

Japan's poor domestic natural resource base is one of the best known attributes of the Japanese economy. Japan is deficient in almost every raw material ordinarily deemed essential for the creation and operation of a successful industrial economy. ¹²⁷ Japan has approached this deficiency in two ways. Firstly, the Japanese have, via the "Natural

Resources Development Law" of 1950 - later subsumed within the Economic Planning Agency (Keizai Kikaku Chō), attempted to identify and exploit all of Japan's usable resources.¹²⁸ These activities have been carried out most extensively in Japan's more pristine areas, notably Hokkaidō, and, while enhancing production, have been quite destructive of Japan's remaining natural environment.¹²⁹ These economically "necessary" but environmentally harmful activities have added further force to the complaints of Japan's environmentalists.

Secondly, and far more importantly, the Japanese have forsaken their immediately pre-war and wartime goals of enforced assured access to sources of raw materials in favor of a return to the assurances of free-trading nations that they will supply Japan commercially with its required raw materials. This second facet of Japan's approach to its natural resource deficiency is the keystone of Japan's post-war economic resurgence. To date this policy has been very successful. As Herman Kahn noted,

Fortunately for the Japanese their scarcity of indigenous material resources does not now seem to make much difference. They are tapping the entire world for raw materials, and because of the scale on which they do so and the technology they use, in some respects they enjoy cheaper raw materials than any other nation in the world.

Moreover, as both Kahn and Hout have sought to emphasize, the percentage of foreign trade within Japan's economy has declined to less than ten percent of Japan's G.N.P. - a rate lower than both pre-war Japan and many contemporary European states - and the percentage of imported raw materials within the total G.N.P. is steadily declining.¹³¹ Such views are in accord with the standard economic view of the declining role of raw materials within technologically sophisticated economies. This trend is not denied here - for the present. However, the future is another matter. The trends Kahn and Hout indicate are somewhat misleading for two reasons. Firstly, assuming Japan's G.N.P. continues to grow, the percentage of the G.N.P. accounted for by resource imports will also grow. Since G.N.P. is measured in monetary terms in an inflationary world the percentage allotted for natural resources by Japan may well grow in both real terms and, at a faster rate, in monetary terms. Secondly, whatever the rate of growth, Japan will remain dependent upon foreign sources of raw materials. This is both undeniable and eminently important in a world of growing scarcities. Thus Kahn's observation that Japan possesses a "hinterland" in Asia upon which to draw in the future¹³² is not terribly reassuring. Japan's economic success story, based on a dearth of indigenous raw materials, is analogous to the helicopter. Neither should work, but both do. Fortunately, the helicopter's

ability to remain airborne is based on immutable laws of aerodynamics. The Japanese economy's continued well being, however, rests upon the forbearance of other peoples. Should that forbearance be dissipated by the stresses of ecopolitical catastrophe looming on the horizon, the Japanese economy is barely removed from the proverbial "accident looking for a place to happen".

What does the future hold for the Japanese economy and resources? The energy "crisis" of 1973-1974 is something of an indicator of the future, but for the wrong reasons. The energy crisis' causes are man-induced and political - not physical, but its symptoms are virtually the same as those some future endemic shortage would create. The Arab reduction of oil supplies to the Japanese, among others, clearly demonstrated Japan's critical dependence upon foreign supplies of a necessary commodity. As Japan's foremost economist, Okita Saburō, has noted, Japan with its high rate of economic growth "will tend to dominate world trade in natural resources" to the extent of fifty percent of the total world trade in iron ore and twenty percent of the total world trade in petroleum by 1980.¹³³ Another way of saying this is that in a world increasingly subject to and aware of resource scarcities, Japan is enroute to becoming even more dependent and hence vulnerable than it already is. The more Japan's economy

expands the more intense its vulnerability will become. Until the Arab oil producers pressed the issue, not many foreigners were ready or willing to confront this type question. One who was and was criticized as being an overly cautious "wet blanket" was economist Henry Rosovsky who questioned Japan's ability to sustain its past rates of growth in the future:

Japan has to face the very real possibility that the world may be unwilling to supply, under any reasonable conditions, the raw materials necessary to sustain a growth rate of 6.5 percent for twenty five years. The present growth rate of 10 percent is almost surely out of the question with this constraint.

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The Japanese have been less hesitant to address themselves to the narrowly economic problems posed by their resource inadequacies. Due to the pre-eminence of energy resources in both the economic system and the public mind, these resources and Japan's posture toward them are excellent indices of Japan's overall attitudes toward the man-nature balance which is at the core of ecopolitical problems. Japan is grossly dependent upon foreign sources of energy, witness the following cross-national data from 1970:

Production and Consumption of Energy in 1970
(In million metric tons of coal equivalent)

<u>Country</u>	<u>Production</u>	<u>Consumption</u>
Argentina	34.88	39.18
Brazil	19.65	44.95
France	59.30	192.79
Germany/FR	174.63	314.70

India	86.97	102.67
Italy	26.39	143.87
Japan	54.88	331.90
Philippines	0.28	10.26
U.K.	163.55	299.36
U.S.	2,053.77	2,282.32
U.S.S.R.	1,212.75	1,079.17
Yugoslavia	21.42	29.18

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While Japan's economic establishment lays much of the blame for Japan's energy shortages on the government's submission to the demands of environmental activists,¹³⁷ the reality is simply that Japan's domestic sources of energy resources are relatively static and the economy is not. The following data on Japan's projected energy requirements reflect a rapidly growing economy:

Type of Energy	1967		Quant.	%	Quant.	%	Quant.	%
	Quant.	%						
Water Power	17.1	8.3	22.2	6.6	26.4	4.4		
Nuclear Power	0.0	--	8.0	2.4	60.1	10.0		
Coal Power	50.6	24.6	55.1	16.3	56.5	9.5		
(Domestic Coal Power)	(29.6	14.6)	(34.1	9.3)	(31.4	5.3)		
Oil Power	132.8	64.7	246.2	72.8	446.9	74.8		
(Imported Oil Power)	(125.1	60.8)	(222.1	65.6)	(431.8	72.2)		
Others: natural gas, charcoal, etc.	5.0	2.4	6.9	1.9	7.8	1.3		
(Domestic "others")	(4.9	2.3)	(5.1	1.4)	(4.8	0.8)		
TOTALS	205.5	100.0	338.4	100.0	597.7	100.0		
Domestic Energy Prod.	52.4	25.5	59.6	17.6	63.5	10.6		
Imported Energy Prod.	153.1	74.5	278.8	82.4	534.2	89.4		

(Quantities measured in terms of 10^{13} kcal)

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In terms of energy dependency on foreign sources, the Japanese are going from bad to worse. The Japanese answer to the facts of dependency prior to the Yom Yippur War of October 1973 was

formally presented in Japan's first energy "white paper" issued by the Ministry of International Trade and Industry (MITI) September 25, 1973. This position paper recognized that Japan's needs for energy ~~were~~ growing more rapidly than those of the world at large - a twelve percent annual increase vs. five percent, respectively. However, it sought to find the answer to Japan's dependency in terms of domestic conservation and international commercial cooperation. ¹³⁹ Unfortunately for the Japanese, Arab tactics in the wake of the war

clearly demonstrated that dependent nations cannot suffice by conserving that which they do not possess. As was indicated above, Japan's plight during this period was symptomatic of an ecopolitical dilemma but differed in its origins. Just as the problem had a purely political cause, its solution, from Japan's perspective, was politically manageable. The Japanese reaction when threatened by the Arab oil boycott was simply to shift its political orientation toward the Arab position - a shift which was not too difficult to achieve in view of Japan's past slighting of Israel. ¹⁴⁰

Japan's malleable foreign policy shifts appeased its Arab suppliers and the life-blood was again turned on for Japanese industry. ¹⁴¹

The Japanese have been made only too well aware of their dependency on foreign sources of energy. While, as

noted previously, the Japanese have been ready to address these issues for some time, they have been very hesitant to look at them in ecopolitical terms. The "engineering perspective" is strong among the Japanese. They have - by and large - yet to question the assumption that some sort of solution can be found. The alternatives implicit in denying this assumption have been too ominous for them to consider. Their acceptable alternatives are restricted to various schemes for cooperation. Their recent energy "white paper" was part of this trend.

International cooperation is concurrently a new and an old theme in Japan. The Japanese had long had a policy of one sided free trade. That is, they sought to export whatever they could, but placed protectionist obstacles before imports which might harm their economic development. This was their practice in the post-Meiji years of development and also in the postwar period. Their rationale was both protectionist and nationalist in the sense that they sought to preclude foreign investments in Japan which might weaken Japan's control of its own destiny. As Japan's economy blossomed further in the post-postwar years, these arguments lost their validity in the eyes of Japan's competitors. These changes in Japan's world economic role have occurred as world-wide concerns with resource scarcities have heightened. This has

led to Japan's shedding its cloak of protectionism in favor of a new advocacy of two-way free trade. Japan has realized that its most vulnerable Achilles heel is not the old fear of direct foreign economic control but its critical needs for commercially reliable sources of industrial raw materials. The result is that, as one authority has noted, Japan is "currently in the process of becoming the most free-trading of the advanced economies"¹⁴².

The Japanese have massively increased their efforts at direct overseas investment. Of the following amounts, nearly half have been devoted to resource extractive projects, with the resources destined for Japan:

Cumulative Value of Japanese Overseas Private Investment, Fiscal Years 1965-1972
(In Millions of Dollars)

1965.....	949
1966.....	1,176
1967.....	1,451
1968.....	2,008
1969.....	2,673
1970.....	3,577
1971.....	4,435
1972.....	6,773

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During the Summer of 1973 the Japanese, expecting shortages, began to act as international hoarders by buying whatever excesses or future production they might secure.¹⁴⁴ They have met with mixed success at best and have grown increasingly wary of unspoken coalitions of environmental activists and economic nationalists in the resource-rich nations whose pro-

grams would retard Japan's access to its foreign sources of supply.¹⁴⁵ Increasingly thwarted in their desire for more sources of supply, the Japanese have turned to a source - the Soviet Union - whose ideology may well make it a doubtful benefactor.* Of this potentially rewarding yet politically vulnerable source, Saeki Kiichi stated:

Dependence on external supply sources makes the Japanese economy highly susceptible to the impact of international tensions and hence makes it essential for Tokyo to maintain friendly relations with all countries supplying critical resources and to develop supply channels which are unlikely to be disrupted by international disputes. ... The Japanese financial world has become increasingly aware of the necessity to diversify the source of supply of essential resources in the coming decades.

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While seeking new friends, the Japanese have not forgotten their old ones. In his meeting with President Nixon in July of 1973, Prime Minister Tanaka agreed to seek in conjunction with the United States new approaches to energy and other resource problems via commercial and scientific cooperation as well as the possibility of devising a framework for sharing resources among OECD nations.¹⁴⁷ The latter obviously became a dead-letter in the face of a successful Arab strategy of "divide and conquer". As each nation scurried to look to its own interests the commonweal was quickly shelved. Japan's

* Russo-Japanese contacts are covered in greater detail in Chapter XI.

place in the international system will be returned to below, but for now suffice it to indicate that Japan's international resource position is immensely vulnerable.

To sum up this section it can be said that Japan's dense, if stable, population on an island chain with severe limits on food production capacity and virtually devoid of the raw materials necessary for the operation of a technologically sophisticated society make Japan a prime candidate for the sorts of ecopolitical catastrophic collapse warned of by such doomsayers as Harrison Brown, the M.I.T. Group, and others. If world conditions worsen as is posited here, Japan may become the most "modern"* state on earth.

((Japan: Politics))

In our evaluation of China there was little need to dig beneath the exterior of the government's population and resource policies because, with one political party, internal debates emerge as variations on a theme. The subtle differences are important, but not sufficiently important to substantially sway China from its nature-conquest and progress above all course. China's hope must rest on modifications of the Mao-ethic. Japan, on the other hand, presents us with a diverse political spectrum. Although the Liberal Democrats

* "Modern" is used here in its derisive sense implying advanced vulnerability, collapse, and decay.

have been in power virtually throughout the postwar period, their control is neither assured nor iron-fisted. Hence, the policies of the current leaders in Tokyo are subject to all sorts of outside pressures.

The entirety of Japanese politics is obviously not the scope of this section, merely those political pressures which may effect Japan's attitudes toward ecopolitical issues. As noted above, at the core of Japan's current proposals to re-order its environmental priorities is the somewhat grandiose plan of Prime Minister Tanaka. The details of the criticism will not be reiterated here. However, the critics have not all been objective observers of what is best for Japan. Many have been political opponents of the Liberal Democrats (LDP).¹⁴⁸

It is worthwhile examining the background of this political criticism. In the 1969 general elections the LDP, led by Prime Minister Satō Eisaku, emerged victorious by crushing the left of center opposition parties. Socialist Party Secretary General Edō Saburō said in the aftermath of that defeat:

It's a complete defeat. We have been made to feel again that we are too outmoded. In other words, the social situation is changing constantly, but we have not been able to adapt adequately to these changes. We have been talking about changing our image, but the tempo has been too slow and we have not been able to keep up with the times.

The Japanese Left undertook a massive reorientation. They had theretefore taken scant notice of environmental conditions and had merely resorted to rhetoric with regard to improving the living conditions of the Japanese.¹⁵⁰ However, the manifest public concern over "kōgai" and the lack of rapid corrective measures on the part of the Tanaka administration gave the Leftist parties their lead - a lead which they have astutely seized to their own advantage. In Japan's December 1972 general elections the Socialists and, particularly, the mere vociferous Communists captured the protest vote.¹⁵¹ Whether they will be able to keep this new support remains to be seen. Their political future seems to be bright, however. The Tanaka government, after seeing the new strength of the Left, has apparently reverted to a semi-reactionary stance of not taking as much action in the environmental field as they had promised, lest - given an inch - the environmental activists and their newfound allies on the Left attempt to travel a mile on the road the conservatives believe to be against their best political and economic interests. Hence, we have witnessed Prime Minister Tanaka stating that the Japanese people "should not... become consumed with pollution problems".¹⁵² The addition of a fiscally conservative critic of Tanaka's remodeling plan - LDP faction leader Fukuda Takeo - in the post of Finance Minister after the

death of Aichi Kiichi seems likely to put a damper on even
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 Tanaka's reduced plans.

All of this would seem to indicate a bright political future for Japan's Left. For the moment, the Japanese Communist Party has become the symbol in Japan of all that is environmentally best for Japan. The prospect for Communist rule in Japan is still dim, however, for as former Foreign Minister Fujiyama Aichirō once observed,

As long as Japan enjoys freedom of speech, fair living conditions, and the prospect of continued economic development, the large majority of the Japanese people will reject communism as a political system. The establishment of a communist regime in present-day Japan by either indirect aggression or revolution is unthinkable.

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Adoption of anti-"kōgai" positions by the JCP to the disadvantage of the LDP is a crack in such unthinkability. Nevertheless, barring massive mismanagement by the more moderate Center and Center-Left parties, the JCP remained unlikely to seize power. There are two basic reasons for this unlikelihood. Firstly, in time, it will probably become apparent that the JCP is using the anti-"kōgai" movement as just another front.¹⁵⁵ Secondly, and supporting the first, is the likelihood that Communism's true colors on environmental issues will become known to the Japanese public. The JCP has had long and continuing ties to the Communist parties of the Eurasian mainland.¹⁵⁶ Despite the divisions in their soli-

darity as a result of the JCP's independent stance in between
 the Sino-Soviet antagonists,¹⁵⁷ the ideological arguments
 are essentially factional and the basic environment-related
 philosophy of nature's conquest and the primacy of mankind's
 will remains shared. When the JCP's views on Malthusianism,
 growth vs. no-growth, and all that an environmental ethic
 entails become more widely known - a task to which the LDP
 will surely rise - the JCP as a symbol may well be irreparably
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 tarnished.

What are the domestic political prospects for Japan
 then? The Kōmeitō, once considered a fringe alternative, seems
 to have missed the environmental boat. However, this assess-
 ment may be premature. The Kōmeitō has offered the Japanese
 an ideological alternative the other parties have not. In any
 event, whether it be the Kōmeitō or either of the Center-Left
 parties - the Socialists and the Democratic Socialists - one
 of them seems likely to seize the falling standard of the JCP
 and either come to power on its own or in coalition with a
 chastened and contrite LDP to form a government more attuned
 to ecopolitical issues looming barely over the horizon. This
 projection assumes the LDP will continue on its presently
 retrogressive course. Of course, should the LDP come to its
 ecopolitical senses in time - a not impossible scenario
 considering the LDP's past astuteness - they might once

again regain the symbolic forefront in the battle against "kūgai" and the ecopolitical iceberg which lurks beneath it. Regardless of which party eventually proves successful, it is inevitable that one of them will be compelled to confront these issues. The inexorable course of man's abuse of his physical setting has ordained that the crises will peak. Japan's promise to be the most "modern" seems likely to force the issue upon Japan's politicians whether they want it or not.

((Japan: Internationalism))

Japan's need to maintain commercial access to foreign sources of raw materials was referred to above and the overall topic of viable international means for securing resource and economic stability in a finite world will be returned to in the concluding chapter, but it is worthwhile here combining these topics to assess Japan's economic and environmental attitudes and goals vis-a-vis the international system.

The Japanese have attempted to assume a lofty public posture toward the tip of the ecopolitical iceberg which appears in international waters. The Japanese government has represented itself as being concerned virtually exclusively with the best interests of mankind's welfare. The Japanese

have heartily praised the efforts of the international community operating through the United Nations to delineate the problems and seek solutions.¹⁵⁹ As Japan's representative at the United Nations said, "The record of the United Nations so far shows to our satisfaction that it is performing this function commendably."¹⁶⁰ Since the United Nations, both before and after Stockholm, has not really done very much, perhaps this statement says more than was intended. In any event, the Japanese do take their public support of international environmental issues quite seriously and, given the needed domestic encouragement, the Japanese may well have a large role to play in this arena of international affairs. Their recent expression of willingness to sponsor a United Nations University in Japan which would focus on both intercultural studies and issues related to man's environmental crises is a very hopeful sign for the future.¹⁶¹

This beneficent image is good public relations. However, there is another side to Japan's environmental interests. Firstly, the Japanese are not completely committed to environmental internationalism. Uemura Kogorō, President of Keidanren (Japan Federation of Economic Organizations), expressed it well when he stated that the complex of environmental problems had become "an important international issue", but then cautioned the Japanese that they should be wary of being too

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"emotional" about it. Writers for the Asahi were correct when they compared Japan's positions to Europe's fear that American instigated anti-pollution measures amount to non-tariff trade barriers and found that:

Despite often repeated pledges of Japanese-American cooperation in the fight against pollution, Japan's stand on this question is actually far closer to that of Europe. Thus cooperation on pollution - like vague postwar pledges of cooperation in many other fields - is largely nominal.

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Nominal cooperation on international anti-pollution measures is overwhelmed by the second aspect of Japan's other face.

Japan's increasingly active role as an advocate of free trade and as a commercial exploiter of foreign sources of raw materials was cited above. These interests are an integral, if less publicized, aspect of Japan's international environmental posture. The Japanese prefer to cloak their foreign exploits with the guise of economic development aimed at the betterment of the host nation. 164 To state this is not to suggest that the motivation of the Japanese is entirely self-centered. However, neither is it as self-abnegating as the pronouncements out of Tokyo would have one believe. The Japanese are legitimately serving their own interests.

In an age of increasing scarcities those interests necessarily focus on alleviating potential scarcities.

From 1972's level of \$6.7 billion in foreign investments¹⁶⁵ economist Okita Saburō has estimated that by 1980 Japan will have an approximately twenty six billion dollar level of annual investment abroad of which about one half will be in natural resources development.¹⁶⁶ Much of the non-extractive investment will be in "dirty" industries which Japan's anti-pollution laws inhibit domestically. Such exploitation is understandable from an economic standpoint, but harsh from an ecological standpoint. Keidanren has advocated such exploitation and concomitant spreading of dirt from untenable environmental grounds:

Many industries are destined to seek sites for their factories in foreign countries with more elbow room from an environmental standpoint. Environmental capacity is far larger in some countries and the self-purifying process of air and water will make it easier to solve environmental impacts of industrial expansion in such countries.

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Economic authorities in Japan and abroad have seconded this view which is a logical extension of Prime Minister Tanaka's dispersion plans.¹⁶⁸ While to the economist's short-run perspective such spreading of dirt and muck in a thinner layer over a wider area so people will not notice it as readily may make some sense in terms of the short-run returns of raw materials it offers, seen from the ecological perspective it is sheer folly. As Japanese social critic, Ui Jun,¹⁶⁹ noted, "Japan... has begun to export its pollution". At

the very best this "solution" is a short-run palliative. At its worst it may have a placebic effect leading the Japanese into a false sense of complacency which would become startlingly apparent as man abuts the Malthusian dilemma.

Former Prime Minister Yoshida Shigeru once described Japan's postwar economic growth as a "dream" to those who had experienced the immediate postwar collapse. ¹⁷⁰ That dream is in danger of becoming a nightmare in the not so distant future. In recent years the Japanese have increasingly sought to equate their economic power with power in a larger political sense. As was indicated in Chapter III, as the power-as-force aspects of power have ebbed in an age of nuclear stalemate, the role of the economic facets of power have increasingly come to the fore. Thus the Japanese have had the logic of contemporary political alignments behind them in their quest for new recognition as a world power.

However, claims to power based on economic prowess are dependent upon other factors. These "other factors" may be partially military, but in the prevailing condition of stalemate this is not necessarily so. This particularly true of Japan with its legacy of military excesses.* More important in a world in which the physical underpinnings of both

* Japan's military posture is assessed in Chapter XI.

economic and, by extension, military power are becoming recognized as finite and scarce commodities is a degree of self-determination in resource matters sufficient to free a nation from precipitate and willful severance by another state. Thus Japan's expressed desires to become a world power based virtually exclusively on its economy is fraught with dangers.

Japan's economic stability is so fragile that it cannot be maintained without resort to political artifice. ¹⁷¹ Donald Hellman approached a true picture of Japan's international position when he stated:

Tokyo's foreign policy continues to have a peculiarly unidimensional economic quality pulling Japan into the global group of non-Communist industrial countries - a tendency that will continue to draw the country away from nation-centered political rivalries into transnational and global spheres of activity.

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Japan's "unidimensional economic quality" is indeed pulling Japan toward "global spheres of activity". If the international system were able to remain free of competitive urges leading nation-states toward a grasping of dwindling resources or if, as the Sprouts maintain, cooperative measures can be devised to abridge national competition, Hellman's contention that the trend will be "away from nation-centered political rivalries" may prove prescient. That contention is considered extremely doubtful here.

As was noted in refutation of the Sprouts' normative theorizing, the contention here is that future resource scarcities will revive and reinforce rivalries among nation-states. This will be felt most strongly and most immediately by these states most heavily involved in international trade and especially by those among the latter who are technologically sophisticated and materially vulnerable. This is a prescription for Japan. By 1980 and beyond the Japanese economy, though smaller than those of the United States and the Soviet Union, will nevertheless have at least as large an impact on the international system as either of the others.¹⁷³ This is anticipated by most observers of international economic relations. However, what will the impact of Japan be if one makes dire long-term Malthusian assumptions? States such as the United States or the Soviet Union can be expected to absorb initial shocks and, if the proper adjustments are made to each system, to come to an accommodation eventually. Both supplier states and states with smaller economies will likely withdraw behind protective barriers and attempt to make the best accommodations they can to the new circumstances which they will confront. It is the economically advanced, technologically sophisticated, and materially vulnerable states led by Western Europe and especially by Japan which seem likely to suffer first and most.

Japan does not have the capability to withdraw within itself for there is little within with which it might sustain itself. That option is effectively closed to Japan. Assuming that the military circumstances of the international system (i.e., the nuclear stalemate) will preclude Japan's opting to seek territorial dominance in the fashion of her pre-war exploits, what are Japan's prospects for the future. In a word, they are poor.

The brightest prospect would seem to rest upon adhering to a Sproutian norm of idealism. As one of Japan's foremost political scientists observed, in the light of Japan's economic vulnerability, Japan

can make the creation of a world order which protects her long-range economic interests the goal of her foreign policy. Such a world should be one in which the chance for peace is maximized, one where no closed regionalism obstructs the freedom of transaction, one where the Super-powers' selfish interests are limited by the smaller countries. Obviously, this model is utopian and does not correspond to the hard facts of the present international system. Nevertheless, every country is free to choose her ultimate goal and Japan might be wise to become the champion of such an utopia. ... It means that she could put herself on the side of the Third World countries.

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The utopian alternative may be most beneficial to Japan, but its prospects are grossly poor. Japan's alignment with the "third world" may be compelled by economic need. However, it would require incredulous gullibility for third world peoples

to either forget Japan's past expansionism and its causes or to accept Japan as a "third world" nation. One must ask today and in the future how idealistic the Japanese would be if Japan was a resource-rich nation and some other competitor was in the position with which Japan is confronted? Considering the scrupulous degree to which Japan has looked to its own economic self-interests in the past, it is doubtful that Japan would be particularly magnanimous if the tables were turned.

Advocacy of unlikely idealistic propositions may seem foolish, but what else can Japan do? Relying upon its competitor's goodwill is its present course of action, but since the assumption made here is that "goodwill" is nebulous and undependable at best, an alternative of some sort is required. The only other alternatives are catastrophic and would come in the event a utopian safeguard failed anyway, so the Japanese seem to have assumed, probably out of resignation, that idealism is pragmatic in Japan's circumstances. As critic Wakaizumi Kei stated, "In contemporary Japan... idealism is
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realism".

The other alternatives, in the worst of all possible worlds - the most likely alternatives, are the prospects of Japan facing a hostile world replete with resource

scarcities of all sorts. In such circumstances Japan's huge economy would be at the beck and call of its suppliers. The latter would form an extortionary encirclement with which Japan could only bargain from a position of extreme weakness - able to offer little the outer ring would truly require, but dependent upon the goodwill, greed, and whim of its suppliers for its very existence. Japan's vulnerability carried to its extreme would make of Japan, to paraphrase Mackinder, a negative heartland.

The prospect of one of the leading economic states of the world grovelling at the feet of its suppliers is not pleasant to contemplate; neither for the Japanese nor for the other leading economic powers. Japan's reasons for avoiding this state of affairs are too obvious to mention. Others must seek to avoid it also for its implications of an overall world-wide economic collapse are apparent. The international economic system is not in Vogt's terms a "sponge"; ¹⁷⁶ it cannot afford to sever or permit the atrophy of one of its principal members. It cannot, but will it? Man's stupidity is seemingly boundless. In any event, the reality of this prospect - Japanese bowing and scraping before its oil suppliers provided a contemporary image of this future scenario, if for different reasons* - belies Japan's

* Man-made and man-correctable causes rather than man-induced but uncorrectable circumstances as a truly Malthusian dilemma would be.

claims to be an international power based upon its economic prowess. Power can be based on economics, but in Japan's case the roots of its power are set in infertile soil and must be force-fed from exterior sources. Because of the fragile supports throughout its economy, Japan cannot even claim the semi-"paper dragon" status of China. From the ecological perspective Japan is emphatically a "paper dragon" replete with Achilles' heels.

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((Japan: Culture, Nature, and the Future))

Japan's future was assessed in the preceding section as rather bleak. To conclude our focus on Japanese ecopolitical issues it is not enough to indicate the probability of a Malthusian future. In Japan's case, as in all of man's confrontations with Malthusian principles, the approach to coping with the issues must center on a reevaluation of man's place in natural systems. The problems can never be solved; they can, at best, be managed successfully. Recognition of this distinction is the first step away from the "engineering" perspective and toward the ecological perspective. Such an attitudinal change must be first on the agenda for the Japanese.

Japanese attitudes toward man-in-nature were assessed in Chapter IV and earlier in this chapter vis-a-vis the

protestant ethic. Conclusions reached in those assessments will not be repeated in toto here. It is sufficient to note that, while Japanese notions of man-in-nature harmony do not measure up, in reality, to the idealized images of those notions prevalent in both Japan and abroad, there is nevertheless a strain in Japanese culture which abhors the violation of natural processes. In contemporary Japan this latent strain has been most outwardly apparent in the support

granted Japan's nature-preserves by the government and the people.¹⁷⁸ Such preserves are perhaps the most tangible expressions a people can make of their respect for natural

systems. It is worth noting in passing that the origin of Japan's nature preserves was foreign. Azuma Ryōzō, a Japanese naturalist, after meeting with John Muir was inspired to create such preserves upon his return to Japan.¹⁷⁹

Regardless of their origins, such preserves represent the sort of ideals the Japanese urgently need to adopt. Unfortunately for the Japanese, inveterate tourists that they are, their admiration for the preserves as enclaves has tended toward the extreme of loving them to death.¹⁸⁰

This expression of respect for natural systems is self-defeating. Nevertheless it represents a lingering cultural attribute among the Japanese which may prove to be their salvation.¹⁸¹

Attitudes toward natural systems are one of the most complex and subjective aspects of a culture. This is only to be expected since the object of interest is itself infinitely complex. In Japanese culture nature has been approached on two levels. However, these levels have left a gap in between. On one level, the aesthetic, the Japanese have been astute and sympathetic observers of asymmetry in nature. But, as Anesaki pointed out, Japanese aesthetic senses have generally neglected the "many rhythmic motions and regular processes in the world".¹⁸² On the other level, the pragmatically scientific, the Japanese have been very proficient analysts of the inner workings of the physical environment. Japanese scientists have become renowned world-wide.¹⁸³ However, Japanese science has, perhaps to a somewhat lesser degree, suffered from an affliction unfortunately too common among Asia's scientists - an inadequate appreciation of the role of sceptical inquiry in the scientific method. In other words, science is too readily linked with technology.¹⁸⁴ In between the poles of the aesthete and the technocrat is the area wherein Japan's approach to the ecological perspective may lie. Natural systems can certainly be understood scientifically. But it is doubtful that science, even of the truest sort, can aid man in appreciating natural systems. Appreciation and the cultural attitudes required are

more subjective. What is needed is an ecologically, and hence scientifically, sound appreciation of natural systems. Such appreciation is, as Anesaki observed, frequently weak in Japanese culture.

To date the Japanese have managed to live with this gap between their aesthetic and scientific appreciation of natural systems. They have achieved both new economic and cultural heights by, respectively, their physical abuse of and abstract love for nature. This seeming paradox has enabled the Japanese to prosper. To understand this phenomenon it is necessary to understand the compartmentalization of values which prevails in Japanese society. To favor one stance it is not necessary to disavow another stance. Both may be appreciated in their own sphere. ¹⁸⁵ Japanese appreciation of nature has been compartmentalized into segments of their daily routine. Since their notions of "nature" are quite idealized and abstract, segmentation is not difficult to achieve. They do not yet conflict untowardly with other activities. In their other activities their destruction of natural systems is deemed divorced from their aesthetic appreciation. As long as outside sources of materials can permit the Japanese the freedom to avoid the total destruction of their remaining natural areas, this dualism will permit the Japanese to prosper and maintain a certain

degree of internal consistency with their segmented ideals. Such compartmentalization may even be offered as an example to other peoples seeking to maintain a sense of balance with nature in their hectic lives. However, this false duality is essentially illusory and cannot be carried on indefinitely. As the ecopolitical situation approaches Malthusian dimensions the pressures to exploit domestically will inexorably encroach upon the remaining natural enclaves thus wiping out the illusion that separation can be maintained. It will be inexorable unless the Japanese modify their goals and contain their ambitions. With goals in accord with the ecological paradigm the dilemmas of the future may be confronted and managed. The price may be high in terms of attainable aspirations, but it can be done if the desire is present.

Unfortunately, the Japanese as of this writing have given scant indication of recognizing the necessity for such changes. The Japanese have, along with the Chinese, persisted in an adherence to "science" that verges on faith. They are not, of course, alone in such persistence. As we have seen above, belief in science as a virtual panacea is a common affliction. The Japanese view of the future was well represented at their exhibits at Expo '70 in Ōsaka. The Japanese government, in an exposition of the place of nature and science in Japan's future, stated, after noting Japan's

aesthetic appreciation of nature, that:

The standard of science and technology today is regarded as the barometer of the national power of a country. Now that her science and technology have taken long strides, Japan is ranked among the world's most advanced countries. There will be no bounds to the future development of Japanese science and technology, which promise the realization of our dreams and a fuller living for us.

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On the same occasion Mitsubishi took immense pride in depicting their role in the ongoing creation of an artificial

"environment" within which man would enjoy a better and

harmonious life. ¹⁸⁷ Such reliance on science and advocacy

of the creation of highly vulnerable artificial systems is a formula contrary to the best of environmental ethics.

The Japanese still have time to correct the error of their ways. Unfortunately, they do not yet seem to be prepared

to face the central issues of the future. An example of

this hesitancy is to be found in Japan's plans for hosting a follow-up meeting to the 1972 Stockholm Conference on the

environment. This meeting, scheduled for 1975 and tentatively called the "International Scientific Congress on Environmen-

tal Protection" will deliberately avoid any discussion of political or diplomatic issues. ¹⁸⁸

The planned avoidance of the controversial yet quintessential political and social

normative issues is characteristic of and central to Japan's

approach to ecopolitical problems. Such problems are not

amenable to strictly scientific approaches. Science and technology will be vital once the decisions have been made, but they cannot choose the questions to be answered nor can they provide the answers to hard normative choices. The future is man's and man must make his own choices. Not choosing and permitting inertial momentum to carry societies blythly onward is, of course, tantamount to a form of choice. Non-action is an evasive answer and as such has had great appeal to the Japanese who see their alternatives so constricted.* However, constraints on alternatives can be relieved by an alteration of goals in accord with the ecological paradigm. This, in turn, leads one back to the fundamental relationships of man-in-nature which lie at the core of the paradigm. Until the Japanese can bring their attention to bear on these basic relationships and reorder their domestic and international priorities, their prospects for successfully confronting the ecopolitical problems of the future will remain quite poor.

* See previous section.

CHAPTER X

East Asian Ecopolitics: Korea

((China and Japan: Models for Growth))

The focus of chapters VII, VIII and IX has been on East Asian ecopolitical issues. Because of their size China and Japan necessarily deserved the greater emphasis. However, Korea also must be accounted for in East Asia's problems. To conclude this portion of the study we will seek to ascertain where the two Korean states stand politically in relation to China and Japan on environmental issues.

The ideological approaches of China and Japan to matters pertaining to economic growth and its effect on the physical environment are in theory quite different. Each represents a pole of Communism and Capitalism. Despite this dissimilarity of theoretical approach, the real life orientation of each economy toward its physical underpinnings is quite similar. Notwithstanding Japanese rhetoric about traditional man-in-nature harmony, each society is geared toward the supremacy-of-man/conquest-of-nature syndrome which epitomizes the "engineering" perspective.¹

In this sense it would seem that each economic system presents an economic model antithetical to the ecological

paradigm. There is a lot of truth to such a supposition, but it must be qualified by recalling the paradoxical qualities of each economy. China's rhetoric is tempered by subtle folk wisdom and Japan's traditions are abused by the excesses of a work ethic which defiles the sacred. Thus neither is quite what it claims to be.² In both nations the ancient manner of man living in harmony with nature was not a matter of choice. Peasants of the past were compelled by their lack of knowledge and the gradual pressures of growing numbers to live a simple and frugal life. Japan's achievement of an advanced sophisticated economy permitted them the luxury of idealizing their past while they, in fact, increasingly drew further away from that past. China, on the other hand, because of its greater difficulties in achieving modernization finds itself with a level of economic life much less dissimilar to that of its distant past. In their quest for improving upon those levels they have adopted an ideology which is virtually the opposite of Japan's idealized virtues. Yet, despite their ideology, their livelihood - barely removed from the supportive physical environment - has imbued Chinese society and its economy with a far greater appreciation for the essence of the ecological paradigm than is the case in Japan. Even though the Chinese, as seen from the ecological perspective, are consciously seeking to worsen their practices, while the

Japanese are attempting to improve their ways - albeit sluggishly, at the time of this writing the Chinese economic and social system offers a more ecologically sound model than does the Japanese model.

In their consideration of these two economic models other countries will most certainly not grant ecological criteria high priority. As we have seen,* developing countries have not been particularly attuned to environmental issues. Hunger and poverty pose more pressing short-run issues. Economist Okita Saburō succinctly contrasted the appeals of China and Japan to less developed countries:

China may provide a model of full employment on a very low income level. One type of economic growth is exemplified by Japan and nearby countries, and the other by the People's Republic of China. A very important issue for the South and East Asian countries in choosing their course of development is whether to depend on an inward-looking policy, which emphasizes the distribution of income and employment, or on an outward-looking course which takes advantage of the international division of labor, and achieves a larger export trade and higher rate of growth, accompanied by a somewhat inequitable distribution of income. The issue may not be a straight black-or-white choice, but a mixture of the two types of development. A greater economic relationship with Japan will promote the economic growth and foreign trade of the East and South Asian countries, but if it does not contribute to improvements in employment and income distribution, they may be attracted to alternative types of politics and development. They will be placed under two different types of external influence, one from Japan and mostly economic, the other from China and mainly political. One of the fundamental issues is how they will react to these influences.

3

* Chapter VI.

Not everyone would agree that China should be offered as "the" communist economic model, witness Zbigniew Brzezinski:

China provides an attractive example of national discipline and ideological dedication, of a massive social effort to modernize in spite of technological backwardness. But even on this level the Chinese model is relevant only as an example of will and purpose, as a guide to the future, not as an example of how communism responds to the problems of modernity. The experience of the Soviet Union provides the only answer to that crucial test.

4

Rationally resolving that debate is well beyond the scope of this study, however, it must be indicated that concepts of "modernity" and "development" hinge upon the level of underdevelopment present in the country seeking a model. In this light, the Chinese experience would seem to have more relevance than either the Soviet Union or Japan.⁵ One would also hope that the appeal of China's economic and social model could be seen by developing countries not solely, as Okita believes, in "political" terms, but also in economic and ecological terms. The Chinese themselves are unlikely to stress the reality of their adherence to an ecological paradigm. On the contrary, they are quite likely to export the rhetoric of "man's conquest of nature". Should their rhetoric prevail, then their model might well be the most harmful.⁶ To counteract that possibility, it would seem to be prudent for non-Chinese - even virulently anti-Communists - to

reinforce Chinese propaganda with appeals to remember the beneficial reality of Chinese economic measures. One may not desire any communist system, but if such a system is to be adopted in an area which will effect the international economic balance - and, by definition, in the ecological perspective all areas are integral, it would be emphatically better to have systems adopted which are truly close to Chinese reality than to have others adopt the terracidal rhetoric which even the Chinese themselves seem not to fully accept.

To judge the impact the Chinese and Japanese models might have on other countries, some insights can be gleaned by looking at the two Korean states, each of which has followed in the footsteps of one of their giant neighbors.* A lengthy examination of Korea's history and its heritage of material poverty is well beyond the scope of this brief chapter. It is sufficient to note here that by the end of the Second World War, before the division of the Korean peninsula, Korea had suffered centuries of neglect. Although the Korean farmer shared some of the love of the land common

* Throughout the following brief assessment of the Koreas, it must be recalled that Korea's relationship to both China and Japan is historically unique. Hence, judgements based on Korean experiences cannot be universally applied elsewhere, although they may well offer insights.

to East Asian peasantry, he was also burdened with their lack of scientific knowledge and the inertia of some old but landwearing techniques. Korea was also handicapped by the existence of both shifting cultivators ("fire field people"/"wha jun min") and simple firewood scavengers. The Japanese attempted during their socially ruthless but frequently economically beneficial tenure to remedy the devastation caused by these deforesters, but had only limited success.⁹ The result of these years upon years of neglect was the landscape of denuded hills and heavily used agricultural plots in the terraced valleys which became so familiar to the world during the Korean War. The war itself caused additional uncounted economic and ecological havoc upon the badly worn peninsula. It is in the aftermath of that war in a politically and militarily divided peninsula that the economic models of China and Japan came into play. Prior to the war the two Koreas were not yet prepared to "develop". They were merely trying to consolidate and get their bearings. Neither were China or Japan offered as models. China was barely removed from the throes of its revolution and Japan was still occupied by the United States. The post-Korean War period, however, saw both China and Japan develop rapidly and gradually exert influence over their nearest neighbor.

((Korea: North and South))

Of the two Korean states, it is far more difficult to be definitive about North Korea* (Democratic People's Republic of Korea) than about South Korea* (Republic of Korea) because of the former's overall secretiveness. Nevertheless, some generalizations can be made. North Korea has been torn between the gargantuan forces struggling just over its northern border. Confronted by pressures from both sides in the Sino-Soviet split North Korea has attempted to maintain its perch on the ideological fence between them. Nevertheless, and notwithstanding the admittedly strong attraction of the Soviet economic model, the North Koreans have been very strongly influenced by their closest neighbor - China.

Facts about North Korea's economic status are particularly difficult to obtain. They are treated as state secrets in most Communist countries, but the North Koreans' "garrison state" mentality¹⁰ makes them first among the most closed mouthed. With the possible exception of government agencies with their own sources of information, it is very doubtful whether anyone outside of North Korea has any truly hard data on its total economy. It is available primarily in

* The vernacular names of the two states will for convenience be used here rather than the official titles.

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the form of isolated and disjointed drips and drabs. Despite this obstacle, the outlines of North Korea's economic condition can be pieced together.

The North Koreans maintain a planned economy of a modified form. They have had three economic plans and are in the midst of a fourth:

Three-Year Plan - 1954-1956
 Five-Year Plan - 1957-1961
 Seven-Year Plan - 1962-1968
 (Extended at a Worker's Party conference
 in 1966 for three years until 1970.)
 Six-Year Plan - 1970-1976

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The extension of their so-called "seven" year plan was apparently due to economic reverses. The evidence for this assessment is largely negative in the sense of an unusually acute absence of information. They published less data than their usual piddling amounts indicating that they had something they did not want to advertise. The slowdown in the economy has been authoritatively attributed to a combination of administrative inefficiencies, notably related to the Chollima movement outlined below, and to a rapid increase in their military budget stemming from both the increased tensions related to the Viet-Nam War and lessened military aid from the adversaries in the Sino-Soviet split - neither of which were overly anxious to reward fence sitters.

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North Korea's economic system is considered here to be a modified planned economy in the same senses as the Chinese economy. The North Koreans have been closely attuned to the Chinese economic variant of communism. When the Chinese experimented with their Great Leap Forward in 1958, the North Koreans followed suit in 1959 with their "Ch'ollima" movement. Ch'ollima is commonly translated as "Flying Horse".* The title was meant to reward production units for increased output and hence was a device to foster collective incentive not unlike the Soviet Union's Stakhanovite movement of the 1930s.¹⁴ Added to the zeal for production initiated by the Ch'ollima movement was the North Koreans' advocacy of an attitude of "juche". Kim Il-sung, defining "juche", said:

This is an independent stand, discarding dependence on others, displaying the spirit of self-reliance and solving one's own affairs on one's own responsibility under all circumstances.

15

The similarity between "juche" in North Korea and China's spirit of Tachai is manifest. "Juche" has become a byword of North Korean life. As Kim Il-sung stated,

Juche in ideology, independence in politics, self-reliance in the economy and self-defense in national defense - this is the stand our Party has consistently adhered to.

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* Literally it means "Thousand 'Li' Horse" or rapidly moving horse. The word originally was applied to trains. A variation of the latter, "Ch'ul ma" (Iron Horse) has a strangely familiar ring to ears attuned to Western epics.

As in China, North Korea's spirit of "juche" has had two basic effects. Firstly, the quest for what was termed, in reference to China, "group individualism" has led to more dispersal of decision-making authority than one would expect in a command economy. In this sense the Chinese and North Korean economic hierarchies have become modified planned economies.* This effect has been less pronounced in North Korea because of its smaller spatial and bureaucratic scale, but is nonetheless present. Secondly, the stress on individualism of the masses has come, as in China, hand-in-hand with stress on the efficacy of man's abilities to conquer natural processes and put them to his own uses via man's scientific and technological knowledge.¹⁷ Our knowledge of the subtleties of the North Korean political system is too gross to comment knowledgeably about the fine points of their attitudes toward science as a panacea. However, since North Korea has commonly taken hard line dogmatic positions on so many issues it may fairly be assumed that their official views in this regard are not favorable to the ecological paradigms.

Reinforcing the latter assumption is the North Korea posture advocating economic growth with fervor befitting capitalist JayCeers. Not that their idea of growth can be equated with capitalism. On the contrary, they are vigorous

* For an expanded assessment of this phenomenon see Chapter VIII.

anti-capitalists. As Kim Il-sung has stated:

Socialist society has unlimited potentialities to develop the economy incessantly at such a high rate as is inconceivable in capitalist society, and the further socialist construction advances and the stronger the economic base grows the greater become these potentials.

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This is a prescription for a vicious circle of unlimited growth. If one were to rely on expressions of North Korean intent, it would seem that they are closely adhering to China's exported rhetoric. However, as in China's case, appearances are deceiving. Whether as a result of cultural lag, as in China, or merely as a result of continued economic mismanagement¹⁹ the North Koreans do not seem to have been able to fully apply their rhetoric. This is not to say they have not been trying, they have merely been unsuccessful. In any event, while their rhetoric is in opposition to the ecological paradigm, reality belies their rhetoric and finds the North Koreans living a hard and austere life not unduly destructive of the physical environment.

This seemingly favorable opinion of North Korea's ecological stance must be seen in the context of the entire peninsula. South Korea was confronted with very different problems in the aftermath of the Korean War. The flood of refugees which poured south into a land whose minor industrial

base had been devastated by the war overwhelmed South Korea. South Korea was not unlike Bangladesh. Both have been characterized by the unkind but not unwarranted appellation of international "basket case". South Korea, however, was luckier than Bangladesh in that it had the economic good fortune of becoming a ward of the United States.* Under American auspices South Korea was propped up and given numerous economic stimuli. Despite this massive economic and military aid, South Korea did not prosper. It did not "go under", but that is about all that can be said. By the early 1960s South Korea was still poverty stricken and the political-economic systems the United States had tried to foster seemed threatened by the Pak revolt. ²⁰

Changes occurred in Korea in the mid-1960s. Pak Chung-hi's government may well have undercut the limited political advances fostered by the United States, but it did bring one element South Korea had sorely lacked - stability. In a stable, if repressive, social milieu the South Koreans were able to benefit from two developments. Firstly, American military involvement in South-East Asia, lasting from the early 1960s through the early 1970s, served South Korea's economic interests by channelling supply and repair business

* Their luck is restricted to the arena of economics. Culturally and socially their "fortune" is more debateable.

into the South Korean economy. Vietnam's tragedy served Korea in the same sense as Korea's had served Japan. Both benefitted from their proximity to war and their position as an American prodigy. Secondly, as South Korea was in the process of getting on its economic feet, it was able to negotiate a treaty with Japan in 1965 in which Japan recognized South Korea as "the only lawful Government in Korea". This treaty, achieved after fourteen years of bitter negotiations, ostensibly ended Japanese-Korean ill-will.²¹ The rancor did not truly cease, but nevertheless the treaty did enable South Korea to benefit from the presence of the economic behemoth across the Tsushima straits. The Japanese were somewhat timorous at first about entering Korea due to a combination of factors, chiefly the legacy of hatred remaining from Japanese colonial days, the instability inherent in a militarily divided peninsula, and the political repercussions possible as a result of actively taking sides in a cold-war dispute. In any event, South Korea proved too inviting and Japan jumped into the South Korean economy at full speed.

The Japanese greatly aided the South Korean economy by their presence.* By replacing the United States as South Korea's principal trading partner, the Japanese rectified an imbalance long overdue. The United States had entered

* This is not to suggest any altruism on Japan's part.

Korea initially as a proxy for its primary East Asian ward - Japan. As Japan recovered in the postwar period, the United States sought to reestablish Japan's relative primacy in South Korea, but was hindered by the comparative lack of contacts between the two peoples. With Japan reinvolved in Korea the United States has been able to incrementally reduce its presence in South Korea. Japan's presence in South Korea gave the South Korean economy a new sense of independence. It was no longer simply an American ward.

Despite its long period of American tutelage, South Korea had never come fully under American influence. The United States exerted, and still exerts, strong military and political influence, but culturally influences frequently were first passed through the sieve of Japanese society. South Korea has received more Japanized Americanisms than original imports. This in combination with a historical legacy of close contacts in both the distant and recent past, plus the heavy influx of Japanese commercial influences since 1965 has given South Korean culture a definite Japanese imprint.

In these new circumstances the South Korea economy prospered. By actively seeking foreign investments, ²² in sharp contrast to North Korea's "juche", South Korea was able to reach new economic heights as the following data on economic growth indicate:

Years	Average Projected Growth	Average Actual Growth
1st Five-Year Plan ('62-66)	7.1	8.3
2nd Five-Year Plan ('67-71)	7.0	12.0 ^a
3rd Five-Year Plan ('72-76)	8.6	----

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Up until recent difficulties related to the Middle East dictated oil shortages, continued South Korean economic growth under its Third Five-Year Plan (1972-1976) was apparently well under way.

25

Despite its initial handicaps, South Korea has prospered economically while North Korea has lagged behind. What lies beneath the outward manifestations of South Korea's economic boom? Essentially it is the same phenomenon as that experienced in Japan. The South Koreans have developed their own version of the "protestant ethic". Pak Chung-hi expressed this ethic well when he stated:

Then what to do? (sic) There is only one method. We must work harder and exert more efforts than others. While others play, we work; while others work one hour, we work two, three hours; while they walk, we run. We must outdo others with manifold efforts in order for us to approach advanced countries or move ahead of them. If we play while others play, eat and dress as well as others, there is no way open for us to live better than today. It is a golden rule that we will be rich if we are industrious, work hard and save. I should say it is

* The figure of 12% average actual growth during 1967-1971 has been stated elsewhere as 11.4%. (24) In any event it is substantial.

a truth in any part of the world. Industriousness, austerity and saving will bring improved living, and it is true of a person of a nation. (sic) The point is whether we can do it or not.

26

There are differences in Korea, of course, principally related to the corruption so enervatingly prevalent among the would-be pace setting elites,²⁷ but via their recently introduced "Saemaul" ("New Community") movement the Seoul government seems to be making some efforts to alleviate past and present injustices.²⁸ Despite these differences, the notion of a "protestant ethic" in South Korea, undercutting sacred values related to man and nature²⁹ and supplanting them with faith in science and progress, is a close parallel to Japan's experience.

Science and technology had a glorious and semi-independent existence in Korea's distant past.³⁰ However, in more recent years Korea became a scientific backwater.³¹ To rectify this turn of events the South Korean government overcame the inertia of a Confucian society's reluctance to dirty its hands and succeeded in developing a new appreciation of the benefits of science and technology. Unfortunately the pendulum, as in other Asian nations, seems to have swung fully in the opposite direction leading to excessive confidence in the ability of "science" to achieve a people's goals.³² Faith in the efficacy of technology and economic

growth is difficult to refute in a nation witnessing the accrued benefits of new found wealth. Their leaders can get carried away with the momentum of change, witness Pak Chung-hi:

The most important thing above all else is fostering national power is economic strong. We will maintain to the last our present economic system and also keep up our rapid growth. ... Furthermore, by taking maximum advantage of all available resources, we will exert our total efforts towards the renovation of technology and science. By achieving this technological revolution, we will multiply production and increase employment so as to guarantee a job for every citizen. ... Elements including absurdity and irrationality which stand in the way of our implementing these programs, or which hamper our economic growth, will be thoroughly eliminated.

33

The latter references to "absurd" and "irrational" elements is an attack on Malthusian doomsayers. In any growing nation such doubting Thomases are unwelcome, but in South Korea they are easily avoided by the threat of accusation of abetting the North. The South Koreans have not yet reached the stage where they will listen to environmentalists.

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Such out-of-hand rejection of critics of excessive economic growth seems destined to be short-lived. Recent data for South Korea indicates that its importation of industrial- and energy-related raw materials is on a steady upswing. While this is, of course, an indicator of increased economic growth, it is also indicative of a growing dependency upon foreign sources of natural resources.

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South Korea's increasingly sophisticated and technologically advanced economy is enroute to developing vulnerable Achilles' heels. South Korea is taking the road followed by Japan in more than one way. As in Japan, the South Koreans were on the economic ropes as a result of Arab oil pressures. Also, as in Japan, South Korea's economic "feet of clay" were evinced by its swift surrender to Middle Eastern political pressures.³⁶ South Korea, in addition to the other economic obstacles it faces,³⁷ will increasingly confront the ecopolitical crises faced by Japan but without Japan's relatively larger reservoir of international "goodwill" based on the destabilizing effects Japanese domestic economic upheavals can have on the international system.

In sum, the two Koreas stand in parallel with their principal models. North Korea voices the rhetoric of China's man-over-nature dogma but lives a hard, austere, and largely autarkic life in the spirit of "juche" which places it much closer to the ecological paradigm and in a better position to withstand Malthusian ecopolitical shocks in the future. South Korea, upholder of Korean traditional virtues, is in a league with Japan and Taiwan by acting in opposition to its ideals. The latter three states are on a collision course with the future. A South Korean writer recently expressed the sentiments of his people and probably of many

other Asians -- both non-Communist and Communist, when he stated:

Unlimited industrial growth is coming under attack in the West. Awareness of ecological disaster is giving rise to a sentiment skeptical of blind idolatry of power and wealth as the supreme values of humanity:

What makes this latest phase in the intellectual exploitation of natural resources for the sake of unlimited development in the West disturbing to Asia is the present stage of cultural development (or cultural confusion, if you will) of Asia which has finally succeeded in positioning itself for an all-out pursuit of power and wealth. Asia is now endeavoring to shed its fear of power and wealth, the pursuit of which had invariably been inimical to human decency. Many an Asian has finally made up his mind to commit himself to a relentless pursuit of power and wealth, not to perpetuate military violence on neighboring communities or to scourge Nature, but to liberate himself and his community from human degradation caused by foreign domination and extreme material deprivation. His goal is the assurance of a material minimum necessary for the maintenance of human decency and communal dignity.

North America may have miserably failed to contain its idolization of power and wealth within the bounds of human decency. But this failure can not be used to demonstrate with any degree of inevitability a similar failure for Asia.

38

It is difficult, if not impossible, for a Westerner to effectively argue with such logic. Individuals from advanced societies who cite Malthusian perils will invariably be suspected of serving their own selfish interests. If the two Korean states can manage to maintain the peace, they may, in fact, be able to succeed, each in their own way, in achieving their goals. However, as is by now obvious, in the light of the assessments made in previous sections, their prospects for such success without modifying their rhetoric and goals are considered poor by the writer.

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CHAPTER XI

East Asia: Contemporary Issues

Prior to turning to some concluding remarks, we will briefly turn our attention to some problem areas in contemporary East Asian affairs in order to better understand them in the context of East Asian geopolitical conditions.

((Post-Postwar East Asia: China and Japan))

Assessing East Asia in terms of a "post-postwar" time-frame inherently implies a focus on Japan. For the Chinese the period from the end of the Second World War and their victory in the revolution to the present has been a postwar continuum. In Chinese terms there has not been a "post-postwar". The prefix "post-post" connotes changes which have focused on Japan and only to the extent that those changes affect China and the world at large is the term used in a generalized sense.

Japan's former Prime Minister Yoshida Shigeru presciently called for "far-reaching vision and the ability to assume our rightful role in the ever widening arena of international relations".¹ Yoshida was well ahead of his times for the Japanese long dragged their feet and maintained foreign policies euphamistically termed "dual diplomacy". In less

diplomatic language the Japanese became notable for their international timidity characterized by their evasive side-stepping and avoidance of hard decisions on vital issues.² The result of such policies was international benignity which permitted Japan's economic resurgence. This was, of course, in Japan's best short-run interests. However, it created difficulties for the political long-run. In the process of acquiring a benign reputation the Japanese sacrificed much of their former inner élan vital.³ It was not until Japan's burgeoning economy reached huge proportions that the Japanese again thought of themselves in political terms. By the late 1960s Japan's "new realists", led intellectually by Tokyo University Professor Nagai Yonosuke, sought to take advantage of both the Sino-Soviet split and the emergent detente between the United States and the Soviet Union in order to recover some of Japan's lost international political stature.⁴ Thus, as in the pre-Perry period, Japan was on its way toward change when events provided the extra nudge necessary to speed up the process.

By 1970 Japan's current (1974) Foreign Minister, Ōhira Masayoshi, was urging the Japanese to stop thinking of themselves as perennial "international outsiders" and start to think of themselves as "insiders" by involving themselves more thoroughly in international affairs.⁵ The transition

to the post-postwar period was underway. The watershed was reached during the years 1971-1972. During that interval the Japanese regained sovereignty over the Ryūkyū Islands and experienced the series of so-called "shocks" centered on U.S.-Japanese economic and diplomatic relations. The reversion of Okinawa had been forecast by former Prime Minister Satō Eisaku back in 1965 as the event which would signify the end of the postwar period for Japan.⁶ In reality, however, it was the "shocks" which forced the Japanese to recognize the watershed from postwar to post-postwar.⁷ The United States, as a result of domestic and South-East Asian unrest, had decided to reduce its military role in Asia and step back from its confrontation with the Chinese. The Japanese, although not the direct object of these policies, were caught up in the United States' retrenchment policies.⁸

The end result of these rapid changes in East Asian international relations was the abrupt and forced expansion of Japan's place in the East Asian sub-system. Although the Japanese had been tentatively planning some renewed activity, the speed with which their role was enlarged startled and upset them.⁹ The introduction of Japan's larger sub-systemic role¹⁰ had been unsettling also to the overall international system in which the triangular relationship between the United

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States, the Soviet Union, and China had been dominant. Prior to Japan's enforced larger role, the Japanese had generally been content to view prospective larger roles primarily in economic terms. They had particularly avoided serious consideration of a larger military role.* But, bearing in mind his restricted power-as-force usage of "power", the evaluation of Japan's present and future role by George Ball is instructive:

To avoid world catastrophe we must keep our eyes firmly fixed on the greatest source of danger - the problems and tensions of the major nations; and, outside the Soviet Union and the West, Japan is the only large modern industrial nation. That is why any serious discussion of power in Asia must concentrate heavily on Japan.

12

To the Japanese, with their economy fragilely dependent upon international "goodwill", the prospect of international military involvement is disquieting.

The Japanese are manifestly ill at ease in their newly expanded role. Their uneasiness is potentially harmful to the stability of both the sub-system and the overall international system. They constitute an unknown and unknown entities are inherently more dangerous than known entities. This is not to suggest that Japan's new-found prominence is the only unknown in East Asia. China contributes its

* Japan's security posture is expanded upon in the next section.

fair share of unknowns. China's domestic population-resource problems were covered above and they stand as principal eco-political danger zones for the future. More pertinent to present contemporary concerns, however, is China's crisis of leadership. The often asked question of "Who will follow Mao?" is the primary unknown emerging from China. This question will not be answered here or elsewhere, except by historians. Some indications of, if not who the successor might be, at least what his origins and base of support probably will be can be found in the close connection between the Chinese Communist Party and the People's Liberation Army (PLA).¹³ Mao, founder of the PLA, identifies with and almost romanticizes the hard austere life of the PLA troops. The majority of the PLA have rural roots and since the rural areas have been Mao's "grass roots" domain, they reinforce Mao's political hold on the PLA. These ties are very significant for the future.* As Benjamin Schwartz observed,

The emphasis on the individual's total self-abnegation and total immersion in the collectivity as ultimate goods; the frequent references to the model of military life with its nostalgic allusions to the heroic and idyllic guerilla bands of the past are particular characteristics of the Maoist projection of the future. (Mao has a) tendency to think of a well-indoctrinated army as providing a paradigm of Communist life.¹⁴

* The significance in terms of China's continued adherence to rurally based folk wisdom is also great. If China's leadership does come from this cadre, "conquest of nature" rhetoric seems destined to remain submerged.

The selection of Wang Hung-wen as Vice-Chairman of the CCP, with his technocratic labor background,¹⁵ is disturbing in this regard, but overall the control of China seems firmly in the hands of men from rural and PLA backgrounds. In these terms, China's place as an unknown is less pronounced than Japan's. China's succession problem remains open ended, but whoever it is, although he may make foreign policy changes, it does not seem likely that those changes would be of the basic type which would alter China's position on ecopolitical issues. Thus, in relative terms, China is an ecopolitical known, while Japan's international position combining a fragilely dependent economy with an inexperienced polity and questionable military constitutes an unknown which promises to loom much larger in both the sub-system and total system of the future.

We have seen in previous sections that Japan's economic fragility and dependence upon continued undisrupted free trade compels Japan to think in terms of internationalism. Its expanded posture in the East Asian sub-system reinforces that perceived need. How, then, do the Japanese see the world? In speaking of "the Japanese" we must differentiate between the leaders and the led. Japan's masses, as a result of their legacy of relative cultural isolation bequeathed by Japan's insular history, continue to this day to hold a quite

ethnocentric world-view.¹⁶ However, Japan's informed public and its leadership hold far more sophisticated views of Japan's place in the world.

There has been a great deal of discussion in recent years about how to fit Japan equitably into the dominant triangular relationship.¹⁷ The Japanese themselves were in a quandry about how to approach the issue. Although Japan's leaders were looking outward, their people were still looking inward.¹⁸ In addition, the Japanese were faced with a basic problem relating to their prospective larger role. That would-be role grew largely out of Japan's economic prowess. Yet, while the United States and other Western states seemed willing to grant greater international stature solely on the basis of Japan's economy, other states - notably the communist states - did not. As we have noted above,* the Soviet Union does not accept economic strength¹⁹ as a sufficient criterion upon which to claim power. Perhaps suspecting that their economic "feet of clay" could not forever remain concealed, the Japanese government's official statement on the international situation of the 1970s reflected a recognition of different qualities of power. As stated in their defense "white paper", the Japanese found that:

* Chapter III, Note # 22.

The world situation is moving in the direction of military bi-polarity, centering on the United States and the Soviet Union, and political multi-polarity keynoted by each nation's autonomy.

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Hence, the Japanese rationalize their position as one claimant to the fringe of power encircling the paramount wielders of the ultimate form of power - power-as-force.²¹

Were the Japanese economy not as fragilily dependent upon outside supports, the Japanese position among those on the multi-polaric fringes of power might be more secure. However, their future is too ecopolitically tenuous to warrant a sense of security. The Japanese with their fragile economic "strength" have not been well received by others who possess stronger claims to a place on the secondary ring of power.²² Japan's ecopolitically weak claim to the fringe of power presents dangers. The reasons for Japan's essential weakness are not well understood abroad or within Japan. Japan's economy appears strong and vibrant and in economic terms its appearance is accurate. However, in long-run terms, the terms used by both strategists and those utilizing the ecological perspective, Japan's economy and hence its claim to power is excessively vulnerable. The difficulty is that not many people view Japan in the latter terms and may not do so until and unless Japan begins to falter. In the intervening time, and at present, it is too easy for both Japanese

and non-Japanese to misunderstand the reasons behind any hesitancy to grant Japan the international stature it apparently deserves. As the only non-Western entry in a game of high economic stakes, the Japanese have been extremely sensitive to racial slights. Unless they fully comprehend the reasons for their less than total acceptance as a "power", there is serious danger that they might misconstrue their rejection as racially inspired. The added difficulty with this prospect is that there is unquestionably some validity to Japanese suspicions. Because of that modicum of truth it would be doubly difficult to disabuse the Japanese of such a notion.

Whether for reasons of ecopolitical ineligibility or for misconstrued rejection, the Japanese appear likely to be repeatedly rebuffed in their floundering quest for some degree of added international stature befitting their economic world-rank. Despite the fact that the Japanese were originally rather unenthusiastic about assuming a larger political role, they have been largely convinced that some such role is now their due. This too creates difficulties for, as many authorities on Japanese culture have observed, the Japanese sense of honor and the consequences likely to follow any violation of their honor are critical in dealing with the Japanese.²³ If the Japanese

are to be disappointed in their inflated expectations, it would be wise for all concerned to let them down gently.

((Reemergent Japan: Nationalism?))

The prospect of a Japanese state made vulnerable by physical shortages among its suppliers can conjure up some unpleasant scenarios. The ultimate disaster Japan may face is a prospect it shares in common with all other advanced societies. Catastrophic collapse of vulnerable societies was assessed above and need not be repeated, for Japan's probable experience would not differ greatly from that of other societies. However, on the assumption that mankind can ward off the most extreme consequences of excessive growth and depletion of a finite environment by means of social structures, what are the prospects for Japan? There are two basic alternatives open to man - cooperative measures and competition for survival. We will examine Japan in the latter context first.

In a grossly resource-scarce and competitive world, what might Japan's options be? On the one hand, the Japanese might accept collapse with resignation and withdraw within their islands, largely cut-off from the supplies they had considered vital, and devise social systems to compensate for the consequent lowered levels of living they would

confront. The costs in terms of human suffering would be stupendous. On the other hand, the Japanese might revert to the nationalistic tendencies they experienced in the pre-war period. The crucial difference in this context would be that the past resulted from politically induced pseudo-Malthusianism, while the future holds the real thing.

Renewed nationalism in Japan spurred on by authentic Malthusian pressures is not likely to be a carbon copy of its pre-war predecessor. As Japan's noted political scientist Maruyama Masao has pointed out, Japan is the only Asian nation to have experienced a full cycle of nationalism - from birth in adversity to death in defeat.²⁴ Their sense of déjà vu would presumably serve as an emotional warning that they were back on a path to disaster.²⁵ If by chance emotions did not suffice, it seems extremely unlikely that the Japanese people would choose to follow the very leaders of the conservative-business complex which led them into pre-war and postwar difficulties - albeit of different genres. That complex, in conjunction with the military,²⁶ formed the core of pre-war Japanese nationalism. In the postwar period it, without the military, has successfully led Japan in its recovery. Unfortunately, that recovery has exacerbated the future potentials for authentic Malthusianism. As Japan's national interest which is closely

identified with big-business becomes threatened, support for nationalistic movements can be expected from that sector.²⁷ However, it would seem most illogical for the Japanese to succumb to further entreaties from the same sector which had led them toward confrontation with a Malthusian dilemma.²⁸

The lessened appeals of Right-wing nationalism does not preclude nationalism. It merely strengthens the appeal of Leftist nationalism. Japanese nationalism has been correctly associated with the Japanese Right. However, Japan's nationalistic military of the early 1930s originally had a strongly anti-capitalist tinge. It was not until the faction manipulated by the Zaibatsu (the "Tosei Ha") outmaneuvered the semi-socialist faction (the "Kodo Ha") that the military and the nationalist movement as a whole swerved to the Right.²⁹ That element of the military-nationalist complex was effectively squashed by defeat in World War Two.

In the postwar period some of the most nationalistic voices emanating from Japan have been from the Left. Calls for an independent and autonomous stance in foreign policy, for a halt to Japan's subservient international posture, have come not from the Conservatives* but from the Left.³⁰

* The miniscule group of fanatical Right-wingers have, indeed, weakly echoed the Left, but they are too insignificant to count in the final tally.

Japan's Socialists and Communists have not heretofore been able to capitalize on the negative attributes of late-blooming industrializing societies. Much of the virtues of aiding the process of modernization were already the possession of the established revolutionaries of the Meiji period. The latter group had already laid claim to being revolutionary nationalist thereby usurping the title and denying Japan's Leftists a rallying point which enabled Left-wing nationalists to succeed elsewhere in Asia.³¹ However, in the postwar period the Left has been able to oust the Center and Right from their proprietary claims upon nationalism. Seen in the present ecopolitical context, Japanese Leftist nationalism has the potential, should resource scarcities become severe, to become dominant and to lead the way in both emulating the "Tachai" and "Juche" spirits and seeking more reliable resource sources among other Left-Nationalist states.

Central to this evaluation of the prospects for renewed Japanese nationalism is the status of the military in Japan. Because of Japan's legacy of militaristic nationalism and because of the integral relationships between the military and left of center nationalist states elsewhere in Asia, Japan's contemporary military forces must be added to the balance. This study is not the proper forum for a complete

examination of these forces. Instead, only those aspects of the Self-Defense Forces (SDF) that pertain to the prospects for renewed Japanese nationalism in harsh ecopolitical circumstances will be alluded to.³²

Japan's SDF have developed in a hostile social milieu.³³ Japan's postwar constitution precluded their existence via its now famous Article Nine.³⁴ However, by means of political³⁵ and judicial³⁵ reinterpretations the SDF have been permitted to grow.³⁷ Despite the fact that their host economy's even more rapid rate of growth has dwarfed their own pace and that in relation to Japan's monumental G.N.P. its defense expenditures rank it among the world's military pygmies,³⁸ Japan's defense budget is not insignificant.³⁹ Japan's leaders have not been particularly anxious to foster the development of large military forces due to domestic opposition to the forces, the economic unproductivity of military forces and the consequent drag effect on economic growth, and their potentially disruptive effect on Japan's international benignity.⁴⁰ The SDF have grown as large as they have primarily as a result of American pressures.⁴¹ At the most, the Japanese presently see their military role as a complement to that of the United States.⁴² One issue which had loomed large as a military question mark was that of Japan's nuclear future,⁴³ but that has been reduced by Japan's decision to ratify the nuclear non-proliferation treaty.⁴⁴

Where does Japan's military fit into Japan's foreign policy? Its present role is largely that of a tactical arm of U.S. strategic forces. More important, in the context of future Japanese policies in a Malthusian era and of nascent Japanese nationalism, is its place in Japan's prospective world role. The Japanese have stressed their commitment to internationalism via the United Nations.⁴⁵ The Japanese seek to enlarge their role in the United Nations to a level more commensurate with their alleged⁴⁶ economic status. In 1969 former Foreign Minister Aichi Kiichi proposed that the U.N. Charter be revised to permit Japan to take a seat on the Security Council.⁴⁶ In such a role Japan would be expected to contribute its forces to peace-keeping projects.⁴⁷ Considering the prohibition inherent in Japan's constitution and the probable reaction among U.N. members with long memories of Japan's past militarism, at present it seems probable that the addition of Japan might well either be neutral in its effect or further neuter the United Nations by merely adding a confirmed fence-sitter to the central council.

However, with regard to Japan's future policies, as we have seen in the previous discussion of Japan's ecopolitical alternatives, in Japan's case idealism is indeed a form of realism. Our present concern with Japan in a scenario of

* This caveat is included for reasons of ecopolitical vulnerability.

competition must be tempered by this seeming paradox. Japan's most promising form of competition seems likely to be some Leftist variation of nationalism which would permit the Japanese to confront both the ecopolitical crises of the future and the "third world" members of the United Nations as a brother state. Such an adroit combination of pragmatic nationalism and internationalism will not be easily achieved given the political and economic reality of Japan today. However, if the Japanese are to use the United Nations to further their national interests via an internationalist posture, changes in Japan's political character will be required.

The Japanese, in their present configuration of economic fragility and relative military weakness, seem likely to confront the ecopolitical crises of the future with the same type handicap Cordell Hull possessed in his dealings with the Axis powers:

They would look at me in the face but I soon discovered that they were looking over my shoulder at our Navy and Army and that our diplomatic strength goes up or down with their estimate of what that amounts to.

48

Unlike the United States in the 1930s, the Japanese of the last quarter of the twentieth century and beyond will not have room for maneuvering and regrouping. The Japanese

are so vulnerable that it will require consummate diplomatic skill for them to chart their way through the many obstacles toward the paradoxical goal of achieving nationalist goals via internationalist means. In this sense the Japanese propensity for seemingly fuzzy-thinking idealism, so often criticized particularly by Americans in the past,* would seem to be key to their future ecopolitical salvation. Thus it is fortunate both for Japan and the world at large that the critic who observed that in Japan "idealism is realism" was able to correctly say of the Japanese:

They see their country as a member of the world. Such problems as security, international politics, international trade, science and technology, culture, education, population, resources, energy and environmental pollution should be dealt with from the global view.

49

Their utopian approach to the world, although "unrealistic" in contemporary political terms and in these terms unlikely to ever be realized, may prove nevertheless, as Mushakōji Kinhide pointed out,⁵⁰ to be crucial to Japan's future need for closer ties to "third world" sources of materials as a kindred aspirant toward nationalistic ends through internationalist means.**

* Such criticism, including the writer's past efforts (i.e., M.A. thesis and other works), while justified from the point of view of the United States' interests in East Asia, assumes a different character - of shortsightedness - when viewed from a Japanese vantage point via the ecological perspective.

** In this sense the previous references to Leftist nationalism and Japanese emulation of the "Tachai" and "Juche" spirits gains importance.

((Sino-Russo-Japanese Relations; North-East Asian B.O.P.))

To conclude this assessment of contemporary issues of long-run ecopolitical significance, we shall turn to the locale where they are brought to a head - North-East Asia. This region is one of the least studied of the world's well defined zones.* This is both unfortunate and surprising since it is one of the most important regions, and potentially "the" most important region, of the world. If one includes the United States, and one must because of its intense involvement in the Pacific region, North-East Asia is the only area on earth where the four leading nations of the world come together.**⁵¹ North-East Asia constitutes an interface region where political cultures confront each other with the resulting gaps and abrasions which are to be expected when ill-fitting pieces of an overall puzzle cut by many hands are forced together.

The significance of the North-East Asian locale for this interface of political cultures is magnified by the physical setting it self. Recalling the Sprouts' caveat about retaining

* "North-East Asia" is composed of Japan, Korea, Mongolia, the Soviet Far East and Siberia, and China (principally those areas near the preceding countries, but by extension, all of China).

** This statement can be made since "Europe" is not yet a unit and individually its memberstates can no longer be realistically considered to be "leading".

sight of political and social goals when discussing the impact of the physical environment upon man's affairs,* the presence of four competing powers close to the site of Mackinder's "Heartland" is important. While Mackinder did not view his heartland in terms of resources and economic potential - i.e., in ecopolitical terms, the region is today of great potential import as an ecopolitical "heartland". This contention will be examined in this section.

Reverting momentarily to the Geopolitics of the past, with its intermingling of military and spatial concepts of power, we have many examples of imperial designs hinging⁵² upon the strategic location of Manchuria and Mongolia. Unreconstructed geopoliticians still perceive the area in this light,⁵³ but the realities of the nuclear age belie their logic. Despite the present-day fallacy of equating land area with military security, the prospect of Malthusian pressures and resource scarcities restores importance to territorial bases of power.

One result of this restoration is the possibility of China and the Soviet Union, if reunited, possessing the preconditions for tremendous ecopolitical power.⁵⁴ In view of the Sino-Soviet split such unity may seem remote,

* As noted above, Chapter VI, Note # 6.

but, as O. Edmund Clubb has observed, political prudence dictates that such a future development "must be anticipated".⁵⁵ The Soviet Union has given a great deal of attention to this prospect. Although a restructured China would undoubtedly please them, it is the Malthusian prospect of Chinese masses pouring across their border which strikes fear in the hearts of the Russians and intensifies the divisions between these former and potential partners.⁵⁶ Russian racial prejudices also enter this equation,⁵⁷ but genuine fears of Malthusian pressures on China seem to be paramount and have fostered, in large part, the Soviet Union's gradual demographic and industrial shift Eastward.⁵⁸

Thus, while the prospect of Sino-Soviet rapprochement cannot be ignored, neither can it be ranked as a very likely prospect. The divisions between these states are far more important facts of political life. A chronology of this dispute is beyond the scope of this study. More relevant are Chinese and Russian views of this situation as they effect the overall ecopolitical future of North-East Asia. We have seen that the Soviet Union views the Chinese in Malthusian pseudo-geopolitical terms. The Chinese do not give any indication of following the Russian example. As we have seen previously,* the Chinese deny and reject both Malthusianism and the old schools of geopolitics which they

* In Chapter VIII.

ascribe to both the West and to Soviet "revisionism". The Chinese have, in particular, accused the Soviet Union of adopting the sea-power theories of Alfred Thayer Mahan.⁵⁹

There would seem to be some evidence to support their contentions in view of the so-called "Breshnev Doctrine" and Russian advances by sea into South-East and South Asia.⁶⁰

While the Chinese decry the policies and attitudes of the Soviet Union, their reactive stances have often seemed to confirm Soviet suspicions. That is, while denying the validity of Malthusian pressures on China, the Chinese have rather steadily spread outward toward Soviet controlled areas. Both sides maintain that their dispersion is to counteract the other side, but each's actions serve merely to reinforce the other's fears. Barring some totally unexpected development - the type of development of which Clubb cautioned - the Sino-Soviet stalemate seems destined to be unflinching.

Unexpected reunification is a dim prospect, but other measures to tip the balance can be anticipated. Central to these measures is the role of Japan in North-East Asia. Japan has the potential to be a balancer on a sub-systemic level. North-East Asia is that sub-system. The Russians recognize that they are at a disadvantage competing with the Chinese in the Far East. Space in the nuclear age may

be less important in ultimate military terms. However, in terms of both military and economic logistics the Russians are at a ~~decided~~ ⁶¹ spatial disadvantage. To correct their situation the Soviet Union has decided to look to Japan. This notion is not a new one. The Soviet Union has long recognized Japan's role in East and North-East Asia as ⁶² crucial.

Soviet recognition of Japan's crucial role and their doing something about it have been quite different matters. After being rebuffed by American occupation authorities in Japan, the Soviet Union opted for a pragmatic second choice and signed a mutual security treaty with the new Chinese government in 1950 designating Japan as the hypothetical enemy. For years Japan's role as "enemy" was purely hypothetical and the United States' position in Japan's stead was tacitly recognized. However, as Japan's economy prospered and the SDF gradually grew, both China and Russia began to see Japan's military potential in a new, if somewhat inflated, light. ⁶³ Where this trend might have led is now a moot issue. Since the advent of the Nixon "shocks" and the emergence of the U.S.-Chinese and U.S.-U.S.S.R. detentes, both the Chinese and the Russians have reexamined their attitudes toward Japan. China and the Soviet Union have greatly softened their anti-Japanese rhetoric. They

each see in Japan the means to tip the scales in their favor. What is, perhaps, more significant, the Japanese seem to have accepted that proposition. The formerly closely knit ties ⁶⁴ between the United States and Japan have begun to unravel. Japan and its two giant neighbors are in the process of rearranging the pieces on the North-East Asian chessboard.

China's attraction for the Japanese is based on a mixture of racial and cultural ties, deeply felt self-recriminations for Japan's past wrongs against the Chinese people, and the appeal of China's millions as a potential market. This attraction is strong. Some authorities consider it to be decisive. ⁶⁵ It may be - in the short-run. However, in the long-run - and in dealing with the ecological perspective the long-run is necessarily foremost - the Chinese cannot compete with the Russians. The Chinese cannot offer the Japanese what the Russians can. In the best of all possible circumstances, the Chinese may be able to manage their own affairs under future Malthusian ecopolitical conditions. They will have a scant cushion of resources at best. It is most unlikely that the Chinese will be in a position to offer economic solace to resource-hungry Japanese. The Russians, on the other hand, have the potentials for offering the Japanese that which they will lack. Thus the likelihood is that the Soviet Union will be able to entice the Japanese closer to ⁶⁶ their end of the scale.

The Japanese are not strangers to the Soviet Far East. They have a long history of excursions into the area reaching back to the Russo-Japanese war, the 1917 post-revolutionary occupation, and the battles between Russian and Japanese troops which set the stage for World War Two. Neither the Russians nor the Japanese have forgotten their past hostilities. There is little love lost between them, but political and economic accomodation does not require love. Such accomodation is based on necessities. For the Russians, as we have seen, necessity requires assistance in holding back the Chinese pressures on their borders. The Russians have also sought to encourage American and European commitments to this area with the same purpose in mind, but, while some steps have been taken in that direction, neither are yet sufficiently anxious about their future resources to warrant their large scale entry into this tangle on the Soviet Union's side. In addition, neither Europe nor the United States are free of the spatial logistical handicaps which afflict the Soviet Union. Japan, on the other hand, is in increasing need of a wide variety of natural resources and is in very close proximity to the area. The latter circumstances explain the mutual attraction manifest between Japan and the Soviet Union.

Siberia and the Soviet Far East constitute one of the world's greatest storehouses of natural resources. ⁶⁷ More-

over, in ecopolitical terms, its importance is magnified because, while it is very lightly populated, it is on the edge of two of the world's potential Malthusian disaster zones - China and Japan.⁶⁸ This area constitutes an ecopolitical vacuum and the Soviet Union recognizes it.⁶⁹

The Russians have, in recognition of Japan's position,⁷⁰ actively solicited Japan's involvement in the area. As for the Japanese, their references to the area as their "virgin soil" was well represented by the statement of a negotiating team leader:⁷¹ "We have a destiny in Siberia".

The Soviet portion of North-East Asia may be Japan's "destiny", but achieving that destiny has not proved easy. Overall barriers to closer Russo-Japanese relations have primarily been the lack of a formal peace treaty and the related issue of Japan's "Northern Territories".⁷² On the assumption that these issues can be resolved without opening a Pandora's box of salient revisions in the Soviet Union's border areas, the Japanese and Russians still confront other obstacles. Following complex negotiations the two states devised the so-called "KS formula" (from the names of negotiators Kawai Ryōsei and I.F. Semichastnov) under which Soviet resources will be exchanged for Japanese loans and manufactured products.⁷³ Under these provisions some commercial advances have been made, notably in lumber, but a

great deal remains undone. Japan's strong interests in Irkutsk's oil, Sakhalin and Yakutia's natural gas, Khabarovsk and Amur's iron ore, and Udokan copper in Eastern Siberia's Chita Oblast remain untapped. ⁷⁴ They remain untapped for two sets of reasons. Firstly, the Japanese, despite their interest, were caught off guard by both the magnitude of the Soviet Union's proposals and of the physical difficulties inherent in extraction in such a harsh climatic zone. Neither were the Japanese fully prepared for the depth of the financial and economic involvement expected of them by the Soviet Union. The political consequences of such activities dawned slowly on the Japanese, but made a great impression upon them. The temptation was great, ⁷⁵ but so was the threat to their international benignity. Secondly, the Soviet Union, although still anxious to involve the Japanese, began to recognize that their Far Eastern resource deposits were "money in the bank" which would increase in value as scarcities pressured prices upward. ⁷⁶ Thus Japanese procrastination may have only served to heighten the value of the resources, the eventual costs to the Japanese, and the ultimate range of ecopolitical tensions in the North-East Asian region.

The slow but steady increase in Russo-Japanese contacts has not gone unnoticed by interested parties. Although

Japanese dependence upon Russian magnanimity in resource allocation would not be in the United States' best security or commercial interests, anything short of that would not be abhorrent. The United States has for years sought to foster greater Japanese independence and self-reliance culminating in the transition to post-postwar relations. If the Japanese, in cognizance of the idealism/realism paradox, decide to develop much closer relations with the Soviet Union, it seems unlikely that the United States would strenuously object. The Chinese are another matter. The Chinese have viewed Russian enticement of the Japanese as another example of the Soviet Union's policies of encircling China.⁷⁷ For a brief period the Japanese, in their pique with the U.S.-Chinese secretly arrived at rapprochement, gave the Chinese reason to worry.⁷⁸ However, both the Chinese and Japanese calmed down rapidly as evidenced by their conclusion of a treaty establishing diplomatic relations in 1973.

Thus the situation in North-East Asia in the political short-run seems likely to remain fairly static with Japan treading an uneasy course between its two giant neighbors; attempting to get the best from each without antagonizing either and without affecting too drastically its ties across the Pacific to the United States. As noted in earlier sections, Japan's course is replete with obstacles. Hence,

Japan constitutes the largest unknown effecting the long-run ecopolitical future of the region. China's attraction for Japan, although temporarily sufficient, cannot sustain their relationship in the long-run.⁷⁹ In time the Japanese seem likely to find the Soviet Union's offers of readily available resources irresistible. The crucial matter would seem to be timing. If this convergence of interests occurs rather soon with Japan in a configuration of seemingly great economic prosperity, then one must consider the effects Japan's apparent affluence might have upon the Russians and their slower paced economy.⁸⁰ If, on the other hand, the Japanese delay large scale cooperation with the Soviet Union until they are in dire straits vis-a-vis their resource base, then the Japanese are likely to look back upon the Arabs as "softies" and the 1970s as the "good old days". In any event, the prospect for increased Russo-Japanese contacts, although great, does not appear likely to be smooth.⁸¹ This in conjunction with the heightened tensions which can be expected with China as a result of closer Russo-Japanese ties does not augur well for tri-polar stability in North East Asia. Perhaps the best that can be hoped for in this region is what Alastair Buchan termed a "philosophy of multiple coexistence".⁸² Such an attitude in a realm of cultural interfaces would seem to be the only long-range means for coping

with, not solving, long-term ecopolitical problems. It presently seems nearly impossible to achieve, but if it can, indeed, be achieved, it would bridge the gap between different political cultures and their goals by permitting continued autonomy while also achieving some degree of prerequisite cooperation.*

* The similarity between a "philosophy of multiple coexistence" and Japan's probable future quest for nationalistic ends via internationalist means is not coincidental.

- CHAPTER XII

Conclusion

The future of the earth is in our hands.
How shall we decide?

Teilhard de Chardin
***** 1

Throughout this study many conclusions have been drawn. It would be both fruitless and repetitious to repeat them here again. Rather than do so, this concluding section will be used to examine some of the broader import of the ecological perspective, of the prospect for Malthusian ecopolitics, and of the role of an environmental ethic. Such topics, while incorporating East Asia, cannot be restricted to a single world region since they encompass the earth as an indivisible unit. Hence, this final section will not focus solely on East Asia.

In our evaluation of man-in-nature and science-technology concepts we noted the possibility that, rather than restrict our conceptions of man's historical experience on earth to either cyclical or linear notions, we might well profit from thinking of both history and evolutionary natural processes - which as Collingwood has observed are today conceived in terms analogous to the historical process² - as

being spiral-like in character. The advantage of the spiral form is that it recognizes advances, regression, and repetition; thus incorporating features of both the cyclic and linear notions. However, since natural processes are not infinite in spatial terms,* the spiral cannot be considered as an open-ended form. Just as the earth is an infinitely complex closed and finite system, so must man's historical experience on earth be considered an infinitely complex finite spiral. In this sense the spiral represents man's modification of the ecological "closed circle".

Critics of technological excesses are wont to stress the humanistic values and argue that the answer to the problems arising from these excesses cannot be found in technology or science but must come from man's ability to choose wisely. As Barry Commoner has stated,

Despite their origin in scientific knowledge and technological achievements (and failures), the issues created by the advance of science can only be resolved by moral judgement and political choice.

3

To those who maintain that the modern world is dominated by all-pervasive technological systems,⁴ these critics respond with accusations of determinism and maintain that human choice will remain paramount as long as man remains a poli-

* Temporal finity is another matter; one of which mankind cannot stand in judgement.

tical animal.⁵ As Victor Ferkiss observed, to admit technological determinism into political science would "make the study of politics a minor branch of something else".⁶ The writer, as is by now apparent, is not a defender of technological determinism. However, "determinism", if it is seen as the social scientist's code word for criticism of any "limits", must be more closely examined.

Can mankind truly exercise "free choice"?⁷ A true determinist would say absolutely "no" in all cases. Critics of determinism - a category encompassing virtually all social scientists - will answer in the affirmative. The writer finds himself in an intermediate position. Does the ecological approach commit one to a view of environmental determinism? The answer to that question must remain an evasive "yes and no". This is the possibilist's answer.⁸ The possibilist admits the capacity of mankind to alter the physical environment to suit our needs based upon political and social choices. However, the possibilist also maintains that in ultimate terms the earth's finity sets limits upon what man can achieve.⁹ As noted in an earlier section those limits must be seen as "flexible limits" - that is, limits which respond to man's pressures and goals, but limits nevertheless. The Sprouts argue with this version

of environmental possibilism. They say:

In the possibilist theory, the issue of choice is bypassed. In the possibilist hypothesis, environmental limitations on accomplishment are assumed to be discoverable.

10

The writer disagrees. The issue of choice does not have to be bypassed. Choice is very important. Humanistic values hold the key to man's management of mechanistic excesses. However, there are physical limits of a finite earth beyond which mere choice cannot achieve desired and inflexible aims. Contrary to the Sprouts, it is not assumed that such limits can be discovered, at least not before they are confronted. This is precisely the danger inherent in man's blind challenge of such limits. We will not fully comprehend the limits of the earth until it is too late.

11

To what degree is political power based on control over natural processes? The contention of this entire study is that the degree is far greater than most individuals are prepared to concede; that political power is effected not solely by man's operating within social systems, but also by limits imposed upon man's ability to choose freely and determine his future - limits derived from earth's finite condition. C.L. Lewis succinctly expressed the view of power and nature's relationship which underlies much of modern social science:

Man's power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument.

12

Inherent in this view is the unquestioned supremacy of man's choice. To allow any degree of environmental limits would negate this factor of choice and, hence, seemingly undermine the bases of the social sciences. The contention here is that this apparent undermining is more truly a reflection of academic failure to fully appreciate both the unity of the earth and the unity of knowledge. If we view politics and all other social activity as limited in its ultimate possibilities by the finity of the earth, this does not compel us to view any particular academic discipline as a "minor branch of something else". What it does do is to compel us to question and deny the possibility of what Ferkiss and many others refer to as an "autonomous discipline". No facet of learning is or can be autonomous. To understand the unity of the whole is essential and realizing the limits imposed upon both social and natural systems by finity can only help us in this aim.

Comprehension of the holistic character of the earth is essential if man is to survive upon the earth. To attain that comprehension will require knowledge of and appreciation for the earth as man's habitat. To that end, the ecological

perspective is vitally important. As Kenneth Boulding stated:

The ecological point of view... is perhaps the most fundamental thing we can teach anybody. it has to become the basis of our educational system.

13

With a great deal of effort the ecological perspective may serve to achieve the heretofore impossible unity of knowledge; the lack of which has proved such a hindrance to mankind's accepting the notion of finity.¹⁴ Such knowledge is a prerequisite to man's developing the wisdom to appreciate his place in natural systems. This task will be difficult, but not impossible for as Tuan Yi-fu has observed, "beneath the veneer of scientific sophistication, modern man still tends to think of nature in .. elemental categories..... The desire to bring nature and man's world into a coherent system is widespread."¹⁵ Not only is it "widespread" it is essential.

The contradictory relationship between man's need to devise social means for living in harmony with natural processes and the increasingly nature-destructive tendencies of many contemporary societies is seemingly irresolvable. It is in this sense that conservation has been characterized as "the art of the impossible".¹⁶ This apparent paraphrase

of the well-known description of politics as "the art of the possible" is very pertinent to mankind's ecopolitical problems. In dealing with a Malthusian ecopolitical future, politics - operating within the possibilist framework of the ecological perspective - is a way to achieve ones ends in an otherwise impossible situation. That is, if political man adjusts his social goals to conform with emergent ecopolitical realities, he may be able to successfully cope with Malthusian issues. For as Frank Lorimer stated, "The real question is, therefore, not 'What will happen?' but 'When, how, and under what conditions?'.¹⁷"

As political man looks to the future he is confronted with four basic alternatives. In essence these alternatives are: 1) do nothing, 2) protectionism-isolationism, 3) international cooperation, and 4) international condominium. Of these four, the first - the "do-nothing" or "muddling through" alternative may be quickly discarded. This alternative, implying a lack of overall direction and mixture of laissez faire disjointed approaches, is the very process which has brought the world to its present sad state. To continue to follow this path, whether by conscious choice or abject neglect, is a prescription for catastrophic confrontation with a Malthusian future.

Alternative number three - international cooperation - remains the choice of many people. If, as the Sprouts and others maintain, the people of the world can be sufficiently aroused by the ecological threat their activities pose to their earthly habitat to join together in a common quest for means to cope with the issues, then this alternative remains open. However, as has been frequently stated in the body of this study, the prospects for this alternative are depressingly bleak. The idealistic side of the writer continues to hope that this alternative may yet be realized, but as a pragmatist attuned to political reality it is recognized that the other two alternatives are far more likely.

Of the other two alternatives, number four - international condominium - is a more hard-nosed cousin of idealistic cooperation. The other, protectionism-isolationism, is the most self-centered of the alternatives. In a world of heightening Malthusian shortages, both of these alternatives raise the spectre of renewed Social Darwinism. The works of Herbert Spencer and W.G. Sumner are not read much any more. Yet in an era of growing international competition, notions of social supremacy and legitimately greater social needs are quite likely to re-emerge as rationales for resource-grasping policies.

The most extreme form of Social Darwinism is proffered by the second alternative - protectionism-isolationism. This alternative visualizes the "have" nations withdrawing behind their shell of wealth and looking after their own needs. Both super-powers are partial adherents to this policy. The Soviet Union, despite its internationalist rhetoric, is basically oriented toward economic autarky supporting a closed social system. With its vast reserves of resources and relatively small population, the Soviet Union is well positioned for adoption of this alternative. Until recently this was less true of the United States. Particularly since World War Two, foreign trade in raw and finished materials and assistance in economic development have made the United States an active participant in the world's economy. However, political reverses abroad, domestic problems, and concerns arising from the so-called energy "crisis" have led the United States to once again look inward. ¹⁸ The United States is in danger of following the protectionist-isolationist alternative. Garrett Hardin, in an editorial in Science (1971) entitled "The Survival of Nations and Civilizations" spoke for the neo-isolationist's view of future realism when he said:

Every day we (i.e., Americans) are a smaller minority. We are increasing at only one percent a year; the rest of the world increases twice as fast. By the year 2000, one person in twenty-four will be an American; in one

hundred years only one in forty-six.... If the world is one great commons, in which all food is shared equally, then we are lost. Those who breed faster will replace the rest... In the absence of breeding control a policy of 'one mouth one meal' ultimately produces one totally miserable world. In a less than perfect world, the allocation of rights based on territory must be defended if a ruinous breeding race is to be avoided. It is unlikely that civilization and dignity can survive everywhere; but better in a few places than in none. Fortunate minorities must act as the trustees of a civilization that is threatened by uninformed good intentions.

19

Such a view of the future may be unpleasant, but it most certainly is not unthinkable. This is international Social Darwinism carried to its logical conclusion. Critics may call it "barbarism",²⁰ but that does not reduce its possibility, for, as Harold Lasswell said, his garrison-state hypothesis²¹ seems more likely now than ever.

The protectionism-isolationism alternative is referred to above as a "danger" because, although it might well suffice for the few in the short-run, in the long-run it is a prescription for disaster. The ecopolitical problems of the world are not unlike cancers. The earth is an interdependent unit. It is unreasonable to expect cancerous growth to devour all but privileged enclaves. No, in time, the whole of the earth would succumb. To prevent this fate, alternative number four is suggested here as viable.

Zbigniew Brzezinski has observed that there are two basic orientations toward world politics today: "power realists" and "planetary humanists". He differentiates between these contemporary categories and the older classifications of "realists" and "idealists" by noting that power realists now accept the idea of interdependence and many planetary humanists now favor change to the extent of advocating violence if necessary to achieve change.²² This distinction is instructive, but one must ask why it is necessary? Is it not possible to merge these orientations? The contention here is that it is, indeed, possible - via the fourth alternative. As noted above, the idea of an international condominium is simply a harsher variant of the more appealing alternative of international cooperation. It merges concerns for stability and for man's future on earth. Richard Falk, one of the United States' leading authorities on and advocates of international cooperation - who is nevertheless pessimistic about prospects for a "central solution", has said:

Whether such a central solution comes about primarily by consent or coercion, or as the alternative to rather than as the aftermath of catastrophe are among the great unanswered questions of our time.

23

Coercion is a loaded word, but its use is perhaps unavoidable in connection with any suggestion of world condominium. We have had occasion previously to refer to the need for the

adoption of an ecological ethic. The adoption of such an ethic is closely related to restraints. As Aldo Leopold noted,

An ethic, ecologically, is a limitation on freedom of action in the struggle for existence. An ethic, philosophically, is a differentiation of social from anti-social conduct. These are two definition of one thing.

24

Implicit here is the view that mankind will have to surrender some of what it has considered its "rights" in payment of past-due ecological debts. That is, as Harrison Brown observed, the costs will be high:

When we examine all of the foreseeable difficulties which threaten the survival of industrial civilization, it is difficult to see how the achievement of stability and the maintenance of individual liberty can be made compatible.

25

The costs would be high under cooperative measures also. The difference in the alternative of condominium is that it would be imposed upon the world at large by a consortium of dominant powers. Relatively free political choice would be available only to the leadership of such powers. Others would, at best, have a supporting role. The disadvantages in terms of loss of freedoms and imposition of harsh restrictions of this alternative are only too obvious. Detractors of this alternative are plentiful. ²⁶ However, if thought of in terms of a commonly conceived of concept of powers -

that is, initially cooperative and voluntary* - it is a pragmatic approach to the creation of an international system capable of achieving and maintaining an enforceable - if harsh - means of coping with a Malthusian future.²⁷

It is the writer's contention that such a condominium of powers may well provide mankind with the means for its survival on earth. However, whether it or another alternative is eventually followed, the most important thing is that man find some means of dealing with the future. In the past nations could, if "forced" by perceived circumstances, expand militarily and seek solace at the expense of their erstwhile neighbors. However, in the nuclear age these avenues are effectively closed to all but the most insignificant states. Moreover, such states with their more "sponge-like" characteristics are not likely to be the ones which will most severely confront future dilemmas. The nations that are large and technologically sophisticated enough to be vulnerable will not, in the future, be able to follow paths formerly available to them in times of crisis. As noted at the outset of this study, one of its purposes was less to provide final answers than to delineate the questions

* One might consider it initially as world "con-federalism" rather than the world "federalism" implied by internationally cooperative schemes leading to world government.

which need to be answered. Many such questions have been, I trust, raised in the course of this study. Of these questions, none ranks higher in importance than that which asks how political man can in the nuclear age successfully cope with the emergence of a Malthusian future brought about by the destructive momentum of his own social system?

The question is crucial to mankind's and its earthly habitat's future existence. No pat answer is provided here nor is one on the horizon. In all likelihood, there will be no single answer to this momentous question. The answer seems more likely to evolve incrementally out of mankind's reaction to the question. In that sense, if this study has aided in the clearer comprehension of the magnitude of emergent problems - particularly with reference to East Asia, then it will have accomplished its task. The future response of mankind to this complex of issues cannot be predicted. In the course of this study the writer's pessimism about man's ability to effect the needed changes was consciously presented. However, in closing, a quote by one of the United States' foremost naturalists, biologist Marston Bates, is offered as reflective of the writer's hopes, despite his pessimism:

In defying nature, in destroying nature, in building
an arrogantly selfish, man-centered artificial world,
I do not see how man can gain peace or freedom or joy.
I have faith in man's future, faith in the possibilities
latent in the human experiment, but it is faith in man
as a part of nature - faith in man sharing life, not
destroying it.

28

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Chapter I.

¹ Norman D. Palmer, "International Relations Research: As Assessment of Progress and Relevance" in Norman D. Palmer (ed.) Monograph 10, American Academy of Political and Social Science, 1970, p. 290.

² Gloria J. Studdard (compiler), Common Environmental Terms: A Glossary (Washington, D.C., 1973).

³ E.J. Mishan, Technology & Growth, The Price We Pay (New York, 1970), p. 132.

⁴ S.H. Nasr also addresses himself to this issue, see: Seyyed Hossein Nasr, The Encounter of Man and Nature (London, 1968), p. 17.

⁵ Resources and Man (San Francisco, 1969), p. 16.

⁶ Barry Commoner, The Closing Circle (New York, 1972), pp. 250-251.

⁷ Clarence J. Glacken, Traces on the Rhodian Shore (Berkeley, 1967), p. xii.

-----, "Man's Place in Nature in Recent Western Thought" in Michael Hamilton (ed.), This Little Planet (New York, 1970), p. 188.

Kenneth A. Dahlberg, "The Technological Ethic and the Spirit of International Relations" in International Studies Quarterly, March 1973, p. 83.

⁸ A related need which this study also attempts to address is the need to integrate Asian and particularly Japanese affairs into the context of wider international theorizing. Zbigniew Brzezinski discusses this need in "Japan's Global Engagement" in Foreign Affairs, Jan. 1972, p. 270.

⁹ Inis L. Claude, Jr., Power and International Relations (New York, 1962), p. vii.

¹⁰ Ellen Churchill Semple, Influences of Geographic Environment (New York, 1911), p. 2.

¹¹ See also Mishan's comments on narrowly focuses inquiries. Mishan, op. cit., p. xiv.

- 12 quoted in: Dean Acheson, Present at the Creation (New York, 1969), p. 374.
- 13 Dahlberg, op. cit., p. 72.
- 14 Scott Greer, "Sociology and Political Science" in Seymour M. Lipset (ed.), Politics and the Social Sciences (New York, 1969), p. 53.
- 15 Commoner, op. cit., p. 189.
- 16 Dahlberg, op. cit., p. 69.
- 17 Harold and Margaret Sprout, "The Ecological Viewpoint - and Others" in Cyril E. Black and Richard A. Falk (eds.), The Future of the International Legal Order, Vol. IV: The Structure of the International Environment (Princeton, 1972), p. 575.
- 18 For a well-rounded survey of the principal issues involved in the dispute over varying methodologies, see: Patrick M. Morgan, Theories and Approaches to International Politics (San Ramon, 1972), pp. 25-45.
- 19 Cited in: William Buchanan, Understanding Political Variables (New York, 1969), p. 43; among many.
- 20 See, for example: Ritchie Calder, How Long Have We Got? (Montreal, 1972), p. 38; "The man of science strives to attain the perfection of reducing everything to precise measurements. ... Exact science is quantitative and not qualitative."
- 21 Meadows, et. al., The Limits To Growth (New York, 1972), p. 188.
- 22 Ibid., p. 192.
- 23 As Tuan Yi-fu notes in: Man and Nature (Washington, 1971), p. 28; "The fundamental problem with ecology as a science is that it takes in too much; yet it cannot retreat into a more segmented world view because it arose, in part, as a criticism against segmentation."
- 24 Geographers understand the dilemma, but take pride in their discipline's encompassing academic role. See for example: Jan O.M. Broek and John W. Webb, A Geography of Mankind (New York, 1968), pp. 17-18.

25

Commoner, op. cit., p. 21.

26

Aldo Leopold, A Sand County Almanac (New York, 1970), p. 18.

27

As C.V. Wedgwood said of history: "we know the end before we consider the beginning, and we can never wholly recapture what it was to know the beginning only." Quoted in Acheson, op. cit., p. 725.

28

Lin Yutang, The Wisdom of Lao-tse (New York, 1948), pp. 244-245.

29

"Die Politik ist keine exakte Wissenschaft", Speech, Prussian Chamber, 12/18/1863. It is interesting to compare this view with Swift's view that "conservation ... is more of an art than a science". Ernest Swift, By Which We Live (Washington, 1957), p. 2.

30

Alfred Cobban, "The Decline of Political Theory" in Political Science Quarterly, Vol. 48, 1953, p. 335; quoted in Christian Bay, "Politics and Pseudopolitics: A Critical Evaluation of Some Behavioral Literature" in APSR, March 1965, p. 39.

31

Of depoliticized politics, see: Stanislav Andresky, Social Science as Sorcery (London, 1972), p. 125: "It is possible that the common devotion to quantification may be due not only to purism but also to the desire to have an excuse for sweeping dangerous or unpleasant issues under the carpet."

32

Hans J. Morgenthau, "International Relations: Quantitative and Qualitative Approaches" attached as Appendix "A".

33

Abraham Kaplan, The Conduct of Inquiry (Scranton, 1964), p. 172.

34

Mishan, op. cit., p. xvii. See also Andreski, op. cit., p. 120: "The gravest kind of danger stems from the illusion that, because certain kinds of data can be quantified and processed by a computer, therefore they must be more important than those which cannot be measured." And, by extension, one would do well to heed Calder's, op. cit., pp. 48-49, remarks: "We are becoming the hostage of the computer. Anyone who thinks that the computer is merely a switched-on abacus or a glorified cash register had better call in a bio-engineer and have his own brain circuitry examined."

35

One famous one, source unknown, asserts: "If a man is standing with one foot in a bucket of ice and the other foot in a fire, you can say - at least statistically - that on the average the man is very comfortable."

36

Kaplan, op. cit., p. 257.

37

Andreski, op. cit., p. 136. Echoing Andreski are Kaplan, op. cit., p. 49; "Behavioral science has suffered often from the illusion that a commonplace formulated in an uncommon notation becomes profound - rich with scientific promise." and a TIME reader wrote, 10/16/72, p. 6: "Science, unfortunately, becomes equated with obscurantism, empiricism equated with quantification - with the result that the more cryptic a person is, the more scientific he appears to be."

Andreski illustrates the problem with the following: "Lévi-Strauss puts the conventional sign for 'to minus one power' where the word 'opposition' or 'contrast' is appropriate. For instance, since many cosmologies treat fire and water as opposites, he writes 'fire=water(-1)'-- a strange and meaningless scribble which is neither an equation nor a sentence. When in a myth an ant-eater figures as the opponent of a jaguar, Levi-Strauss 'analyses' this by writing 'Jaguar=ant-eater(-1)'. If we took the sign (-1) at its face value we would come to the phantasmagoric conclusion that a jaguar equals one dived by an ant-eater.", op. cit., p. 131.

38

The Sprouts argue against undue reification; Harold and Margaret Sprout, Toward a Politics of the Planet Earth (New York, 1971), p. 93. Andreski attributes much of his cited criticism to "simple minded reification", op. cit., p. 130.

39

Kaplan, op. cit., pp. 206-209. As Zbigniew Brzezinski points out in Between Two Ages (New York, 1970), p. 108, the revolt against quantitative mechanization may be traced to the nineteenth century Luddite movement in England.

40

For a discussion of the post-behavioralist movement see: David Easton, "The New Revolution in Political Science" in AFSR, December 1969, p. 1051.

41

Baker, et. al., "A Note on Behaviorists and Post-Behaviorists in Contemporary Political Science", PS, Summer 1972, p. 272. For a critical evaluation of the inadequacies of behaviorism, see Andreski, op. cit., pp. 110-115

42

Calder, op. cit., p. 84.

43 Even technocratic "hard" scientists reach this conclusion, see S. Dillon Ripley and Helmut K. Buechner, "Ecosystem Science as a Point of Synthesis" in Daedalus Vol. 96, No. 4, 1967, p. 1192.

44 James Thurber, The Thurber Carnival (New York, 1945), p. 249. One might also consider the implications of Chuang tzu on the value of listening and asking questions:

"He who knows does not speak;
He who speaks does not know."
in Lin, op. cit., p. 257.

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Chapter II

¹ Sidney Verba, "Comparative Political Culture" in Lucien W. Pye and Sidney Verba (eds.) Political Culture and Political Development (Princeton, 1965), p. 514.

² Lucien W. Pye, "Political Culture" in International Encyclopedia of the Social Sciences (New York, 1968), p. 218.

³ Verba, op. cit., p. 513.

⁴ Lucien W. Pye, "Political Culture and Political Development" in Pye and Verba, op. cit., p. 9.

⁵ Ibid., p. 7. In this regard, Verba, op. cit., pp. 550-551, points out that one of the two basic ways in which political cultures develop is "the contribution of non-political experiences. The other is experience within the political process."

⁶ Henri Baudet, Paradise on Earth, Some Thoughts on European Images of Non-European Man (New Haven, 1965), p. 75.

⁷ Lucien W. Pye, "Culture and Political Science: Problems in the Evaluation of the Concept of Political Culture" in Louis Schneider and Charles M. Bonjean (eds.), The Idea of Culture in the Social Sciences (Cambridge, 1973), pp. 65-76.

⁸ Clarence Glacken, Traces on the Rhodian Shore (Berkeley, 1967), p. viii.

⁹ For Verba's discussion of the central role of these aspects of general culture to political culture, see: Verba, op. cit., pp. 521-522.

¹⁰ Alfred L. Kroeber, "Relations of Environment and Cultural Factors" in Andrew P. Vayda (ed.) Environment and Cultural Behavior (Garden City, 1969), p. 350.

¹¹ See: Richard and Patty Watson, Man and Nature (New York, 1969), p. 17 and Philip L. Wagner, The Human Use of the Earth (Glencoe, 1960), pp. 34-35.

¹² Okakura Kakuzō, The Book of Tea (New York, 1964), p. 3.

¹³ For discussion of this need, see: Adda Bozeman, Politics and Culture in International History (Princeton, 1960), pp. 133 and 389.

14

Pye, op. cit., pp. 3-4 and Pye, op. cit., p. 221

15

For an evaluation of this trend, see: Zbigniew Brzezinski, Between Two Ages (New York, 1970), p. 56.

16

Political culture in East Asia has been most recently approached by the following two studies: Richard H. Solomon, Mac's Revolution and the Chinese Political Culture (Berkeley, 1971) and Bradley M. Richardson, The Political Culture of Japan (Berkeley, 1973). Both of these studies succumb to reductionism and miss much of the essence of political culture as a focus for synthesis. For an excellent critical review of the Solomon work, see: Thomas A. Metzger, "On Chinese Political Culture" in The Journal of Asian Studies November 1972, pp. 101-105.

17

Chinese ethnocentrism is succinctly discussed by Evan Luard, "Chinese Attitudes To The West" in Raghaven Iyer (ed.), The Glass Curtain Between Asia and Europe (London, 1965), pp. 102-103. Japanese ethnocentrism is covered by Richard Storry, "Japanese Attitudes To The West" in Iyer, op. cit., pp. 120-133.

18

For the Sprouts' evaluation of this prospect, see: Harold and Margaret Sprout, Toward A Politics of The Planet Earth (New York, 1971), p. 36.

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Chapter III

¹
For insightful comments on the ellusiveness of power, see: George W. Ball, The Discipline of Power (Boston, 1968), p. 15.

²
For notable examples of such attempts, see: Robert A. Dahl, "The Concept of Power" in Behavioral Science, July 1957, pp. 201-215.
K.J. Holsti, "The Concept of Power in the Study of International Relations" in Robert L. Pfaltzgraff (ed.), Politics and the International System (Philadelphia, 1972), pp. 181-195.

Harold D. Lasswell and Abraham Kaplan, Power and Society (New Haven, 1950).

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Hans J. Morgenthau, Politics Among Nations (New York, 1967), pp. 25-26.

⁴
Ibid., pp. 4-8.

⁵
Inis L. Claude, Jr., Power and International Relations (New York, 1962), p. 6.

⁶
Anatol Rapoport in introduction to: Carl Van Clausewitz, On War (Baltimore, 1968), p. 60.

⁷
For evaluations of this transition see: Urs Schwarz, American Strategy: A New Perspective (Garden City, 1967), p. 46; and Henry A Kissinger in preface to Ibid., pp. xii-xiii.

⁸
Clausewitz, op. cit., p. 119.

⁹
B.H. Liddell Hart, Strategy (New York, 1967), pp. 16-17.

¹⁰
Walter Millis, "Permanent Peace" in Millis, et.al., A World Without War (New York, 1961), pp. 116-121.

¹¹
Claude, op. cit., p. 8.

¹²
Stanley Hoffmann, "Weighing the Balance of Power" in Foreign Affairs, July 1972, p. 625.

¹³
Anatol Rapoport also finds it to be a "mistake" but for different reasons: "the conclusion is inescapable that the political philosophy of war is bankrupt. ... the idea

that the struggle for power is the prime mover of politics persists in an age when the renunciation of the struggle has become a prerequisite of survival." in Rapoport's comments in Clausewitz, op. cit., p. 414. Rapoport expands that assessment in The Big Two (New York, 1971), pp. 24-42. See also; Frank Church, "The Global Crunch" in Morton A. Kaplan (ed.), Great Issues in International Politics (Chicago, 1970), p. 251. The writer's disagreement with the above positions stems primarily from their equation of "power" with power-as-force.

14

Adolph A. Berle, Power (New York, 1969), pp. 412-413.

15

In this regard, Berle states: "I suspect - I am not able to prove - that another element enters the scene whenever the three elements of power - men, an idea system, and an organization - have coalesced and created a power organism. That element may be called, vaguely, 'culture' - the body of habits, of unconscious assumption of thought and manner of expression, that power holders and the community affected by them alike have accumulated from environment and heredity. ...contemporary culture enters the structure and, modified and modifying, determines power's ultimate form and product." in Ibid., pp. 57-58.

16

For further discussion of this contention, see: Kenneth A. Dahlberg, "The Technological Ethic and the Spirit of International Relations" in International Studies Quarterly, March 1973, p. 70.

17

Nakane Chie, Human Relations in Japan (Tokyo, 1972), pp. 1-2.

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19

Guerilla wars in China far outdate Chinese versions of Clausewitzian thought; they stem from SunTzu's notions on warfare. See: Samuel B. Griffith, Sun Tzu, The Art of War (Oxford, 1963), p. 45.

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For an example of this adoption, see: Maruyama Maso, Thought and Behavior In Modern Japanese Politics (London, 1969), pp. 268-289.

21

Richard Harris, America And East Asia: A New Thirty Years War? (New York, 1968), p. 16.

22 For a discussion of the Soviet Union's reluctance, see: Elizabeth Pond, "Japan and Russia: The View From Tokyo" in Foreign Affairs, Oct. 1973, p. 143.

23 Mao Tse-tung, Selected Military Writings (Peking, 1966), p. 274.

24 Harold and Margaret Sprout, "Environmental Factors in the Study of International Politics" in James N. Rosenau (ed.), International Politics and Foreign Policy (New York, 1969), p. 54.

25 Caryl P. Haskins, The Scientific Revolution and World Politics (New York, 1964), p. 9.

26 Victor C. Ferkiss, "Man's Tools and Man's Choices: The Confrontation of Technology and Political Science" in APSR, Sept. 1973, p. 973.

27 Alastair Buchan, "A World Restored?" in Foreign Affairs, July 1972, pp. 648-649.

28 Berle, op. cit., p. 37.

29 Erich W. Zimmerman, World Resources & Industries (New York, 1951), p. 8.

30 For the role of culture in the use of natural resources see: Marston Bates, Man in Nature (Englewood Cliffs, 1964), p. 98; and virtually any of the classic works by Carl Sauer.

31 Alexander Spoehrer, "Cultural Differences in the Interpretation of Natural Resources" in W.L. Thomas, Jr., (ed.) Man's Role in Changing the Face of the Earth (Chicago, 1956), p. 96.

32 Ibid., pp. 93-97.

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Chapter IV:

¹ E. De Selincourt (ed.), Wordsworth's Poetical Works (Oxford, 1949), Vol. IV, p. 57.

² Barry Commoner, The Closing Circle (New York, 1972), p. 16.

³ For expanded explanations of the concepts of ecosphere and ecosystem, see: Eugene F. Odum, Ecology, (New York, 1963); and John H. Storer, The Web of Life (New York, 1967).

⁴ For an excellent description of an ecological cycle in process, better than an academic text, see: Louis Bromfield, Malabar Farm (New York, 1970), chapter three: "The Cycle of a Farm Pond", pp. 73-100.

⁵ Commoner, op. cit., pp. 33-46.

⁶ Ibid.

⁷ Marston Bates, Man in Nature (Englewood Cliffs, 1964), p. 48.

⁸ Tuan Yi-fu, Man and Nature (Washington, 1971), p. 42.

⁹ Henry David Thoreau, Walden (New York, 1960), p. 66.

¹⁰ For the reader who may be interested in pursuing this topic, refer to:

Paul Shepard and Daniel McKinley (eds.), The Subversive Science: Essays Toward An Ecology Of Man (Boston, 1969).

The Institute of Technology, Man in the Living Environment (Madison, 1972).

Paul B. Sears, "The Process of Environmental Change by Man" in W.L. Thomas, Jr., (ed.), Man's Role in Changing the Face of the Earth (Chicago, 1956).

Jack B. Bresler, Human Ecology: Collected Readings (Reading, 1966).

Arthur S. Bougey, Man and the Environment: An Introduction to Human Ecology and Evolution (New York, 1971).

For examples of man's land-ties at a primitive level, see:

Konrad Lorenz, On Aggression (New York, 1966).

Robert Ardrey, The Territorial Imperative (New York, 1966).

- 11 Quoted in: Harvey Arden, "John Muir's Wild America" in National Geographic, April 1973, p. 452.
- 12 Commoner, op. cit., p. 12.
- 13 For a view of how little we know, see: David A. Kay and Eugene B. Skolnikoff, "International Institutions and the Environmental Crisis: A Look Ahead" in International Organization, Winter 1972, p. 471.
- 14 Lynn White, Jr., "The Historical Roots of Our Ecological Crisis" in Science, March 10, 1967, p. 1205.
- 15 Ernest Swift, By Which We Live (Washington, 1957), p. 37. See also: S. Dillon Ripley and Helmut K. Buechner, "Ecosystem Science as a Point of Synthesis" in Daedalus, Vol. 96, No. 4, 1967, p. 1196.
- 16 George Gordon Byron, "Childe Harold's Pilgrimage", Vol. II in The Works of Lord Byron (Boston, 1900), p. clxxviii.
- 17 Julian Huxley, "Man's Place and Role in Nature" in Lewis G. Leary (ed.), The Unity of Knowledge (Garden City, 1955), pp. 79-97.
- 18 Clarence Glacken, Traces on the Rhodian Shore (Berkeley, 1967), pp. vii-viii and 713.
- 19 For those readers interested in combining nature and human nature, see:
Henry J. Koren, Readings in the Philosophy of Nature (Westminster, 1958).
Francis J. Collingwood, Philosophy of Nature (Englewood Cliffs, 1961).
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Max Scheler, Man's Place in Nature (Boston, 1961).
- 20 The New English Bible (Oxford, 1970), p. 2.
- 21 Ibid., p. 9.
- 22 White, op. cit., p. 1205
- 23 Aldo Leopold, A Sand County Almanac (New York, 1970), p. xviii.
- 24 Tuan, op. cit., p. 25.

25

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George H. Williams, Wilderness and Paradise in Christian Thought (New York, 1962), pp. 136-137.

John Black, The Dominion of Man: The Search for Ecological Responsibility (Edinburgh, 1970), pp. 21-22.

Henry J. Carpenter, Peace through Co-operation (New York, 1944), p. 109.

Sterling Brubaker, To Live on Earth (Baltimore, 1972), p. 162.

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Ernest S. Feenstra, "Christian Impact on Ecology" in Science, May 12, 1967, p. 737.

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Seyyed Hossein Nasr, The Encounter of Man and Nature (London, 1968), p. 18.

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R.G. Collingwood, The Idea of Nature (New York, 1945), pp. 4-8.

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Ibid., pp. 5 and 8.

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Glacken, Traces, op. cit., pp. 707-708.

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Leopold, op. cit., p. 190.

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George Perkins Marsh, Man and Nature (Cambridge, 1965), p. 36.

35

Marsh said: "wherever he fails to make himself her master, he can but be her slave", Ibid., p. 34; see also pp. xxv and 36-37.

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J. Bronowski, Science and Human Values (New York, 1965), p. 10.

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Tuan, op. cit., p. 46.

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Unfortunately, not all of us fall into this category, witness the following evaluation of contemporary American desires by the developer of a hi-rise twenty storey "camp-ground" in New Orleans: "People don't want the woodsy bit now; they want to camp in comfort near the city." Noted in the Reader's Digest, April 1973, p. 112.

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Harrison Brown, The Challenge of Man's Future (New York, 1954), pp. 257-258.

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42

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Pearl S. Buck, The Good Earth (New York, 1931).

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V.S. Pan, "New Appraisal of the Chinese Cultural Heritage" in Free China Review, May 1973, p. 27.

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Edward H. Schafer, "The Conservation of nature under the T'ang Dynasty" in Journal of the Economic and Social History of the Orient, Vol 5, 1962, pp. 292-293.

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Eugene Eoyang, "The Solitary Boat: Images of Self
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Lin Yutang, op. cit., p. 310. See also Lin Mou-
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James Legge, The Chinese Classics, Volume II, The
Works of Mencius (Shanghai, 1935), Book VI, Kao Tsze,
Part I, Chap. VI, p. 407.
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John K. Fairbank, The United States & China
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Lin Mou-shen, op. cit., p. 36.
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Derk Bodde, China's Cultural Tradition (New York,
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Joseph Needham, The Grand Titration (Toronto, 1969),
p. 210.
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Tsunoda, et. al., Sources of Japanese Tradition
(New York, 1964), p. 100.
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Needham, Great Titration, op. cit., pp. 214-215.
See also: Nakayama Shigeru and Nathan Sivin (eds.), Chinese
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As told to Joseph Needham. Cited in Bodde, op. cit.,
pp. 39-40.

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Nasr, op. cit., p. 87.

68

Chiang Monlin, Tides from the West: A Chinese Autobiography (New Haven, 1947), p. 252; quoted in Bodde, op. cit., p. 39.

69

Needham, Human Laws, op. cit., p. 194.

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Ibid., p. 230.

71

DeBary, et.al., Sources of Chinese Tradition (New York, 1964), Vol. II, p. 174.

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Ibid., p. 280. See also: Lin Yutang, op. cit., p. 4.

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DeBary, op. cit., pp. 178-181.

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For a discussion of Confucius' scepticism vis-a-vis God which some claim place the Confucians closer to modern science than the Taoists, see H.G. Creel, Chinese Thought From Confucius To Mao Tse-tung (New York, 1953), p. 38.

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Sun Yat-sen, San Min Chü I, The Three Principle of The People (Shanghai, 1927), p. 161.

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For an examination of this transfer, see: Rhoads Murphey, "Man and Nature in China" in Modern Asian Studies, Vol. 1, No. 4, 1967, pp. 313-314.

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Deirdre and Neale Hunter, WE THE CHINESE: Voices from China (New York, 1971), p. 239.

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Frederick Wakeman, Jr., History and Will, Philosophical Perspectives of Mao Tse-tung's Thought (Berkeley, 1973), p. 199; Wakeman raises the fine point that the Chinese seek to fight "with and not against nature", p. 47, but this does not seem of great consequence to the writer.

79

Chang Wei-wen, "Raider of Sprouts" in The Seeds and Other Stories (Peking, 1972), p. 49.

80

A. Doak Barnett, Communist China in Perspective (New York, 1962), p. 32.

81

For recent examples, consult:
 "Mao Tse-tung Thought Guides Us In Conquering Nature" in Peking Review, 11/21/69, pp. 5-8.
 "A Canal Halfway Up the Mountains" in China Pictorial January 1973, pp. 1-7.

"China's Deserts" in China Pictorial, December 1972, pp. 46-47.

"A New Oasis in the Desert" in China Pictorial, February 1973, pp. 26-29.

"Tunhuang Defeats The Sand" in China Reconstructs, January 1973, pp. 19-21.

"How Nature is Being Changed" in China Reconstructs, April 1972, pp. 22-25.

"Green Grows the Desert" in China Reconstructs, October 1973, pp. 14-18.

And for a selection of earlier reprints from the first five years of China Reconstructs editions dealing with man's conquest of nature in the P.R.C., see: Writers for China Reconstructs, China in Transition (Peking, 1957).

82

Hunter, op. cit., p. 231.

83

Sakamaki Shunzō, "Shintō, Japanese Ethnocentrism" in Charles A. Moore (ed.), The Japanese Mind, Essentials of Japanese Philosophy and Culture (Honolulu, 1967), p. 24.

84

George B. Sansom, Japan, A Short Cultural History (New York, 1962), p. 25.

85

Ibid., p. 47.

86

Muraoka Tsunetsugu, Studies in Shinto Thought (東京東京, 1964), pp. 29-46.

87

Tsunoda, op. cit., Vol. I, pp. 460 and 480-488.

88

Ibid., Vol. II, p. 75.

89

Ibid., Vol. II, p. 100; rendered: "Toyō no dōtoku, Seiyō no gakugei". Storry, op. cit., p. 128, renders the latter portion "Seiyō geijutsu".

90

George B. Sansom, The Western World and Japan (New York, 1950), p. 381.

91

Anesaki Masaharu, Art, Life, and Nature in Japan (Westport, 1971), p. 6.

92

Tsunoda, op. cit., Vol. II, p. 364. for an assessment of Japanese intuitive insights into nature by Nishida Kitarō.

93

Akutagawa Ryūnosuke, Kappa (Tokyo, 1949), p. 104.

94

For examples of these repositories of Japan's living

traditional ways of life, see: William Graves, "Human Treasures of Japan" in National Geographic, Sept. 1972, pp. 370-379.

95

Asahi Shimbun Correspondents (comp.), 28 Years in the Guam Jungle (Tokyo, 1972), pp. 10-11.

96

For examples of Japanese books which look at nature and find beauty, see: Hamaya Hiroshi, Nihon Rettō ("Landscapes in Japan") (Tokyo, 1964) and Yoshida Toshio, Nihon no shizen (Japan's Nature) (Tokyo, 1968).

97

Problems of the Human Environment in Japan (Tokyo, 1971), p. 17.

98

Quoted in Donald Keene (ed.), Modern Japanese Literature (New York, 1956), p. 379.

99

Henri Baudet, Paradise on Earth. Some Thoughts on European Images on Non-European Man (New Haven, 1965), pp. 43-44.

See also: Lewis A. Maverick, China a Model for Europe (San Antonio, 1946).

100

Thomas Jefferson once said: "I should wish (Americans) to practice neither commerce nor navigation, but to stand with respect to Europe precisely on the footing of China. We should thus avoid wars, and all our citizens would be husbandmen." Quoted in Tuan, Man and Nature, op. cit., p. 35.

101

For example, see: Arnold J. Toynbee, The World and the West (London, 1953), p. 63.

Northrop, op. cit., pp. 434-435.

Nasr, op. cit., p. 83.

102

For example, see:

White, op. cit., p. 1206

Dahlberg, op. cit., pp. 56-66.

103

There are numerous examples in this quarter, but see: TIME, 12/11/72, p. 35.

104

Paul R. Ehrlich, The Population Bomb (New York, 1968), p. 171.

Jean Dorst, Before Nature Dies (New York, 1970), pp. 18-19.

105

For an example of the former, see: Lewis Mumford, The Myth of the Machine: The Pentagon of Power (New York, 1970), pp. 172-173. For an example of the latter, see: Meadows, et. al., "A Response To Sussex" in Cole, et. al., Models of Doom, A Critique of The Limits To Growth (New York, 1973), p. 239.

106

See, for example: Nasr, op. cit., p. 88 and Yukawa Hideki, "Modern Trend of Western Civilization and Cultural Peculiarities in Japan" in Moore, op. cit., p. 59.

107

For example Leo A. Orleans and Richard P. Suttmeier say: "As an environmental ethic ... Maoism may seem very attractive indeed to many citizens of the complex industrial societies of the West, who are increasingly disturbed about the secondary and tertiary ecological effects of their technologies." in "The Mao Ethic and Environmental Quality" in Science, Dec. 11, 1970, p. 1173

108

One is reminded of Baudet's question: "The whole complex of the new primitivism, and of orientalism in particular, undoubtedly contained a substantial element of rejection and renunciation - not of life but of a civilization that was felt to be both a burden and a path leading in the wrong direction. Is primitivism then the forerunner of crisis? And perhaps of revolution? Was it the precursor of that famous protest against history, the revolutionary creed of 1789 claiming that tout est à refraire and advocating the total demolition of everything as an essential prerequisite for shaping a new history, a new culture, and a new society?" in Baudet, op. cit., p. 55.

109

Brubaker, op. cit., p. 161, disavows such interest because he believes it is a dangerous acceptance of fatalism common in Asian cultures. The writer does not reject popular interest in Asian "solutions" for this reason since it is inaccurate and misleading as will be seen below in references to cyclic vs. linear concepts in East and West.

110

Bodde, op. cit., p. 32. For an evaluation of the role of cities in the revitalization of the West, see: Henri Pirenne, Medieval Cities. Their Origins and the Revival of Trade (Princeton, 1952). and Fritz Rörig, The Medieval Town (Berkeley, 1967).

111

For an evaluation of this antithesis, see Tuan, Man and Nature, op. cit., p. 34.

112

As Tuan notes in Ibid., p. 9: "Where the man-induced metamorphosis of nature is at a slow place or where it has sunk beyond the reach of memory, we may be inclined to accept the result as natural. It is easy for Western man to overlook the fact that a flight of rice terraces in the Orient is as much an artifact as a paved highway." and p. 46: "Indeed there are man-made landscapes that seem more natural than untamed nature itself. ... Certain rural scenes in Europe and the Orient have the look of the permanence of the hills; they exude a mellowness that evokes nostalgic memories of a past in which people lived close to the earth."

As Chi Hsin says in "Where the Sunghua River Flows" in Seeds, op. cit., p. 158: "The landscape is so well designed that we believe it must have been thoroughly reshaped by men's hands." Gotō Shigeki notes in Hokkaidō (Tokyo, 1970), p. 25: the Hokkaidō landscape which appears comfortably primitive to visiting Westerners, appears to the Japanese to be "ekizichikku" (exotic).

113

Needham, Titration, op. cit., pp. 285-298. See also: John Meskill (ed.), The Pattern of Chinese History, Cycles, Development, or Stagnation? (Boston, 1965).

114

Pan, op. cit., pp. 26-28, was writing vis-a-vis Chinese culture's man-centeredness, but it applies equally to the West.

115

Joseph Wood Krutch, The Best Nature Writing of Joseph Wood Krutch (New York, 1970), p. 237.

116

Leopold, op. cit., p. 108. One is reminded in this context of Thoreau's words: "I love better to see stones in place", Thoreau, op. cit., p. 44.

117

Tuan, Man and Nature, op. cit., p. 35.

118

Leopold, op. cit., p. 210.

120

Thoreau, op. cit., p. 23. In contrast to these convictions contemporary government's leading environmental spokesmen frequently counsel against aiming too high, witness W.D. Ruckelshaus, The Crisis of Trust and the Environmental Movement (Washington, 1972), pp. 2-5.

*** **

Chapter V:

1

Sprout, Harold H., "Political Geography as a Political Science Field" in American Political Science Review, May 1931, pp. 439-442.

Sprout, Harold & Margaret, An Ecological Paradigm for the Study of International Politics, (Princeton, 1968).

-----, Ecology and Politics in America: Some Issues and Alternatives (Morristown, 1971).

-----, The Ecological Perspective on Human Affairs with Special Reference to International Politics, (Princeton, 1965).

-----, "The Ecological Viewpoint - and Others" in Cyril E. Black and Richard A. Falk (eds), The Future of the International Legal Order, Volume IV: The Structure of the International Environment, (Princeton, 1972).

-----, "Environmental Factors in the Study of International Politics" in James N. Rosenau (ed.), International Politics and Foreign Policy (New York, 1969).

-----, "Geography and International Politics in an Era of Revolutionary Change" in Journal of Conflict Resolution, Vol. 4, March 1960, pp. 145-161.

-----, "National Priorities: Demands, Resources, Dilemmas" in World Politics, Vol. 24, Jan. 1972, pp. 293-317.

-----, Toward A Politics of The Planet Earth (New York, 1971).

James N. Rosenau, Vincent Davis, & Maurice A. East (eds.), The Analysis of International Politics: Essays in Honor of Harold and Margaret Sprout (New York, 1972).

2

The Sprouts restrict the term "environment" to its narrowest - i.e., physical - meaning; thus keeping it more closely in accord with its popular American usage. See, Sprouts, "The Ecological Viewpoint - and Others", op. cit., pp. 579-580.

3

"Milieu" is used in the manner defined by the Sprouts: the "whole spectrum of environing factors, human as well as non-human, intangible as well as tangible"; Sprouts, The Ecological Perspective on Human Affairs....., op. cit., p. 27.

4

Sprouts, Toward A Politics of the Planet Earth, op. cit., p. 14.

5

Sprouts, "The Ecological Viewpoint - and Others", op. cit., p. 578.

⁶
Ibid., p. 581.

⁷
Ibid., p. 583.

This is a change in the Sprouts' views, witness the following assessment:

"One of the consequences of rapid and continuing technological advance is to make limitations imposed by the social order relatively more significantly politically than 'natural' obstacles present in the non-human environment."

Sprouts, "Geography and International Politics in an Era of Revolutionary Change", op. cit., p. 157.

⁸
 Sprouts, Toward a Politics of the Planet Earth, op. cit., p. 18.

⁹
 In this regard the Sprouts' view is important:
 "We simply assume, on the basis of such evidence as we have seen, that (whatever else may be desired) most people in most countries desire to live long and to be as healthy and fit as possible. To the extent that these are Western values not fully embraced by non-Western peoples, we would reply that longevity and health are goals nearly everywhere, emergent with the transition from preindustrial to modernized forms of society."

Sprouts, "The Ecological Viewpoint - and Others", op. cit., p. 589.

¹⁰
 Sprouts, Toward A Politics of the Planet Earth, op. cit., p. 15.

A similar thesis was presented by William Vogt in Road To Survival (New York, 1948), p. 286:

"We must - all of us, men women, and children - reorient ourselves with relation to the world in which we live. We must learn to weigh the daily news in terms of man's subsistence. We must come to understand our past, our history, in terms of the soil and water and forests and grasses that have made it what it is. We must see the years to come in the frame that makes space and time one, that will keep us strong only as, like Antaeus, we draw our strength from the earth. Our education must be reshaped, as the story of our existence in an environment as completely subjected to physical laws as a ball we let drop from our hands. Our philosophies must be rewritten to remove them from the domain of words and 'deas', and to plant their roots firmly in the earth. Above all, we must weigh our

place in the society of nations and our future through the decades to come in the scale of our total environment."

11

The Sprouts make this point in both Toward a Politics of the Planet Earth, op. cit., p. 28; and "The Ecological Viewpoint - and Others", op. cit., pp. 584-588.

12

The definition is from James E. Dougherty and Robert L. Pfaltzgraff, Jr., Contending Theories of International Relations (Philadelphia, 1971), pp. 314-315.

13

Raymond Aron, "Theory and Theories in International Relations: A Conceptual Analysis" in Norman D. Palmer (Ed.) Monograph 10, American Academy of Political and Social Science, 1970; p. 57.

14

Sprouts, "The Ecological Viewpoint - and Others", op. cit., p. 576.

15

Aron, op. cit., p. 58.

16

Quoted in Jack Nease (ed.), Man's Control of the Environment (Washington, D.C., 1970).

With reference to "spaceship earth", the comments of the first American astronauts upon their return from the Moon are of interest:

Neil Armstrong-- "I remember on the trip home on Apollo 11 it suddenly struck me that that tiny pea, pretty and blue, was the earth. I put up my thumb and shut one eye, and my thumb blotted out the planet earth. I didn't feel like a giant. I felt very, very small."

Ed Mitchell: "You develop an instant global consciousness, a people orientation, an intense dissatisfaction with the state of the world and a compulsion to do something about it." - Quoted in TIME, 12/11/72, p. 43.

17

Sprouts, "The Ecological Viewpoint - and Others", op. cit., p. 577.

18

Sprouts, Toward a Politics of the Planet Earth, op. cit., p. 31.

19

Sprouts "The Ecological Viewpoint - and Others" op. cit., pp. 575, 604-605.

20

Sprouts, "Geography and International Politics in an Era of Revolutionary Change", op. cit., p. 158.

21

John H. Herz, "The Territorial State Revisited: Reflections on the Future of the Nation-State" reprinted in James N. Rosenau (ed.), International Politics and Foreign Policy (New York, 1969), p. 88.

22

Hans J. Morgenthau, Politics Among Nations, The Struggle for Power and Peace (New York, 1967), pp. 543-544. See also Morgenthau's notion of interest being a permanent phenomenon, while "national" interest is a "transitory" phenomenon, Ibid., p. 9.

23

For an excellent analysis of the concept of ecological advantage and stability, see: Eugene P. Odum, Ecology (New York, 1963), p. 34.

24

Sprouts, Toward a Politics of the Planet Earth, op. cit., pp. 476-477.

25

Sprouts, "The Ecological Viewpoint - and Others", op. cit., p. 596.

26

Sprouts, Toward a Politics of the Planet Earth, op. cit., p. 477, see also the following logical either-or extension of their basic either-or proposition:

"The continuing political fragmentation of the earth and the persistence of tribalistic nationalism interpose obstacles that may yet prove insurmountable. If that should happen, human history might well terminate either in the instant catastrophe of nuclear conflagration or in an incremental ecological disintegration no less destructive in a somewhat longer run.

Such a bleak future is avoidable, and we believe that it will be avoided as more and more people in more countries come to comprehend what is at stake and what must be done. It does not seem likely that the human species will deliberately choose extinction."

Sprouts, Ibid., p. 485.

27

Sprouts, Ibid., p. 463.

28

Ibid., p. 483.

29

Quoted in Ibid., p. 487.

30

For an examination of K'ang's "Great Commonwealth" in which nations are assailed as the villain in man's history world government for a unified world citizenry is proposed, see: Lin Mou-sheng, Men and Ideas, an Informal History of Chinese Political Thought (New York, 1942), pp. 219-220.

31

For an idealistic and "ahead of his time" view of an interdependent world, see: Wendell L. Willkie, One World (New York, 1943), especially pp: 196-206.

32

Thompson's view:

"There can be no hope of effecting a redistribution of the earth's resources more in accordance with the needs of the peoples or of regularizing trade relations between nations until we are willing to establish some international body with power to act in these and in many other matters of vital interest to all of us. ... It is not desirable or necessary to erect a superstate which can ride roughshod over all the rights of national groups, but it is necessary to give this world organization power with sanctions which will make any recalcitrant state think carefully before it wilfully goes counter to world opinion as developed in the give and take of a democratic world organization."

is significant because of its date and its relatively greater realism; Warren S. Thompson, Population and Peace in the Pacific (Chicago, 1946), pp. 358-359

33

Barbara Ward and Rene Dubos, Only One Earth (New York, 1972). The authors do not emphasize world government as much as the Sprouts; they merely express the hope that it will occur. See especially pp. 213-220.

34

Pierre Teilhard de Chardin, Building the Earth (Wilkes-Barre, Pa., 1965), p. 54.

35

For an example of what the Sprouts and others are referring to, see: Thomas W. Wilson Jr., International Environmental Action: A Global Survey (New York, 1971). Pp. 57-70 offers a brief overview of international organizations active in world-wide environment/conservation programs.

36

For examples of pessimistic conclusions about the efficacy of international organizations on the environmental front, see:

David A. Kay and Eugene B. Skolnikoff, "International Institutions and the Environmental Crisis: A Look Ahead" in International Organization, Vol. 26, No. 1, Winter 1972, pp. 469-478.

Richard A. Falk, "Environmental Policy as a World Order Problem" in Natural Resources Journal, Vol. 12, April 1972, pp. 161-171.

-----, "Toward a World Order Respectful of the Global Ecosystem" in Environmental Affairs, June 1971, pp. 251-265. Falk's works are less pessimistic than Kay and Skolnikoff.

37
Quoted in: Jeanne Hersch (ed.), Birthright of Man
(Paris, 1969), p. 522.

38
As Tuan Yi-fu has noted:
"To be involved in the human world is to risk being
tainted by its bias and passions; environmentalism and
ecology are not only theories but ideologies, and it
is perhaps as ideologies that they have made their
maximum impact on human behavior."
Tuan Yi-fu, Man and Nature (Washington, D.C., 1971), p. 26.
It is worthwhile recalling in this connection Raymond Aron's
observations about the transition from theory to ideology.

39
Robert C. Clement, The Meaning of Conservation
(New York, undated), p. 1. It is useful to recall in this
connection Ernest Swift's assessment of conservation as
"more of an art than a science". Swift was cited in Chapter
I, footnote 29.

40
For an interesting evaluation of the American
environmental movement and its heritage in moral idealism,
see: T.C. Sinclair, "Environmentalism: A la recherche d'un
temps perdu - bien perdu?" in Cole, et. al., Models of Boom:
A Critique of The Limits To Growth (New York, 1973), p. 175.

41
Witness the view of Charles R. Armour, West Coast
director of the John Birch Society, who said public apathy
has led his organization to shift its emphasis:
"The John Birch Society has expanded from being
just anti-Communist to looking at a conspiracy in the
world to control man and his environment through world
government."
Washington Post, 8/26/73, p. F8.

More serious, however, are attacks from the Right which
link a one-world view with world government and unilateral
disarmament. An excellent example of such attacks is Thomas
S. Power, Design for Survival (New York, 1965), pp. 87-99.
This book, with a title eminently suitable for application
to ecopolitical problem areas, focuses on military survival.
One can sympathize with such views, but it is wrong to link
a one-world view with advocacy of one-worldism as a political
position. The advocates of world government do not have a
monopoly on seeing the earth in this light.

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Chapter VI

1
George T. Renner, "Resources and World Peace" in
George T. Renner (ed.), Global Geography (New York, 1944),
p. 612.

2
Warren S. Thompson, Population and Peace in the Pacific
(Chicago, 1946), p. 8.

3
Harrison Brown, The Challenge of Man's Future (New
York, 1954), p. 236.

4
Seyyed Hossein Nasr, The Encounter of Man and Nature
(London, 1968), p. 135.

5
Stewart L. Udall, The Quiet Crisis (New York, 1963),
pp. xii-xiii.

6
Harold & Margaret Sprout, "Environmental Factors in
the Study of International Politics" in James N. Rosenau
(ed.), International Politics and Foreign Policy (New York,
1969), p. 54.

7
TIME, 9/17/73, p. 29.

8
Ellen Churchill Semple, Influences of Geographic
Environment (New York, 1911), p. 1.

9
Albert J. Peterson and Wayne L. Hoffman, "The Status
of Geography: An 'Attitude-Opinion' Survey of the AAG Mem-
bership" in The Professional Geographer, May 1972, p. 147.

10
J.P. Cole, Geography of World Affairs (Harmondsworth,
Middlesex, 1959), p. 16. See also: Hans W. Weigert,
Generals and Geographer, The Twilight of Geopolitics (New
York, 1942), p. 3.

11
The Sprouts suggest (in Toward a Politics of the
Planet Earth (New York, 1971), p. 246) the experiment of
offering students a blank map and requesting that they fill
in major features of the physical and human landscape. I
have done so with several classes and found an abysmal
lack of familiarity with geographical features.

12
Ad Hoc Committee on Geography, The Science of Geo-
graphy (Washington, 1965), p. 39.

13

Harold & Margaret Sprout, The Ecological Perspective on Human Affairs with Special Reference to International Politics (Princeton, 1965), pp. 11-14. It should also be pointed out in this context that "natural resources geography" is taught within Cultural or Human Geography and not within Physical Geography.

14

Barry Commoner, The Closing Circle (New York, 1972), p. 11.

15

Jan O.M. Broek and John W. Webb, A Geography of Mankind (New York, 1968), pp. 17-18. Broek also says: "Quite true, geographers are interested in landforms, in the effect of the environment on man, and in the location of people and things. But these ~~tasks~~ are means, not the end.", p. 6. However, not all geographers subscribe to Broek's ideas. For an example of a quantitative social geographer prone to reductionism, see: Peter Ambrose (ed.) Analytical Human Geography (New York, 1969).

16

Camille Vallaux, Les sciences géographiques (Paris, 1929) quoted in Philip L. Wagner, The Human Use of the Earth (Glencoe, 1960), frontispiece.

17

S.R. Eyre and G.R.J. Jones, Geography as Human Ecology (London, 1966).

18

L. Dudley Stamp, Applied Geography (Middlesex, 1963), p. 9. Although this is the common perception of geographers, we should note that not all geographers agree. See for example, Carl Sauer's comment: "The ineptly named holistic doctrine leaves me unmoved; it has produced compilations where we have needed inquiries." (in John Leighly (ed.), Land and Life. A Selection From The Writings of Carl Ortwin Sauer (Berkeley, 1963), p. 393). There is, however, a difference between the abuses Sauer criticizes and the utility of a holistic viewpoint.

19

Quoted in: Walter C. Clemens Jr., "Ecology and International Relations" in International Journal, Winter 1972-1973, p. 2.

20

Ladis K.D. Kristof, "The Origins and Evolution of Geopolitics" in Journal of Conflict Resolution, March 1960, p. 20.

21

Robert Strausz-Hupé, Geopolitics, The Struggle for Space and Power (New York, 1942) provides the classic study of and attack on geopolitics. For other material on this subject see Bibliographical Appendix "A".

22

Weigert, op. cit., pp. 88-113 & 176-191.

23

Halford J. Mackinder, Democratic Ideals and Reality (New York, 1962), p. 150. It is worth noting that the term "heartland" was not introduced first by Mackinder, but by James Fairgrieve; Saul B. Cohen, Geography and Politics in a World Divided (New York, 1963), p. 40.

24

Alfred Thayer Mahan, The Influence of Sea Power upon History, 1660-1783 (Boston, 1890). It is interesting that the Chinese today ascribe Mahan's theories to the Russians in their encircling of China; see: Hsian Ming, "Soviet Revisionist Social-Imperialism: Every Inch a Hegemonic Sea Power" in Peking Review, 10/12/73, p. 14.

25

Nicholas John Spykman, The Geography of the Peace (New York, 1944), p. 43.

26

See for example, the reference to a "decisive geographic zone" around the Eurasian continent in William R. Kintner, "The Role of Military Assistance" in U.S. Naval Institute Proceedings, March 1961, p. 77; and Douglas Pike's reference to China's "rimland" in War, Peace, and the Viet Cong (Cambridge, 1969), p. 38. However, the foremost example of the rimland concept in use was the whole experience with postwar efforts at "containment" of Communism.

27

Alexander P. de Seversky, Air Power: Key to Survival (New York, 1950). The views de Seversky propounded in "Air Power" have been eclipsed by developing strategies of the nuclear age, but de Seversky kept to his theory as evidenced by his: America: Too Young to Die (New York, 1961); cited in Cohen, op. cit., p. 51.

28

Quoted in Kristof, op. cit., p. 37.

29

For examples of this single-mindedness, see Weigert, op. cit., p. 16, and the views of Nazi geopolitician Otto Maull presented in Andreas Dorpalen, The World of General Haushofer (New York, 1942), p. 25.

30

M. Tagoff in "The New Yorker", undated, quoted in Weigert, op. cit., p. 8.

31

Harold & Margaret Sprout, "Geography and International Politics in an Era of Revolutionary Change" in Journal of Conflict Resolution, March 1960, p. 152. The Sprouts, in this article, also classify three types of geopolitical hypotheses: 1) those based on spatial configurations such as Mahan, Mackinder, and Spykman, 2) those based on climate such as Ellsworth Huntington, and 3) those based on "security of access" to natural resources such as Princeton geologist Taylor Thom. Ibid., p. 152. Of these categories, the latter is closer to the usage of "ecopolitics" introduced in this study.

32

For examples of these see: William W. Jeffries, Geography and National Power (Annapolis, 1967) - this work is particularly disturbing since it presents excessively determinist views of climate, population, and military space. Francis X. Kane in "Space Age Geopolitics" in Orbis, Winter 1971, pp. 911-933 places a Mackinder-like heartland off into outer space and sees the key to power as lying in space technology. For other examples of this see: David J.M. Hooson, A New Soviet Heartland? (Princeton, 1964) for references to Mackinder in the Pentagon; and Norman J. Padelford and George A. Lincoln, The Dynamics of International Politics (New York, 1962), pp. 76-80 for references to geopolitics in action in the U.S. and the Soviet Union.

33

Quincy Wright, The Study of International Relations (New York, 1955), p. 348.

34

Hans J. Morgenthau, Politics Among Nations (New York, 1967), p. 154.

35

It is understandable that non-geographers will slip into the mistaken notion of geography as a single factor since an occasional geographer also does so, witness: Harm J. de Blij, Systematic Political Geography (New York, 1967), p. 101.

36

In this regard one might consider the revised view of the Neanderthal made by R.S. Solecki (Smithsonian, May 1971, pp. 20-27) and query whether geopolitics too does not deserve an unbiased reevaluation.

Due to mispagination, footnote No. 37 continues on page 415.

37
Friedrich Ratzel, Politische Geographie (Munich, 1897),
p. 2; quoted in Ad Hoc Committee, op. cit., p. 31.

38
For comments on this transition, see, Cohen, op.cit.,
p. 44.

39
Hooson, op. cit., p. 119. See also: Earl C. Ravenal,
"The Case for Strategic Disengagement" in Foreign Affairs,
April 1973, p. 517.

40
We must distinguish between the present use of the
term "ecopolitics" and those studies which concentrate on the
politics of the environmental movement. For those interested
in the latter, the following are suggested:

Walt Anderson (ed.), Politics and Environment (Pacific
Palisades, 1970). James Ridgeway, Politics of Ecology (New
York, 1971). Frank E. Smith, Politics of Conservation (New
York, 1971). Barry Weisberg, "The Politics of Ecology" in
Phillip O. Foss (ed.), Politics and Ecology (Belmont, 1972).
The latter workd focus on Western and U.S. politics.

41
Robert W. Tucker, A New Isolationism, Threat or Prom-
ise? (New York, 1972), p. 119.

42
Kristof, op. cit., p. 34 offers a pertinent definition
of geopolitics in the contemporary era: "Geopolitics is the
study of political phenomena (1) in their spatial relation-
ship and (2) in their relationship with, dependence upon, and
influence on, earth as well as on all those cultural factors
which constitute the subject matter of human geography (anth-
ropogeography) broadly defined."; another worthwhile defini-
tion is offered in Raymond Aron, Peace & War (New York, 1968),
p. 191, although one must bear in mind Aron's restricted use
of the terms "geography" (largely physical) and "environment"
(largely social).

43
It thereby fills a gap in the social sciences, witness
the total lack of concern for geography in such otherwise
worthwhile books as Seymour M. Lipset, Politics and the Social
Sciences (New York, 1969).

44
For examples of this debate, see: Harold H. Sprout,
"Political Geography as a Political Science Field" in APSR,
May 1931, pp. 439-442.; Kristof, op. cit., pp. 34-37; Ad Hoc
Committee, op. cit., p. 61; Weigert, op. cit., pp. 12-13.

45

Mackinder, op. cit., p. 243.

46

Kristof, op. cit., p. 16; see also Kristof's statement "the modern geopolitician does not look at the world map in order to find out what nature compels us to do but what nature advises us to do, given our preferences.", p. 19.

47

Aldo Leopold, A Sand County Almanac (New York, 1970), p. 212; see also Leopold, p. 241 and the Sprouts, "Environmental Factors....", op. cit., p. 50.

48

Pardon the pun, but it has a great deal of truth.

49

Hooson, op. cit., p. 120; the Russians view the area in more pragmatic resource related terms, see Hooson, pp. 56-112 and 121-126. Donald W. Weinig, "Heartland and Rimland in Eurasian History" in Western Political Quarterly, Vol. 9, 1956, pp. 553-569 reminded us that the "heartland" is a ~~flexible~~ flexible concept. However, Mackinder only noted the resources of his heartland area in a casual way, see: Mackinder, "The Round World and the Winning of the Peace" in op. cit., p. 276.

50

Aron, op. cit., pp. 205-207.

51

Cohen, op. cit., p. 27.

52

Patrick M. Morgan, Theories and Approaches to International Politics (San Ramon, 1972), p. 34; it is also worth noting the similarity between Morgan's statement: "Theory is a handmaiden of mind's eyes, a way of seeing when one isn't there." and the Sprout's use of "a way of seeing".

53

Aron, op. cit., p. 196.

54

It also offers us the means to bridge the gap between what James E. Dougherty and Robert L. Pfaltzgraff, Jr. called (in Contending Theories of International Relations (Philadelphia, 1971), p. 385) the "islands" of relatively well understood international relations theory. While traditionalist theory often leaves one grasping for specifics and the glut of specifics in quantitative-behavioralist theories leave one seeking a sense of direction, ecopolitical approaches can provide the satisfaction of mixing these theories for use within a more eclectic holistic framework.

55

J.N. (Ding) Darling, Man's Blind Attack on Nature in Ernest Swift, By Which We Live (Washington, 1957), p. 9.

56 Book reviewer in TIME, 8/20/73, p. 78.

57 James Branch Cabell, The Silver Stallion (New York, 1926), p. 129; quoted in Resources and Man (San Francisco, 1969), p. 157.

58 Pierre Teilhard de Chardin, Building the Earth (Wilkes-Barre, 1965), p. 21.

59 Lynn White, Jr., "The Historical Roots of Our Ecological Crisis" in Science, March 10, 1967, p. 1206 refers to this comparison.

60 William Vogt, Road to Survival (New York, 1948), p. 95.

61 John Stuart Mill, "Economic Progress and the Stationary State" in Bernard Okun and Richard W. Richardson (eds.), Studies in Economic Development (New York, 1961), p. 61.

62 Arthur (Art) Hoppe, "Our Landlord Is A Softy" in the San Francisco Chronicle, 12/29/64; quoted in Richard L. Heiss and Noel F. McInnis (eds.), Can Man Care for the Earth? (Nashville, 1971), p. 109.

63 Meadows, et. al., The Limits To Growth (New York, 1972).

64 "Blueprint for Survival" in Ecologist, January 1972, pp. 1-43.

65 Meadows, op. cit., p. 126; However, the Club of Rome which sponsored the research behind "Limits..." has sought to emphasize that the research produced a report to the Club, not of the Club, and hence they stress that the Club does not advocate zero growth - see: Club of Rome, "The Club of Rome Answers Its Critics And Pushes On" in War/Peace Report, May/June 1973, pp. 21-29.

66 Commoner, op. cit., pp. 120-121. Commoner also says: "A clash between the propensity of the man-dependent sectors of the cycle to grow and the intractable limits of the natural sector of the cycle is inevitable." in Ibid., p. 122. See also Commoner's Science and Survival (New York, 1966) for coverage of the same topic.

67

Meadows, op. cit., p. 29, offers the following two examples of exponential growth: In a Persian legend, a king who granted a courtier's request for double the amount of grain, starting with one rice grain, for each square of a chessboard. The king was out of grain before the last square was reached. Similarly, a French riddle asks - on which day will a pond be half covered when it takes thirty days for a pond to be completely covered by a lily plant which doubles in size daily? The answer is, on the twenty-ninth day.

68

This term is drawn from Aron's (op. cit., p. 200) quote of Paul Valery's "le monde fini".

69

Vogt, op. cit., p. 16.

70

George Perkins Marsh, Man and Nature (Cambridge, 1965), p. 36

71

E.J. Mishan, Technology & Growth. The Price We Pay (New York, 1970), p. 3. For a similar work, see also John V. Krutilla, "Some Environmental Effects of Economic Development" in Daedalus, No. 4, 1967, pp. 1058-1070.

72

Commoner, op. cit., pp. 128-129. See also White's (op. cit., p. 1204) statement: "Surely no creature other than man has ever managed to foul its nest in such short order."

73

Rachel Carson, Silent Spring (New York, 1970). See also: Frank Graham, Jr., Since Silent Spring (Boston, 1970).

74

The term is borrowed from Ron M. Linton, Terracide, America's Destruction of Her Living Environment (Boston, 1970) who uses the term strictly with reference to the United States. A related matter was posed by A.R. Ubbelohde, Man and Energy (Baltimore, 1963), p. 108: "If an enemy air force were to drop this (pollution) from the heavens, it would constitute a major act of war." Yet we continue to inflict this damage upon ourselves.

75

For an interesting assessment of the legal bases of what constitutes an environmental annoyance, see: Charles C. Humpstone, "Pollution: Precedent and Prospect" in Foreign Affairs, Jan. 1972, pp. 325-338.

76

Frank Graham, Jr., Water Pollution (New York, 1972), p. 3. Related to this attitude is the following type atti-

tude which might be termed a chamber of commerce "ethic" - a bank vice-president, when asked to comment on the Sierra Club's efforts to block the Alaska pipeline, said: "As long as they stuck to protecting the environment, the Sierra Club was a very worthwhile organization, but when they start attacking progress and profit, they're out of their realm." Quoted in TIME, 8/20/73, p. 57.

77

Referred to in Carl O. Sauer, "The Agency of Man on the Earth" in W.L. Thomas, Jr., (ed.), Man's Role in Changing The Face of The Earth (Chicago, 1956), p. 66.

78

Meadows, op. cit., p. 181. Since a little grim humor is useful in this context, the poem ("eco-poem"?) by Ogden Nash is in order: "I think that I shall never see

A billboard lovely as a tree.
Perhaps, unless the billboards fall,
I'll never see a tree at all."

quoted in: Peter Blake, "Uglification" in Roderick Nash (ed.), The American Environment: Readings in The History of Conservation (Reading, 1968), p. 167. See also: No Laughing Matter (Washington, undated).

79

T.C. Sinclair, "Environmentalism: A la recherche du temps perdu - bien perdu?" in Cole, et. al., Models of Doom, A Critique of The Limits To Growth (New York, 1973), p. 181.

80

Sterling Brubaker, To Live On Earth (Baltimore, 1972), p. 163. For an excellent example of a work illustrating why ecopolitical long-term issues should not be left to short-term oriented economists, see: Harry G. Johnson, Man and His Environment (Washington, 1973).

81

Commoner, op. cit., p. 277.

82

For a general survey which concludes that non-capitalist states have equally severe environmental problems, see: Marshall I. Goldman, "Growth and Environmental Problems of Noncapitalist Nations" in Challenge, July/August 1973, pp. 45-51.

83

K.L.R. Pavitt in "Malthus and Other Economists, Some Doomsdays Revisited" in Cole, et. al., Models of Doom, A Critique of The Limits To Growth (New York, 1973), p. 153 makes this point. Others have also addressed the same issue: Samuel H. Ordway, Jr., "Possible Limits of Raw-Material Consumption" in Thomas, op.cit., pp. 987-992, refers to a "theory of the limit to growth".

John McHale, The Ecological Context (New York, 1970) is a very similar book to the "Limits...", but with more emphasis on ecological terms and rationales than economic.

Other works, including Thompson, op. cit., p. 17; Resources and Man, op. cit., pp. 10-19; and President Theodore Roosevelt at the 1908 Conference on the Conservation of Natural Resources (quoted in The World Around You (New York, 1972), inner cover) have emphasized this issue.

But, perhaps the best example of long-range prescience was that of John von Neumann, writing in "Can We Survive Technology" in Fortune, June 1955 (quoted in Herman Kahn and B. Bruce-Biggs, Things To Come, Thinking About The Seventies And Eighties (New York, 1972), p. 215, who said:

"The great globe itself is in a rapidly maturing crisis - a crisis attributable to the fact that the environment in which technological progress must occur has become both undersized and under-organized... In the first half of this century... this safety... was essentially a matter of geographical and political Lebensraum; an ever broader geographical scope for technological activities, combined with an even broader political integration of the world. Within this expanding framework it was possible to accommodate the major tensions created by technological progress. Now this safety mechanism is being sharply inhibited; literally and figuratively, we are running out of room. At long last, we begin to feel the effects of the finite, actual size of the earth in a critical way. Thus the crisis does not arise from accidental events or human errors. It is inherent in technology's relation to geography on the one hand and to political organization on the other.... in the years between now and 1980 the crisis will probably develop far beyond all earlier patterns. When or how it will end - or to what state of affairs it will yield - nobody can say."

84

Of such critics, the most extreme may well be: Thomas J. Boyle, "Hope for the Technological Solution" in Nature, Sept. 21, 1973, pp. 127-128, who argued that the "Limits..." produced faulty results because of a single typographical error, i.e., a variant of "GIGO" (garbage in, garbage out).

85

Club of Rome, op. cit., p. 22.

86

Meadows, op. cit., p. 122, state: "At the moment, our only alternative to a model like this, based on partial knowledge, are mental models, based on the mixture of incomplete information and intuition that currently lies behind most political decisions." The writer believes that the latter "model" is, in fact, preferable since it does not pretend to be what is not.

87

Paul A. Samuelson, Economics (New York, 1973), p. 819.

88

Such views are even found among confirmed environmentalists, see for example: Brubaker, op. cit., p. 13.

89

Evsey D. Domar, "Expansion and Employment" in Okun and Richardson, op. cit., p. 120.

90

Quoted in TIME, 10/1/73, p. 100

91

John R. Maddox, The Doomsday Syndrome (New York, 1972), p. 280.

92

Carl Kaysen, "The Computer that Printed Out W*O*L*F*" in Foreign Affairs, July 1972, p. 664.

93

Ibid., p. 663.

94

Ibid., p. 665. See also: Robert M. Solow, "Is The End Of The World At Hand?" in Challenge, March/April 1973, pp. 39-50, who argues from the economist's perspective that in the long-run we are all dead so we had better rely on price mechanisms in the mean time.

95

We must note in passing, however, that Kaysen's warning about crying wolf is a good one, witness Brubaker's statement (op. cit., p. 172): "In the matter of global threats to life support systems and genetic damage there can be no compromise. Of course, it is the responsibility of leaders to lead, and in the final analysis a society that does not accept the necessary conditions for survival will fail. Widespread awareness of the consequences of irresponsibility is absolutely essential. One must remain an optimist and believe that the public can be convinced to accept the medicine. The chances of this taking place will be greatly increased if the more emotional environmentalists will refrain from overstating their case, for the reaction to their unrelieved forebodings may anesthetize the public to the true cry." Such trends can also lead to dangerous environmental mislabeling, see: Georg Borgstrom, The Hungry Planet (New York, 1965), p. 455.

96

Udall, op. cit., pp. vii-viii.

97

For a discussion of this history, see: Jean Dorst, Before Nature Dies (New York, 1970), p. 14.

98

See for example: Norton Ginsburg, "Natural Resources and Economic Development" in Annals of the American Association of Geographers, No. 3, 1957, p. 211; and Benjamin Higgins, Economic Development (New York, 1968), pp. 209-223.

99

W. Arthur Lewis in Gerald M. Meier, Leading Issues in Development Economics (New York, 1970), p. 175.

100

Meadows, op. cit., pp. 56-58.

101

See the analysis of Joseph J. Spengler, "Summary, Synthesis and Interpretation" in J.J. Spengler (ed.), Natural Resources and Economic Growth (Washington, 1961), p. 303.

102

Nathaniel Wollman, "The New Economics of Resources" in Daedalus, No. 4, 1967, p. 1099.

103

Aaron Wildavsky, "Aesthetic Power or the Triumph of the Sensitive Minority over the Vulgar Mass: A Political Analysis of the New Economics" in Ibid., p. 1115.

104

W. Arthur Lewis, "Is Economic Growth Desirable?" in Okun and Richardson, op. cit., p. 470.

105

For an analysis of this, see: James P. Grant, "Development: The End of Trickle Down?" in Foreign Policy, Fall 1973, pp. 43-64.

106

Kenneth E. Boulding, "Fun and Games with the Gross National Product - The Role of Misleading Indicators in Social Policy" in Harold W. Helrich, Jr., (ed.), The Environmental Crisis, Man's Struggle to Live with Himself (New Haven, 1970), p. 158.

107

Samuelson, op. cit., pp. 195-197.

108

Quoted in Jack Nease (ed.), Man's Control of the Environment (Washington, 1970), pp. 10-11. See also: Mishan's (op. cit., p. 36) use of "amenity rights"; and Commoner, op. cit., p. 270.

109

Source unknown, but cited in TIME, 3/12/73, p. 54.

110

Thomas Robert Malthus, On Population (New York, 1960), pp. 8-9.

111 Ibid., p. 160

112 For a fuller discussion of this theme, see: Frank Lorimer, "Issues of Population Policy" in Philip M. Hauser (ed.), The Population Dilemma (Englewood Cliffs, 1963), p. 158; and Colin Clark's strangely unifactor views of population's role in political power in "World Power and Population" in Anderson, op. cit., p. 34.

113 Gertrude Himmelfarb in the introduction to Malthus, op. cit., p. xxiii.

114 Colin Clark, "Population Growth and Living Standards" in A.N. Agarwala and S.P. Singh (eds.), The Economics of Underdevelopment (London, 1958), p. 33.

115 Lorimer, op. cit., p. 145.

116 Quoted in: R. Meek, Marx and Engels on the Population Bomb (Berkeley, 1971), pp. 57-62; for an in-depth view of Marxist views of man's place in natural systems, see: Alfred Schmidt, The Concept of Nature in Marx (London, 1971).

117 Josué de Castro, The Geography of Hunger (Boston, 1952), pp. 13-17.

118 For examples, see: Commoner, op. cit., p. 281; and Lorimer, op. cit., p. 154.

119 Higgins, op. cit., p. 87.

120 Quoted in TIME, 1/29/73, p. 62.

121 Resources and Man, op. cit., p. 9. See also: Sydney H. Coontz, Population Theories and the Economic Interpretation (London, 1957) for a variety of assessments of this issue.

122 Harold F. Dorn, "World Population Growth" in Hauser, op. cit., p. 10.

123 Mary Ellen Caldwell, "Population" in Cyril E. Black and Richard A. Falk (eds.), The Future of the International Order, Volume IV: The Structure of the International Environment (Princeton, 1972), p. 54. For a wide-ranging selection on world population, see: Richard Farmer, et. al., World Population: The View Ahead (Bloomington, 1971).

124

For a discussion of these problems, see: William Page, "Population Forecasting" in Cole, op. cit., pp. 159-173.

125

This distinction is raised in Lorimer, op. cit., p. 146.

126

Harrison Brown, The Challenge of Man's Future (New York, 1954), pp. 220-221.

127

This term was adopted from Sinclair, op. cit., p. 181. See also: Paul R. Ehrlich, The Population Bomb (New York, 1968), p. 167.

128

Commoner, op. cit., pp. 125-139; but Commoner concedes: "In the poor nations, in contrast with a country like the United States, there does seem to be an immediate relation between the rate of population growth and the well-being of their peoples"; Ibid., p. 235.

129

W.S. Woytinsky, "World Resources in Relation to Population" in Hauser, op. cit., pp. 74-75.

130

Kahn and Bruce-Biggs, op. cit., p. 214.

131

Lester R. Brown, "Scarce Food: Here to Stay" in Washington Post, 7/15/73, p. C1.

132

Jean Mayer and T. George Harris, "Affluence: the Fifth Horseman of the Apocalypse" in Psychology Today, Jan. 1970, p. 50. See also the strange views of Castro, op. cit., p. 25: "overpopulation does not cause starvation in various parts of the world... starvation is the cause of overpopulation."

133

Boulding, op. cit., p. 170

134

T'ang Pei-sung, Green Thralldom - Essays of a Chinese Biologist (London, 1949), p. 17.

135

For further evaluation of this dependence, see: Harrison Brown, op. cit., p. 237; Richard and Patty Watson, Man and Nature (New York, 1969), p. 118; and Don Fabun, Dimensions of Change (Beverly Hills, 1971), pp. 3-34.

136

Watsons, op. cit., p. 125

- 137 Commoner, op. cit., p. 231
- 138 Watsons, p. 133. Harrison Brown, op. cit., p. 265 mentions the same point. In a more theoretical vein, Van Valkenburg's (Samuel Van Valkenburg, Elements of Political Geography (New York, 1939)) no longer popular theory of cycles in political development (p. 5) has a great deal of similarity with the notion of "ecological succession". For a definition of the latter see: Eugene P. Odum, Ecology (New York, 1963), pp. 77-88.
- 139 Harrison Brown, op. cit., pp. 223-224 & 264.
- 140 Ibid., p. 223.
- 141 Watsons, op. cit., pp. 128-129.
- 142 See, for example: Lee R. Dice, Man's Nature and Nature's Man: The Ecology of Human Communities (Ann Arbor, 1955), pp. 294-295.
- 143 Harrison Brown, op. cit., pp. 226-227.
- 144 Kahn & Bruce-Biggs, op. cit., p. 217.
- 145 This little story is borrowed from Borgstrom, op. cit., p. 442. For related views, see: Harrison, Brown, op. cit., p. 265; and Mishan, op. cit., p. 129.
- 146 Paul R. Ehrlich, "Famine 1975: Fact or Fallacy" in Helfrich, op. cit., p. 62.
- 147 For an extreme case of willingness to believe such myths, see: Castro, op. cit., pp. 283-285.
- 148 Lester R. Brown, Seeds of Change: The Green Revolution and Development in the 1970s (New York, 1970), p. 5; and L.R. Brown, "The Agricultural Revolution in Asia" in Foreign Affairs, July 1968, p. 690.
- 149 Ehrlich, "Famine...", op. cit., p. 59.
- 150 Lester Brown, "Scarce Food....", op. cit., p. C4.
- 151 Ibid., p. C1.

- 152 Grant, op. cit., pp. 49-50.
- 153 Odum, op. cit., pp. 39-40, offers an excellent description of a food chain.
- 154 Ehrlich, "Population Bomb", op. cit., p. 101.
- 155 The Director of the University of Wisconsin's Institute for Environmental Studies has discerned such trends, Washington Post, 10/21/73, p. K11.
- 156 For a very clear, if somewhat popularized, examination of energy-related issues, see: Kenneth F. Weaver, "The Search for Tomorrow's Power" in National Geographic, Nov. 1972, pp. 650-681.
- 157 Ubbelohde, op. cit., p. 62.
- 158 Ibid., p. 110. The author's use of "tektopias" means technological utopias; p. 81.
- 159 Washington Post, 10/14/73, p. G2. For an evaluation of the problems involved in one of the most likely sources of these resources of the future, see: "World Tension Grows Over Ocean Resources" in Conservation News, 9/1/73, pp. 2-5.
- 160 Lester Brown, "Scarce Food...", op. cit., p. C1.
- 161 Gunnar Myrdal, Rich Lands And Poor (New York, 1957), pp. 6-12.
- 162 Castro, op. cit., p. 281.
- 163 Representative of the orthodox views are: Ginsburg, op. cit., p. 212; James C. Ingram, International Economic Problems (New York, 1970), pp. 86-87; and Roger Revelle, "Technology and Human Environment" in Foss, op. cit., p. 30.
- 164 Colin Clark, Growthmanship: A Study in the Mythology of Investment (London, 1961), p. 13; quoted in, E.L. Wheelwright and Bruce McFarlane, The Chinese Road To Socialism (New York, 1970), p. 147.
- 165 Not Man Apart, July 1972, p. 1. For background on the U.N.'s Stockholm Conference, see: United Nations Conference of the Human Environment, Stockholm, 5-16 June (New York, 1972); and Maurice F. Strong, "One Year After Stockholm: An Ecological Approach to Management" in Foreign Affairs, July 1973, pp. 690-707.

- 166 Borgstrom, op. cit., p. xiii.
- 167 Gabriel Kolko, The Roots of American Foreign Policy (Boston, 1969), p. 50. For a view of the potential power of small but resource-rich states, see: Robert E. Hunter, "Power and Peace" in Foreign Policy, Winter 1972-73, p. 48.
- 168 Commoner, op. cit., p. 246.
- 169 See, for example, the speech of: Robert S. McNamara, Address to the United Nations Conference on Trade and Development, Santiago, Chile, April 14, 1972 (Washington, 1972), pp. 14-15.
- 170 Udall, op. cit., p. 187; and Commoner, op. cit., p. 291.
- 171 This issue is raised by: Robert L. Heilbroner, "Growth and Survival" in Foreign Affairs, October 1972, pp. 140-152; and Walter J. Levy, "An Atlantic-Japanese Energy Policy" in Foreign Policy, Summer 1973, pp. 180-187.
- 172 Pavitt, op. cit., p. 156.
- 173 Paul R. Ehrlich and Anne H. Ehrlich, Population, Resources, Environment (San Francisco, 1970), p. 302. Similar to this would be a combination of stages one and five in Rostow's (W.W. Rostow, The Stages of Economic Growth (Cambridge, 1971), pp. 1-12) which would yield a short circuit in the stages directly from "traditional" to "beyond consumption".
- 174 Grant, op. cit., pp. 55-58.
- 175 Brubaker, op. cit., p. 165.
- 176 Joao Augusto de Araujo Castro, "The United Nations and the Freezing of the International Power Structure" in International Organization, Winter 1972, p. 164.
- 177 Nasr, op. cit., p. 13.
- 178 Christopher Freeman, "Malthus with a Computer" in Cole, "Models...", op. cit., p. 8.
- 179 Rene Dubos, So Human an Animal (New York, 1969), p. 144. Related to this is the notion of East Asian man and

harmony in its idealized form so unlike Western cultures. Of this Edward Schafer said (in "The Conservation of nature under the T'ang Dynasty" in Journal of the Economic and Social History of the Orient, Vol 5, 1962, p. 280): "It was as if we were to prohibit hunting and fishing on Mt. Shasta in California out of respect for the godlike beings reputed to live in and around it...".

180

Brübaker, op. cit., p. 5.

181

As Paul Samuelson (op. cit., p. 818) said of these issues: "There can be no simple scientific resolution of these conflicts."

182

Quoted in: George W. Ball, The Discipline of Power (Boston, 1968), p. 9; it was said in relation to the Atomic Age, but applies equally well to the excesses of the age of technology.

183

Henryk Skolimowski, "Technology v. nature" in Ecologist, Feb. 1973, p. 55.

184

Gerald Holton, "Modern Science and the Intellectual Tradition" in Obler & Estrin (eds.), The New Scientist, pp. 31-32; quoted in William Gerber, "Science and Society" in Challenges for the 1970s (Washington, 1970), p. 29.

185

See, for example: Stefan T. Possony and J.E. Pournelle, The Strategy of Technology: winning the decisive war (Cambridge, 1970), pp. 1-2; James K. Finch, "Science, Engineering, and Western Civilization" in Bryson, et.al. (eds.), Conflicts of Power in Modern Culture (New York, 1947), p. 130; and Ubbelohde, op. cit., p. 92.

186

Ritchie Calder, How Long Have We Got? (Montreal, 1972), p. 33.

187

Nasr, op. cit., p. 21.

188

For a discussion of the dissimilarities, see: Caryl P. Haskins, The Scientific Revolution and World Politics (New York, 1964), p. 10. Crucial to the newer forms of science was what has been criticized as the Baconian creed. However, Bacon, too, sensed the balance of nature, even if his followers forgot it. As Bacon stated: "We cannot command nature except by obeying her." (Quoted in: Marston Bates, The Forest and the Sea: A Look at the Economy of Nature and

the Ecology of Man (New York, 1960), p. 246, from Bacon's Novum Organum.)

189

This assessment owes much to: Haskins, op. cit., p. 32; White, op. cit., p. 1204; and Sinclair, op. cit., p. 183.

190

These lines are an excerpt from the following piece presented on CBS Radio, 2/7/72 by Charles Osgood. It is presented in the belief that it says a great deal more than some of the dry statistics often presented in its cause. :

I think that I shall never see the poem in a plastic tree.
We're lucky, what with urban sprawl,

to ever see a tree at all.

Old Jefferson believed he had to give a man some leeway,
some room to breathe and think.

I guess he never saw a freeway.

It seems a bit ironic to corrupt a word like "free"

But now they mean to do it to the word we know as "tree".

To make the motorist's life less drab,

they plan to do this deed.

To plant 900 shrubs and trees without a single seed.

Imitation life, it is, though everyone must know

-no sap is flowing there inside,

and none will ever grow.

No trouble and no maintenance, and costs reduced thereby.

And since the trees are not alive, why they will never die.

The advantages are obvious, in bureaucratic words.

But why not fill the limbs, I say, with artificial birds?

Psychologists report that many people are upset

by a most disturbing sense of unreality they get.

The pressures and the tensions seem to fill

their souls with doubt.

And they wish they had the answer to just -

what's it all about?

Artificial trees?

It seems ridiculous, but then -

what did you expect to come from artificial men?

(These comments concern the plans of the city of Los Angeles to plant plastic trees and shrubs along side of the city's Jefferson Boulevard. The reason for this plan is that Los Angeles' dry climate and smog-befouled air make it difficult to maintain living greenery along heavily travelled routes.)

191

Calder, op. cit., p. 7.

192

For a discussion of this reversal, see: Nasr, op. cit., p. 19.

193

For an assessment of technology's man, see: Watsons, op. cit., p. 123; see also: Everett L. Shostrom, Man, The Manipulator (New York, 1968).

194

Barbara Ward and Rene Dubos, Only One Earth (New York, 1972), p. 12.

195

Julian Huxley said vis-a-vis technology that man has "through his Frankenstein tendency to let it outrun his powers of forethought and control he has imperiled the welfare of the earth and his own tenure on it". Quoted in Gerber, op. cit., p. 26.

196

Jacques Ellul, Technological Society (New York, 1964).

197

Revelle, op. cit., p. 25.

198

As Revelles stated in Ibid., p. 25, "once men start down the technological road they cannot turn back."

199

Calder, op. cit., p. 8.

200

See A. Cornelius Benjamin's discussion of this potential in Gerber, op. cit., p. 42.

201

Bates, op. cit., p. 247. This is pertinent to the Sprouts' criticism of the "engineering perspective".

202

For further discussion of man, nature, and science technology, see: Calder, op. cit., p. 41; Commoner, op. cit., p. 189; and U.S. Department of the Interior, Man, an Endangered Species? (Washington, 1968), p. 9.

203

See, for example: Haskins, op. cit., p. 9; and Henry N. Russell, "Science and Intercultural Understanding" in Bryson, op. cit., pp. 343-355.

204

See Haskins, op. cit., pp. 34-35 for further assessment of science and under-developed countries. See also: Kenneth A. Dahlberg, "The Technological Ethic and the Spirit of International Relations" in International Studies Quarterly, March 1973, p. 77, for an evaluation of the tendency of elites in under-developed countries to turn to military solutions when imported technologies fail them. This might well be alleviated if indigenous technologies could gain a foothold.

205 Haskins, op. cit., p. 11.

206 Quoted in: Lewis Mumford, The Myth of the Machine: The Pentagon of Power (New York, 1970), p. 270.

207 Quoted in TIME, 4/23/73, p. 83.

208 Nasr, op. cit., p. 14.

209 Zbigniew Brzezinski, Between Two Ages (New York, 1970), p. 196.

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212 For an overview of present and future U.S. energy demands and the possible effects on the U.S. economy and environment, see: The Economy, Energy, and the Environment (Washington, 1970).

213 Joseph L. Fisher and Neal Potter, "Resources in the United States and the World", in Hauser, op. cit., pp. 120-121.

214 Hans H. Landsberg, Natural Resources For U.S. Growth (Baltimore, 1964), pp. 236-250.

215 Barrow Lyons, Tomorrow's Birthright. A Political and Economic Interpretation of our Natural Resources (New York, 1955).

216 Guy-Harold Smith (ed.), Conservation of Natural Resources (New York, 1971).

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Washington Post, 4/22/73, p. A4.
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Garroll L. Wilson, "A Plan for Energy Independence" in Foreign Affairs, July 1973, p. 658.
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Lester Brown, "Scarce Food...", op. cit., p. C4.
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Edward Higbee, American Agriculture: Geogfaphy, Resources, Conservation (New York, 1958), p. 4.
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Ehrlich, "Population Bomb", op. cit., p. 44.
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Erich E. Zimmerman, World Resources & Industries (New York, 1951), p. 192.
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Higbee, op. cit., p. 5.
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Ibid., pp. 349-354; Borgstrom, op. cit., p. 8; and F.H. King, Farmers of Forty Centuries (New York, 1927), p. 241.
- 225
Lester Brown, "Scarce Food...", op. cit., questions the probably results if the U.S. experiences a repeat of its twenty-year drought cycle during the 1970s as is expected, p. C4.
- 226
Including the government. As U.S. Secretary of State Henry Kissinger stated *vis-a-vis* the ramifications of the 1972 U.S.-Soviet wheat "deal", i.e., shortages in the U.S. market, "Our intelligence was faulty. But there was not a thought by anyone that we would not have enough wheat. Our whole orientation - by Congress, by farm experts, by businessmen - has been to sell it when we could. We must rethink where we are."; quoted in TIME, 9/3/73, p. 15.
- 227
For a description of this process, see: In Productive Harmony. Environmental Impact Statements Broaden the Nation's Perspectives (Washington, 1972).
- 228
For a survey of this authority, see: The Challenge of the Environment: A Primer on EPA's Statutory Authority (Washington, 1972).
- 229
Toward A New Environmental Ethic (Washington, 1971), p. 1. This is a step in the right direction, but the question of any growth still remains.

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As an example, the Nixon administration quickly took advantage of the so-called energy-crisis to reduce its energy-related pollution restrictions; Washington Post, 9/9/73, pp. A1 & A12.

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Francis J. Grund, The Americans in Their Moral, Social, and Political Relations (London, 1837), quoted by Lowenthal (ed.) in introduction to Marsh, op.cit., p. xxvi.

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1974 International Exposition on Ecology And The Environment (Washington, 1972), pp. 1-10.

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Quoted in TIME, 7/9/73, p. 53.

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"Challenge of the Environment...", op. cit., p. 37.

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Chapter VII

¹ See, for example: Fairfield Osborn, Our Plundered Planet (Boston, 1948), pp. 89-100

² Quoted in: M. Taghi Farvar, "The Pollution of Asia" in Environment, Oct. 1971, p. 17.

³ Donald C. Hellman, Japan and East Asia: The New International Order (New York, 1972), p. 33.

⁴ For an assessment of resource demand in Asia, see: Resources and Man (San Francisco, 1969), p. 119.

⁵ Quoted in Farvar, op. cit., p. 10.

⁶ In correspondence with the writer, the Sprouts stated they have not had an article appear in East Asia since 1938 when one appeared in a Japanese journal. Received, undated, on Oct. 27, 1973.

⁷ For work on China, refer to the next chapter. Of Japanese works, the following are representative: Gushima Kanesaburō, Kokusai seiji (International Politics) (Tokyo, 1970); Itagaki Yōichi, Kokusai Kankei Ron no Kihon Mondai (Basic Problems of International Relations) (Tokyo, 1963); Maeshiba Kakuzō, Kokusai Seiji Nyūmon (Introductory International Politics) (Tokyo, 1968); Matsuba Hidefumi, Kokusai Seiji no Kichō (Basics of International Politics) (Tokyo, 1970); Urano Tatsuo, Gendaï Kokusai Seiji no Kadai (Issues of Modern International Politics) (Tokyo, 1970).

⁸ Stated in correspondence, op. cit.

⁹ Kenneth A. Dahlberg, "The Technological Ethic and the Spirit of International Relations" in International Studies Quarterly, March 1973, p. 67. The "area specialist" may well have a valuable role to play in this area. For additional comments on the future role of area specialists in international studies, see: James E. Doughery and Robert L. Pfaltzgraff, Jr., Contending Theories of International Relations (Philadelphia, 1971), p. 392.

¹⁰ Edward W. Soja, The Political Organization of Space (Washington, 1971), pp. 9-11. Also related to this issue is

the problem of transplanted cultural institutions being transformed by the recipient society, but the "donor" society failing to recognize the changes which have taken place in "their" culture. For a discussion of this problem, see: Adda B. Bozeman, Politics and Culture in International History (Princeton, 1960), p. 5.

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G.E. Hubbard, Eastern Industrialization and its Effect on the West (London, 1938). Also of interest is: Norman Jacobs, The Origin of Modern Capitalism and Eastern Asia (Hong Kong, 1958).

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Georg Borgstrom, The Hungry Planet (New York, 1965), p. 94. See also the praise of "modern" Asia in F.H. King, Farmers of Forty Centuries (New York, 1927), and in the quote of King found in Josué de Castro, The Geography of Hunger (Boston, 1952), p. 292.

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William Vogt, Road To Survival (New York, 1948), p. 213.

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Notably: J.E. Spencer and William L. Thomas, Asia, East by South: A Cultural Geography (New York, 1971) and for a particularly well done work on Asia flora and fauna, Pierre Pfeffer, Asia, A Natural History (New York, 1968). See also items listed under each country in the following three chapters.

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For a discussion of these inadequacies, see: Nakamura Hiroshi, East Asia in Old Maps (Tokyo, 1962).

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Andreas Dorpalen, The World of General Haushofer (New York, 1942), pp. 7-13 & 29-38. For additional material on Haushofer in East Asia, see: Hans W. Weigert, "Haushofer and the Pacific" in Foreign Affairs, Vol. XX, 1942, pp. 732-742.

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For further treatment of this theme, see: Margaret Riggs, "The Power of Japan and China: A Study in Political Geography" in Journal of Geography, May 1937, pp. 177-186; Charles A. Fisher, "The Expansion of Japan: A Study in Oriental Geopolitics" in Geographical Journal, Vol 115, 1950, pp. 1-19 & 179-193; Jo Yung-hwan, Japanese Geopolitics and the Greater East Asia Co-prosperity Sphere (PhD dissertation, S.I.S., The American University, 1964 - #2089).

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Sun Yat-sen, San Min Chu I, The Three Principles of The People (Shanghai, 1927), pp. 23-27.

19 Edwin O. Reischauer, Japan, Past and Present (New York, 1964), pp. 3-5.

20 Paul S. Reinsch, Intellectual and Political Currents in the Far East (Freeport, 1911/1971), pp. 14-15.

21 The quoted phrase is from: Zbigniew Brzezinski, "Japan's Global Engagement" in Foreign Affairs, Jan. 1972, p. 274, but many others have referred to Okinawa in the same manner.

22 Harrison E. Salisbury, War Between Russia and China (New York, 1969), pp. 147-148.

23 Stefan T. Possony, "Peking and Moscow: The Permanence of Conflict" in Modern Age, Spring 1972, p. 139.

24 Ibid., p. 143.

25 Lin Piao, Long Live The Victory Of Peoples War! (Peking, 1968), pp. 128-129.

26 As a matter of passing interest, one might note the continued presence of U.S. and German geopolitical and political geographical theories in Japanese political geographies, but these are not very influential. See for example: Iwata Kōzō, "The Recent Trend of Political Geography" in Jinbun Chiri (Cultural Geography), No. 3, 1956, pp. 165-175; and Kunimatsu Hisaya, Seiji Chirigaku Gairon (Outline of Political Geography) (Tokyo, 1957). This has not been a very active field in Japan.

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Chapter VIII

¹ "President Chiang Kai-shek's New Year's Day Message" in Free China Review, January 1973, p. 78.

² Sun Yat-sen, San Min Chu I, The Three Principles of The People (Shanghai, 1927), p. 161.

³ Ibid., p. 30. Quote is from an unspecified source.

⁴ Ibid., p. 25.

⁵ Ibid., p. 98.

⁶ See for example the statements of: Chiang Kai-shek in Free China Weekly (FCW), 10/15/72, p. 2 and 5/21/72; Chiang Ching-kuo in FCW, 2/25/73, p. 4; and ROC Finance Minister K.T. Li in FCW, 9/2/73, p. 2.

⁷ We might especially ask about the influence of Western missionaries among the Western-oriented Chinese on Taiwan. How much of the Biblical precepts of man's place in nature, as abused in the West, have the Chinese on Taiwan absorbed?

⁸ They are quite similar to the type of fanatic Santayana defined as - someone who redoubles his efforts when he's has forgotten his aims.

⁹ Administrative Research and Evaluation Commission, Executive Yuan, A Review of the Administration of The Republic of China (Taipei, 1972), p. 23.

¹⁰ FCW, 11/12/72, p. 1.

¹¹ Ibid., 8/5/73, p. 4.

¹² This program is administered by the National Health Administration of the ROC, Ibid., 12/3/72, p. 4; Actually, while the postwar average has been 2.8% per year, 1.9% was achieved in 1972; Ibid., 2/18/73, p. 4.

¹³ For examples of both types of forecasters, see: Ibid., 5/20/73, p. 2.

¹⁴ John S. Aird, "Population Policy and Demographic Prospects in The People's Republic of China" in People's Republic

of China: An Economic Assessment (Washington, 1972), pp. 326-327, has said it will be twenty years before the P.R.C. catches up to the R.O.C. in birth rate reduction.

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For a brief overview of the status of science and scientists in the R.O.C., see: Science and Technology in Asian Development (New Delhi, 1968), pp. 15-16.

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T'ang Pei-sung, Green Thralldom - Essays of a Chinese Biologist (London, 1949), pp. 29-31.

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FCW, 6/17/73, p. 4.

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Ibid., 8/12/73, p. 2.

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For an indication of the generous terms offered to foreign investors, see: Statute for Encouragement of Investment (Taipei, 1971).

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For example, ROC Economics Minister Y.S. Sun claimed that "economic self-sufficiency" is a primary goal for his country, FCW, 10/15/72, p. 1; and Dr. Shu Shien-siu, Chairman of Taiwan's National Science Council, stated that Taiwan was seeking self-sufficiency in its high-technology industries and in its supportive raw materials, Ibid., 6/24/73, p. 1.

21

Taiwan's brightest hope may be in its search for offshore oil reserves, see: Ibid., 7/8/73, p. 4.

22

The Taiwanese recognize this need, see Finance Minister K.T. Li in: Ibid., 9/9/73; and the readily made accommodations the Taipei government made with its Saudi Arabian oil supplier after the oil cutbacks, Ibid., 12/2/73, p. 1.

23

See the statement of C.C. Chang, vice-chairman of Taiwan's Council for International Economic Cooperation in Ibid., p. 4; and the assessment of ROC conservation activities in 22nd General Report, JCRR (Taipei, 1971), pp. 3-9 & 33-36.

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FCW, 6/10/73, p. 4.

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ROC Finance Minister K.T. Li urged the Taiwanese to re-evaluate their views of land so that industry might prosper without obstacles, Ibid., 1/14/73, p. 1. For example, Taipei proudly announced that thirty eight thousand acres

of tidal wetlands would be reclaimed for agricultural use. Ibid., 8/26/73, p. 1. What is seen as a sign of progress in Asia, would in many areas of the West be considered the loss of irreplaceable wildlife refuge.

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Quoted in: China and U.S. Foreign Policy (Washington, 1971), p. 10.

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Ross Terrill, 800,000,000 - The Real China (Boston, 1972), p. 211.

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For an extremely thorough and detailed description of China's physical geography and geology, see: Institute of Geography, U.S.S.R. Academy of Sciences, The Physical Geography of China (New York, 1969); See also: Central Intelligence Agency, People's Republic of China, Atlas (Washington, 1971); Harold Fullard (ed.), China in Maps (London, 1968); Theodore Shabad, China's Changing Map: National and Regional Development, 1949-1971 (New York, 1972); and, of lesser quality, Y.T. Jen, A Concise Geography of China (Peking, 1964).

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J.B.R. Whitney, "Ecology and Environmental Control" in Michel Oksenberg (ed.), China's Developmental Experience (New York, 1973). See particularly his ecological analysis of a traditional Chinese village, flow-charts, etc., pp. 96-98. One work which uses the term "environment" very freely in relation to China is Barry M. Richman, Industrial Society in Communist China (New York, 1969), but this usage is closer to the Sprout's use of "milieu".

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Neither must it be confused with the other approaches to political power in China. See for example: Robert A. Scalapino (ed.), Elites in the People's Republic of China (Seattle, 1972).

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Cited in CIA Atlas, op. cit., p. 4.

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Sun, op. cit., pp. 98 & 161.

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See, for example: J. Bronowski, Science and Human Values (New York, 1965), p. 43; and Caryl P. Haskins, The Scientific Revolution and World Politics (New York, 1964), p. 31.

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For an evaluation of this period, see: Joseph Needham, The Grand Titration: Science & Society in East and West (Toronto, 1969), p. 191; Henri Pirenne, Medieval Cities, Their Origins and the Revival of Trade (Princeton, 1952); and Fritze Rörig, The Medieval Town (Berkeley, 1967).

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Needham, op. cit., p. 213.

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Haskins, op. cit., p. 100.

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For an evaluation of "hsia fang", see: John K. Fairbank, The United States & China (Cambridge, 1971) p. 365; and Richard H. Solomon, Mao's Revolution and the Chinese Political Culture (Berkeley, 1971), p. 339. See also, Yang Chen-ning, "Education and Scientific Research in China" in Asia, Summer 1972, p. 82, for an assessment of Chinese respect for science, but denial of a scientific social class.

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Renssalaer W. Lee, III, "The Politics of Technology in Communist China" in Chalmers Johnson (ed.), Ideology and Politics in Contemporary China (Seattle, 1973), p. 319. See also: Theodore HSA-en Chen, "Science, Scientists, and Politics" in Sidney H. Gould (ed.), Sciences in Communist China (Washington, 1961) for a related analysis of China's politicized science.

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For a description of such efforts by Peking, see: "Science and Technology" in Peking Review (PR), 1/5/73, pp. 21-29.

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Franz Schurmann, Ideology and Organization in Communist China (Berkeley, 1968), p. 203.

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E.L. Wheelwright and Bruce McFarlane, The Chinese Road To Socialism (New York, 1970), p. 14.

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For some insightful comments on Mao's choice of revolution over modernization, see: Harold C. Hinton, China's Turbulent Quest (Bloomington, 1972), p. 171; see also: Robert F. Dernberger, "Radical Ideology and Economic Development in China: The Cultural Revolution and its Impact on the Economy" in Asian Survey, Dec. 1972, p. 1058.

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Mao Tse-tung, Quotations From Chairman Mao Tse-tung (Peking, 1967), pp. 187-200.

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For examples of Chinese pressures to "learn from Tachai", see: "learning from Tachai, Powerful Force for Developing Agriculture" in PR, 4/13/73, pp. 7-10; and "Boundless Creative Power - How a densely populated county with limited land achieves growing prosperity" in PR, 5/11/73, pp. 11-14. For a description of the model commune of Tachai, see: Pien Hsi, "The Story of Tachai" in The Seeds an Other Stories (Peking, 1972), pp. 166-193.

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Mark Selden, The Yennan Way in Revolutionary China (Cambridge, undated), p. 265. See also: Jan Myrdal, Report from a Chinese Village (New York, 1963) for an informal assessment of Yennan development.

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Richard Nixon, Inaugural Address, January 20, 1973 (Washington, 1973), p. 4.

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The nearest the writer was able to come to such an assessment was Richman, op. cit., pp. 805-808, but this, too, was wide of the mark.

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William Vogt, Road To Survival (New York, 1948), pp. 11-12 & 225.

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Ibid., p. 238.

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From: Ho Ping-ti, Studies on the Population of China, 1368-1953 (Cambridge, 1959), p. 271; quoted in Tuan Yi-fu, Man and Nature (Washington, 1971), p. 40.

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Aird, op. cit., pp. 237-243.

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PR, 6/16/72, p. 8.

69 Ibid., 4/27/73, pp. 16-17; see also: Ibid., 11/9/73, pp. 8-11, and 12/7/73, pp. 10-11.

70 Aird, op. cit., pp. 220-331, offers many details of the policy fluctuations.

71 Edgar Snow, "Population Control in China: An Interview with Chou En-lai" in Larry K.Y. Ng and Stuart Mudd (eds.), The Population Crisis (Bloomington, 1965), pp. 101-102.

72 Cairo's Al-Jumhurivah, in Arabic, p. 9; reported in FBIS Daily Report: People's Republic of China (FBIS-CHI-71-238), 12/10/71, p. A-8. This also says a great deal about the state of their bureaucratic problems.

73 For a variety of other assessments of China's population issue, see Chapter 13, "China: Over-populated or Under-populated?" in Keith Buchanan, The Transformation of the Chinese Earth (New York, 1970), pp. 278-290.

74 Aird, op. cit., pp. 327-331.

75 Keith Buchanan, The Chinese People & The Chinese Earth (London, 1966), p. 71.

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82 China Reconstructs, March 1973, p. 30.

83 Ashbrook, op. cit., p. 11. See also: Wu Yuan-li and H.C. Ling, Economic Development and the Use of Energy Resources in Communist China. (New York, 1963), p. 187.

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Walt Patterson, "The Chinese at Stockholm" in Not Man Apart, July 1972, pp. 6-7.

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"China's New Status in Oil" in Survival, March/ April 1972, pp. 75-77.

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Chiu Pei-chiang, "'Energy Crisis' and Scramble for Energy Resources" in PR, 9/28/73, p. 12.

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Peter Laut, Agricultural Geography (Melbourne, 1968), pp. 110-122.

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Isida Ryuziro (Ishida Ryūjirō), Geography of Japan (Tokyo, 1961), p. 67.

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For an evaluation of the advantages of transplant paddy, see: Laut, op. cit., p. 113.

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Ibid., July 1973, p. 20.

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T.R. Tregear, A Geography of China (Chicago, 1965), pp. 114 & 163, provides an excellent description of the old ways of life in China.

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For assessments of soil conditions in old China, see: Earley V. Wilcox, Acres and People, The Eternal Problem of China and India (New York, 1947), pp. 128-144; Graham V. Jacks and Robert O. Whyte, The Rape of the Earth: A World Survey of Soil Erosion (London, 1939), pp. 85-92. See also: Min Tieh, "Soil Erosion in China" in Geographical Review, 1941, and Fei Hsiao-tung and Chang Chih-i, Earth bound China, A Study of Rural Economy in Yunnan (London, 1949).

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- 110 Resources and Man (San Francisco, 1969), p. 84.
- 111 Tuan, China, op. cit., p. 187.
- 112 For examples of this, see: Ibid., pp. 29-41.
- 113 For accounts of these episodes, see: Stanley D. Richardson, Forestry in Communist China (Baltimore, 1966), pp. 143-149; and C.C. Li, "Genetics and Animal and Plant Breeding" in Gould, op. cit., pp. 297-321.
- 114 PR, 6/16/72, pp. 5-6 & 8.
- 115 Ibid., 7/20/73, p. 7.
- 116 For an example of treating science as too much of a panacea, see: Science and Technology in Asian Development (New Delhi, 1968), pp. 33-78 & 152-158; See also: Genevieve C. Dean, "Science, Technology and Development: China as a 'Case Study' " in China Quarterly, July-Sept. 1972, pp. 520-534.
- 117 China had not always been in this state as evidenced by the report of the monk Ennin from Japan who found Shantung to be so heavily forested in 845 A.D. that traveling was difficult. Not many centuries later Shantung's forests had been depleted. See: Tuan, China, op. cit., p. 101.
- 118 China Reconstructs, Jan. 1973, p. 14.
- 119 The Chinese are engaged in many dam building projects to reshape China. Tuan, China, op. cit., p. 198, reports over forty massive projects underway which will take years to complete.
- 120 Kuo, op. cit., pp. 57-58, 87-92, 113, & 138-139.
- 121 Mao, op. cit., pp. 187-188.
- 122 Chang Hsin-hai, America and China (New York, 1965), p. 39.
- 123 The Chinese report using biological controls to control the "lichee stink bug" in sugar cane and with other pests, see: China Reconstructs, April 1972, p. 8.

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Tuan, China, op. cit., p. 196; and Richardson, op. cit., pp. 107-129.

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Ibid., Feb. 1973, p. 2.

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Buchanan, Chinese People & Earth, op. cit., p. 70

132

We can, again, ask the question: what would happen to China if it were filled with relatively rich Chinese?

133

George W. Ball, The Discipline of Power (Boston, 1968), p. 171.

134

For those who argue that resource-related ecopolitical problems in China's future can be compensated for by international trade, etc. (i.e., Richman, op. cit., pp. 116-117), the only reply can be that these types of problems will fully come about in a period when trade has failed.

135

We must break away from the use of such terms as "stagnation" (i.e., in Aird, op. cit., pp. 27-28 & 44-49) and replace them with "homeostasis", etc.

136

FR, 6/16/72, p. 13. See also, the frank statement in China Reconstructs, Feb. 1973, p. 5: "China has made some progress in eliminating pollution but we still do not have much experience. And even when old problems of waste are solved, the use of new materials, technological processes and techniques and production of new products will create more problems. Ending environmental pollution is indeed a long-term project."

137

This recent statement aptly sums up all that is wrong-headed about China's attitudes and resultant policies: "Man utilizes natural resources to create wealth through labor and develop the economy. In this process, he constantly transforms nature and improves the environment."; FR, 7/20/73, p. 6.

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Chapter IX

1
James C. Abegglen, et. al., Japan and the United States in the 1970s (New York, 1971), p. 93.

2
For contemporary assessments of Japan in that period, see: T.A. Bisson, Shadow Over Asia, The Rise of Militant Japan (New York, 1941), p. 93; Ishii Ryōichi, Population Pressure and Economic Life In Japan (London, 1937); and Ernest F. Penrose, Food Supply and Raw Materials in Japan, 1894-1927 (Chicago, 1930).

3
Harold G. Moulton and Louis Marlio, The Control of Germany and Japan (Washington, 1944), pp. 76-81.

4
In this regard it is worth noting the following statement by Ernest Swift (in By Which We Live (Washington, 1957), p. 36): "The attack on Pearl Harbor by the Japanese was a prelude to the conquest of our mainland, so they could put the continental United States into a program of more efficient land-use. The underlying motives that impelled the infamy of Pearl Harbor and the invasion of the American Continent by our own ancestors has many aspects of common motive."

5
William Vogt, Road To Survival (New York, 1948), p.238.

6
Warren S. Thompson, Population and Progress in the Far East (Chicago, 1959), p. 117.

7
Julien Huxley, World Population (San Francisco, 1956), pp. 5-6.

8
Moulton & Marlio, op. cit., pp. 76-81.

9
Harrison Brown, The Challenge of Man's Future (New York, 1954), p. 235.

10
For any reader wishing to follow this topic in greater depth, the following works - in this order - are valuable: Miyamoto Mataji, et. al., "Economic Development in Pre-industrial Japan, 1859-1894" in Journal of Economic History, Dec. 1965, pp. 541-564; William W. Lockwood, The Economic Development of Japan: Growth and Structural Change, 1968-1938 (Princeton, 1954); Tōyama Shūgeki, "Politics, economics and the international environment in the Meiji and Taisho periods" in

Developing Economies, Dec. 1966, pp. 419-446; Nakayama Ichirō, Industrialization of Japan (Tokyo, 1963).

11

George B. Sansom, The Western World and Japan, a Study in the Interaction of European and Asiatic Cultures (New York, 1950), p. 223.

12

For an examination of those influences, with particular reference to "Rangaku" (Dutch learning), see: Numata Jirō, "The acceptance of Western culture in Japan" in Monumenta Nipponica, No. 3/4, 1964, pp. 1-8; and Thomas C. Smith, "Introduction of western industry to Japan during the last years of the Tokugawa period", in Harvard Journal of Asiatic Studies, No. 11, 1948, pp. 130-152.

13

For further comments on Japan's greater receptivity to modern capitalism, see: Joseph Needham, The Grand Titration: Science & Society in East and West (Toronto, 1969), p. 206; and Norman Jacobs, The Origins of Modern Capitalism and Eastern Asia (Hong Kong, 1958).

14

For an insightful overview of Japanese postwar economic affairs, see: Inouye Kaoru, "L'économie japonaise d'après-guerre: perspective et rétrospective" in Asie nouvelle, Nov.-Dec. 1964, pp. 9-13.

15

For an interesting explanation of the evolution in postwar Japan from nascent "economic democracy" into a revived form of Zaibatsu, see: Yamamura Kōzō, "Growth vs. economic democracy in Japan: 1945-1965" in Journal of Asian Studies, August 1966, pp. 713-728.

16

James W. Morley, "Growth for What? The Issue of the Seventies" in Gerald L. Curtis (ed.), Japanese-American Relations in the 1970s (Washington, 1970), p. 49.

17

Herman Kahn, The Emerging Japanese Superstate (Englewood Cliffs, 1970), p. 2.

18

Twain said of "science": "In the space of 176 years the Lower Mississippi has shortened itself 242 miles. That is an average of a trifle over one mile and a third per year. Therefore, any calm person, who is not blind or idiotic, can see that in the old oölitic Silurian period, just a million years ago next November, the Lower Mississippi River was upward of one million three hundred thousand miles long, and stuck out over the Gulf of Mexico like a fishing-rod. And by the same token any person can see that 742 years from now

the Lower Mississippi will be only a mile and three-quarters long, and Cairo and New Orleans will have joined their streets together, and be plodding comfortably along under a single mayor and a mutual board of aldermen. There is something fascinating about science. One gets such wholesale returns of conjecture out of such a trifling investment in fact." Cited in: William Buchanan, Understanding Political Variables (New York, 1969), p. 19.

19

Okita Saburō, "Japan and the World Economy Through the 1970's: A Projection" in Japan Report (JR), Special Supplement, 7/16/72, p. 1.

20

Kahn, op. cit., p. 113.

21

Witness the following frequently cited company song:
 "For the building of a new Japan
 Let's put our strength and mind together
 Doing our best to promote production.
 Sending our good to the people of the world
 Endlessly and continuously
 Like Water gushing from a Fountain.
 Grow Industry, grow, grow, grow.
 Harmony and Sincerity!
 Matsushita Electric!"

22

The earliest reference to this type term found by the writer was the reference to "homo economics" in: Fukutake Tadashi, Man and Society in Japan (Tokyo, 1962), p. 8.

23

Gregory Clark, "The Fragile Face of Force" in Survival, March 1970, pp. 85-87.

24

Donald C. Hellman, Japan and East Asia: The New International Order (New York, 1972), p. 8, finds Japan to be more like "a trading company than a nation"; while in U.S. Foreign Economic Policy Toward Japan (Washington, 1971), p. 83, Hugh Patrick of Yale finds the idea of the Japanese as economic animals to be false and "Japan, Inc." to be "simplistic and erroneous". See also, Bellah's notions on the primacy of the polity in Japanese culture as cited below.

25

For example, Morley, op. cit., does not even raise the matter of "if", but treats growth of some sort as a tacit assumption, pp. 48-93.

26

Until recent years growth was considered largely without regard for its harmful consequences, witness: Alan H. Glea-

son, "Economic Growth and Consumption in Japan" in William H. Lockwood (ed.), The State and Economic Enterprise in Japan (Princeton, 1965), pp. 391-444; and Marshall E. Dimock, The Japanese Technocracy (New York/Tokyo, 1968).

27

Ronald P. Dore, "Japan as a model of economic development" in Archives européennes de sociologie, No. 1, 1964, p. 154.

28

Okita, op. cit., p. 2.

29

For some interesting comments on the less pleasant "recognition" granted Japan, see: Jonathan Unger, "Japan: The Economic Threat" in Survival, Jan.-Feb. 1972, pp. 38-42.

30

Asahi Shimbun Correspondents (comp.), 28 Years in the Guam Jungle (Tokyo, 1972), p. 56.

31

Ibid., p. 110.

32

Those interested in this period may wish to consult: Marius B. Jansen, "Changing Japanese Attitudes Toward Modernization" in Marius B. Jansen (ed.), Changing Japanese Attitudes Toward Modernization (Princeton, 1965), pp. 43-89.

33

Robert N. Bellah, Tokugawa Religion; the Values of Pre-industrial Japan (Glencoe, 1957), p. 5.

34

Ibid., p. 8. See also: James A. Dator, "The Protestant Ethic in Japan" in George K. Yamamoto and Ishida Tsuyoshi (eds.), Modern Japanese Society (Berkeley, 1971), pp. 201-209.

35

Bellah, op. cit., p. 5, admits the possibility, but does not believe it will happen to Japan.

36

For an example the recurring, yet futile, trend in Japanese thought toward exorcising gross Westernisms in favor of gentile Asian culture, see: Tsunoda Ryusaku, et. al., Sources of Japanese Tradition (New York, 1964), pp. 191-201 - Kamei Katsuichirō's "Return to the East".

37

Ardath W. Burks, The Government of Japan (New York, 1964), p. 53.

38

For assessments of this disappearing side of Japan, see: Richard K. Beardsley, et. al., Village Japan (Chicago,

1959); Fukutake Tadashi, Asian Rural Society: China, India, Japan (Seattle, 1967); Fukutake Tadashi, Japanese Rural Society (New York, 1967); Thomas C. Smith, The Agrarian Origins of Modern Japan (Stanford, 1959); Ushio Toshitaka, Forestry and Mountain Village Communities in Japan (Tokyo, 1968).

39

Bellah, op. cit., p. 5.

40

A survey of the Japanese found them favoring newer ways:

"Introduce new ways and things	43.5%
Preserve traditional ways and things	25.7%
Cannot say indiscriminately	26.1%
Unknown	5.0%

Japan Institute of International Affairs, White Papers of Japan (Tokyo, 1972), p. 383.

41

Anesaki Masaharu, Art, Life, and Nature in Japan (Westport, 1971), pp. v-vi.

42

For a description of such returning, see: Kunimoto Yoshirō, "Deserted Mountain Villages of Western Japan" in Japan Quarterly, Jan-March 1973, p. 96. The influence of rurally based ties can also be found in unexpected realms, see: William Graves, "Living in A Japanese Village" in National Geographic, May 1972, p. 690, for the role of geomancy in siting the Osaka world's fair in 1970.

43

Morley, op. cit., p. 67.

44

Okita, op. cit., p. 2.

45

Ibid.

46

Ezra F. Vogel, JAPAN's New Middle Class (Berkeley, 1967), pp. 158-160.

47

Bellah, op. cit., pp. 5-8.

48

Japan Institute of International Affairs, op. cit., pp. 383-385.

49

Okita, op. cit., p. 1.

50

Morley, op. cit., p. 52.

51

Vogel, op. cit., p. 88.

52 Arnold J. Toynbee, Impressions of Japan (Tokyo, 1969), p. 46.

53 For further comments on the worsening conditions by the writer, see: Edward A. Olsen, "Aesthetic values in contemporary Japan; The effects of industrialization and a consumer economy on Japanese aesthetic values" in Asian Studies, August, 1972, pp. 272-277. For a rather light-weight attempt to describe these conditions, see: Boye De Mente and Fred T. Perry, The Japanese as Consumers (Tokyo, 1967), pp. 116-151.

54 Peter B. Stone, Japan Surges Ahead, Japan's Economic Rebirth (London, 1969), pp. 65-72, calls Japan an unacquisitive society because of the high rate of personal savings. However, even this criteria has to be qualified by the manner in which many Japanese receive large portions of their pay - in lump-sum bonuses, which tend to compel savings so that the amount may be spread evenly throughout the year.

55 Warren S. Hunsberger, Japan, New Industrial Giant (New York, 1972), p. 33.

56 JR, 1/16/72, p. 3; and 7/16/72, pp. 6-7.

57 See the poll entitled "Survey of Youth Attitudes" ("Wakamono Ishiki Chōsa") cited in Okita, op. cit., p. 13.

58 JR, 4/1/73, p. 3.

59 Lewis W. Moncrief, "The Cultural Basis of our Environmental Crisis" in Ian G. Barbour (ed.), Western Man and Environmental Ethics (Reading, 1973), p. 40.

60 Cited in Stone, op. cit., p. 193.

61 Jean Mayer and T. George Harris, "Affluence: the Fifth Horseman of the Apocalypse" in Psychology Today, Jan. 1970, p. 50.

62 Peter Smith, "Japan, Economic Dream, Ecological Nightmare" in Ecologist, Dec. 1971, pp. 16-19.

63 Marshall I. Goldman, "Environmental Disruption in Japan: Again the Japanese Outdo Us" in Marshall I. Goldman (ed.), Ecology and Economics: Controlling Pollution in the 70s (Englewood Cliffs, 1972).

64

Kunimoto, op. cit., p. 95.

65

A useful reference work when dealing with Japanese pollution issues is: Tomono Rihei, Kogai Yogo Jiten (A Glossary of Environmental Pollution) (Tokyo, 1973).

66

For a brief statement on Japan's environmental problems and the measures being taken to correct them, see: Allen V. Kneese, et. al. (eds.), Managing the Environment: International Economic Cooperation for Pollution Control (New York, 1971), pp. 185-198 & 339-342. For those interested in the details of the pollution problems and court cases regarding these problems, see: Kogai Benran (Tokyo, 1972). (Handbook on Environmental Pollution).

67

While as recently as 1969 more than half the people polled in Japan were able to respond that they were free of troubles regarding pollution (Japan Institute of International Affairs, op. cit., p. 394), there has been a spate of books in Japan regarding environmental problems which indicates a change of heart among the public. See for example: Gotō Kunio, Bunmei, Gijutsu, Ningen (Culture, Technology, Man) (Kyoto, 1972); Kaji Kōji, Kogai Gyōsei no Sōtenken (Total Review of Pollution Administration) (Tokyo, 1971); Kankyō Hōrei Kenkyūkai (Environmental Law Research Society), Kogai Gairon (Outline of Pollution) (Tokyo, 1972); Katō Tadoru, Kogai no Miraizō (Future State of Pollution) (Tokyo, 1970); Matsumoto Shōetsu, Kogai to Kihonteki Jinken (Pollution and Fundamental Human Rights) (Tokyo, 1972); Taketani Mitsuo, Kogai Anzensei Jinken (Safeguarding Human Rights (from) Pollution) (Tokyo, 1972); Ue Jun, Kogai Rettō, 70 Nendai (Pollution Archipelago, 1970s) (Tokyo, 1972).

68

JR, 6/1/72, p. 8.

69

Kahn, op. cit., p. 182.

70

Kawasaki Ichirō, Japan Unmasked (Tokyo, 1969), pp. 79-

83.

71

A thorough introduction to Japanese urban problems is offered in: Yazaki Takeo, Social Change and the City in Japan (Tokyo, 1968). Better works on Tokyo, include: Ronald P. Dore, City Life in Japan, A Study of a Tokyo Ward (Berkeley, 1958); An Administrative Perspective of Tokyo (Tokyo, 1970); Hibino Kazuyuki, "Tokyo: The Overpopulated Megalopolis" in Japan

Quarterly, April-June 1973, pp. 203-212; and George De Vès and Wagatsuma Hiroshi, "Arakawa Ward: An Illustrative Example of Urban Growth and Modernization in a City Ward", Unpublished/minicographed - Center for Japanese and Korean Studies, University of California, April 1969.

72

As part of a report resulting from Japan's "new overall national development plan" ("Shinzenzō") begun in 1969. Washington Post, 9/9/73, p. F 17.

73

Hoshino Yoshirō, "Remodeling the Archipelago" in Japan Quarterly, Jan.-March 1973, p. 44.

74

Tokyo's Governor Minobe Ryōkichi announced the creation of Tama as a bedroom city in 1969. AEN, 12/25/69.

75

Quoted in Kunimoto, op. cit., p. 95.

76

Tokyo's long-suffering commuters revolted briefly in 1973 and attacked the machines and their operators, TIME, 3/26/73, p. 36.

77

For examples of the trends in Japanese road building, see: General Information (Tokyo, 1969); and Charles Yarbrough, "Our Future Automotive Lifestyles: Any Lessons from Japan?" in American Motorist, Nov. 1973, pp. 8-9, 24.

78

E.J. Mishan, Technology & Growth, The Price We Pay (New York, 1970), p. 75, has commented on this phenomenon.

79

Ecologist, July 1972, p. 38.

80

TIME, 4/12/71, p. 40.

81

For technical accounts of the amounts and types of pollution, see: Annual Report of The Tokyo Metropolitan Institute for Environmental Protection (Tokyo, 1972 & 1973); and Odaiera Toshio, Photochemical Smog in Tokyo (Tokyo, 1972).

82

Vogel, op. cit., pp. 71-85.

83

TIME, 1/24/72, pp. 32 & 37.

84

Asahi Shimbun Correspondents, op. cit., p. 114.

85

In addition to the works cited in Note #67, see: Hoshino Yoshirō, Hankogai no Ronri (Logic of Anti-Pollution) (Tokyo, 1972).

86

Tanaka Kakuei, Nihon Rettō Kaizōron (Remodeling the Japanese Archipelago) (Tokyo, 1971). The book is reportedly ghostwritten: TIME, 1/29/73, p. 26. Hoshino, "Remodeling...", op. cit., p. 40, states that the book's sales were poor until Tanaka became Prime Minister.

87

JR, 7/1/73, pp. 1-3. For examples of current government activities, see: Environmental Protection in Tokyo (Tokyo, 1970); Outline of Plan to Protect Citizens of Tokyo From Environmental Pollution, 1972 (Tokyo, 1972); Tokyo Metropolitan Government, "Tokyo Fights Pollution" in Japan Institute of International Affairs, op. cit.; and "Development of Tokyo Bay" in Japan, No. 3, 1972, p. 16.

88

Environmental Pollution and Japanese Industry (Tokyo, 1973), p. 4.

89

For an excellent survey of opposition party criticism of Tanaka's plan, see: Nihon Rettō Kaizōron Hihan (Criticism of Remodeling the Japanese Archipelago) (Tokyo, 1972).

90

Omori Shigeo, "Two Tasks for Tanaka" in Japan Quarterly, Oct.-Dec. 1972, p. 414.

91

Information Bulletin 1970 (Tokyo, 1971), pp. 183-187.

92

Ibid., pp. 116-120.

93

This agency seems to be fully established. Its branches include: a Secretariat, Planning and Coordination Bureau, Air Quality Bureau, Nature Conservation Bureau, Water Quality Bureau, (Central Council for Control of Environmental Pollution, Council of Natural Parks, and Central Council on Wildlife) and (National Institute for Environmental Pollution Research and Training Institute for Environmental Pollution Control). Japan Institute of International Affairs, op. cit., p. 432. The above offices fall within the Prime Minister's office.

94

Created in Sept. 1973; JR, 11/16/73, p. 8.

95

"Pollution Case Law" in Japan Quarterly, July-Sept. 1973, pp. 251-254.

96

Env. Pol. & Japanese Ind., op. cit., pp. 1-11.

97

The Japan Industrial Machinery Manufacturers Association found that production of anti-pollution equipment had

increased from ¥142,800 million (\$464 million) in 1969 to ¥194,600 (\$630 million) in 170 and forecast an increase to ¥450,000 (\$1,460 million) in 1975; JR, 3/16/72, p. 1. And Japan's Ministry of International Trade and Industry (MITI) supports their claim, JR, 5/1/72, p. 8. While this is an indicator of Japan's concern over pollution, it may also be viewed as the environmental equivalent of measuring happiness via G.N.P..

98

It will be located in the Tsukuba Academic Town being developed in Ibaraki prefecture. It will have a staff of five hundred and will function as a coordinating center for environmental research in Japan. JR, 12/16/73, pp. 6-7. For data on the increases in governmental research expenditures on environmental research, see: Japan Institute of International Affairs, p. 170.

99

JR, 10/16/73, p. 8.

100

Japan Institute of International Affairs, op. cit., p. 394.

101

"Consumerism" in Japan Quarterly, July-Sept. 1973, pp. 255-258. Environmentalists in Japan have become active supporters of the use of the traditional Japanese "furoshiki". The carry-all piece of cloth is being revived as a substitute for the use of paper bags which become popular in postwar Japan. The furoshiki is long-lived and would reduce the amount of wood consumed in the production of paper bags; JR, 7/16/73, p. 5. Perhaps this item could be made the symbol of the environmentalists in Japan and, perhaps, even exported abroad?

102

Problems of the Human Environment in Japan (Tokyo, 1971), p. 19. (Included as Appendix "E").

103

Quoted in TIME, 12/27/71, pp. 56-57.

104

Henry Rosovsky, "Japan's Economic Future" in Challenge, July/August 1973, p. 13.

105

JR, 10/16/73, p. 8.

106

See: Appendix "E".

107

Japan's future activities might well be gauged best on the verdant islands of the Ryūkyū's which the Japanese have pledged to keep pollution-free: "Okinawa, A Dream Comes True" in Japan, No. 2, 1972, p. 7.

108

Walter R. Crocker, The Japanese Population Problem, Coming Crisis (London, 1931), p. 214.

109

Irene B. Taeuber, The Population of Japan (Princeton, 1958); and Taeuber, "Japan's Population: Miracle, Model, or Case Study" in Foreign Affairs, 1962, pp. 595-604. See also: John T. Takeshita, "Population Control in Japan: A Miracle or Secular Trend" in Yamamoto & Ishida, op. cit.;

110

The Institute of Population Problems of the Ministry of Health and Welfare offers the following data on the number of children per couple in surveys taken from 1940 to 1972:

1st Survey	- 1940	3.39	Children
2nd	" - 1952	3.30	"
3rd	" - 1957	2.79	"
4th	" - 1962	2.31	"
5th	" - 1967	2.20	"
6th	" - 1972	1.92	"

JR, 10/16/73, p. 5.

111

Japan hosted and was an active participant in the Second Asian Population Conference, held in November 1972 in Tokyo. For coverage of that conference, see: JR, 12/16/72, p. 8; and "Asian Population Explosion" in Japan Quarterly, April-June 1973, pp. 140-141.

112

"Of Many Men on Little Land" in Fortune, Sept. 1936, pp. 92-93, quoted in Glenn T. Trewartha, Japan, A Geography (Madison, 1965), p. 189.

113

Two excellent studies of Japan's agricultural and economic growth, are: T. Ogura, Agricultural Development in Modern Japan (Tokyo, 1963); and Okawa Kazushi, et. al., Agriculture and Economic Growth: Japan's Experience (Princeton/Tokyo, 1970).

114

Foremost among these problems was soil erosion. See: Graham V. Jacks and Robert O. Whyte, The Rape of the Earth: A World Survey of Soil Erosion (London, 1939), pp. 85-92. Most of the natural and social problems were alleviated by better management arising out of the postwar efforts in land-reform. See: Ronald P. Dore, Land Reform in Japan (London, 1959) and Laurence I. Hewes, Jr., Japan -- Land and Man. An Account of the Japanese Land Reform Program - 1945-51 (Ames, 1955).

115

Peter Laut, Agricultural Geography (Melbourne, 1968).

- p. 165; and Trewartha, op. cit., pp. 207-208.
116
- Ogura, op. cit., pp. 14, 26.
117
- Trewartha, op. cit., p. 211.
118
- Ibid., p. 198.
119
- Ibid., pp. 209-210; and James P. Grant, "Development: The End of Trickle Down?" in Foreign Policy, Fall 1973, pp. 49-50.
120
- Ishida Ryūjirō, Geography of Japan (Tokyo, 1961), pp. 63-65. (Listed as Isida Ryuziro).
121
- Danno Nobuo, "The Changing Face of Agriculture" in Japan Quarterly, July-Sept. 1972, p. 295.
122
- Crocker, op. cit., p. 206.
123
- Richard Storry, "Japanese Attitudes To The West" in Raghaven Iyer (ed.), The Glass Curtain Between Asia and Europe (London, 1965), p. 132.
124
- Danno, op. cit., pp. 296-298. However, as Lester Brown points out (in "The World Outlook for Conventional Agriculture" in Science, Nov. 7, 1967), p. 604, although Japan's population increase is on the order of one percent annually, its demand for foodstuffs is increasing about seven percent per year as its people's wealth increases.
125
- Japan. America's Largest Overseas Farm Market (Washington, 1973), pp. 3-15.
126
- Robert B. Hall, Jr., Japan; Industrial Power of Asia (Princeton, 1963), p. 43.
127
- Trewartha, op. cit., pp. 66-97, provides a list of scarce resources. Edward A. Ackerman, Japan's Natural Resources and Their Relation to Japan's Economic Future (Chicago, 1953) provides useful, if somewhat outdated, data. Takai Fuyuji, et. al., Geology of Japan (Berkeley, 1963), also provide a thorough, if narrowly focused, assessment of Japan's available domestic resources.
128
- Burks, op. cit., pp. 177-178.

129

Comments on the destruction of Hokkaidō's natural beauty, such as Delia and Ferdinand Kuhn's, Borderlands (New York, 1962), p. 55: "Understandably, the Japanese put profits for the present ahead of conservation for the future." are no longer so understandable.

130

Kahn, op. cit., p. 116.

131

Ibid., p. 111; and Thomas Hout, Japan's Trade Policy and U.S. Trade Performance (New York, 1973), p. 20.

132

Kahn, op. cit., p. 96.

133

Okita, op. cit., pp. 3-8.

134

Rosovsky, op. cit., p. 17.

135

For examples of recent Japanese attempts to assess their resource situation, see: Aono Tadao, Kigyō to Kankyō (Business and the Environment) (Tokyo, 1971); Itagaki Toichi, Nihon no Shigen Mondai (The Resource Problem of Japan) (Tokyo, 1972); and Keizai Shingikai Shigen Kenkyūkai (Economic Review Society, Resource Study Committee), Kokusaika Jidai no Shigen Mondai (Resource Problems of an Internationalized Age) (Tokyo, 1970).

136

Statistical Survey of Japan's Economy, 1972 (Tokyo, 1973), p. 27.

137

"Env. Pol. & Japanese Ind.", op. cit., p. 10.

138

Anzen Hoshō Chōsakai (Security Investigating Committee) Nihon no Anzen Hoshō, 1970 e no Tenbō (Japan's Security, A View Toward 1970) (Tokyo, 1969), p. 252. Hoshino, "Remodeling...", op. cit., p. 40, states that the Tanaka government plans to increase its oil imports to 800 million kiloliters by 1985 which would mean that Japan would be using about 25% of the world's crude oil supply.

139

JR, 11/1/73, p. 8; and 12/16/73, pp. 1-3.

140

Washington Star-News, 11/22/73, p. A-12. Japan has long avoided extensive contacts with Israel and has even refused landing rights to Israel's EL AL airline in Tokyo. TIME, 7/19/71, p. 18.

141

Washington Post, 12/27/73, pp. A1 & A11; and 1/6/74, p. A11.

- 142 Hout, op. cit., p. 7.
- 143 Japan's Overseas Private Investment -- Growth and Change (Washington, 1973), pp. 1-5.
- 144 TIME, 8/20/73, pp. 70-73.
- 145 See, for example: Taira Koji, "Power and Trade in U.S.-Japanese Relations" in Asian Survey, Nov. 1972, p. 989, who warns: "Ecologists in the U.S. today may be inadvertently playing into the hands of economic nationalists by their attempts to block the supply of resources to Japan in the name of environmental protection."
- 146 Saeki Kiichi, "Toward Japanese Cooperation in Siberian Development" in Problems of Communism, May-June 1972, p. 5.
- 147 JR, 8/16/73, p. 3.
- 148 Nihon Rettō Kaizōron Hihan, op. cit..
- 149 AEJ, 12/29/69.
- 150 For evaluations of these positions, see: Allan B. Cole, et. al., Socialist Parties in Postwar Japan (New Haven, 1966), p. 191; and Fukui Haruhiro, "Economic Planning in Postwar Japan: A Case Study in Policy Making" in Asian Survey, April 1972, pp. 345-348.
- 151 TIME, 12/25/72, p. 17-18.
- 152 Washington Post, 7/29/73, p. C3.
- 153 Ibid., 11/26/73, p. A22.
- 154 Elaine H. Burnell (ed.), ASIAN DILEMMA: United States, Japan and China (Tokyo, 1969), p. 30.
- 155 For comments on the use of "fronts" by the JCP, see: Robert A. Scalapino, The Japanese Communist Movement, 1920-1966 (Berkeley, 1967), pp. 116-118.
- 156 Ibid., pp. 225-226, 274.
- 157 Paul F. Langer, "The New Posture of the CPJ" in

Problems of Communism, Jan.-April 1971, p. 22.

158

Scalapino, op. cit., p. p. 350, suggests that the JCP would do well to model itself upon the Italian party. However, this would seem to offer little since they, too, share the Marxian illusions about man-nature relationships.

159

Problems... (Appendix "E"), p. 20. JR, 7/1/72, pp. 1-2; and in Sato Eisaku and Aichi Kiichi, Policy Speeches By Prime Minister Eisaku Sato and Foreign Minister Kiichi Aichi At The Sixty-Fifth Session Of The National Diet (Tokyo, 1971), p. 16.

160

Nishibori Masahiro, Japan Views the United Nations (Tokyo, 1970), p. 5.

161

JR, 10/16/73, p. 4.

162

Uemura Kogorō, "Contribution to World Economic Prosperity and the Course of Japanese Economy" in Keidanren Review, Summer 1971, p. 3.

163

Asahi Shimbun Staff, The Pacific Rivals (Tokyo, 1972), p. 339.

164

See: Japan in the United Nations (Tokyo, 1969), pp. 19-23; Japan's Industrial Role in Overseas Cooperation for Development (Tokyo, 1969); and "Cooperation for Development" in Japan, No. 4, 1970, pp. 1-11. See also the data cited in Note # 143, above.

165

Again, see data cited in # 143.

166

Okita, op. cit., p. 9. The Japanese are also involved in the West extracting resources from such areas as Alaska, West Virginia, and Australia; Hunsberger, op. cit., pp. 53-54.

167

"Env. Pol. & Japanese Ind.", op. cit., p. 10.

168

Okita, op. cit., p. 8; and Kahn, op. cit., p. 134.

169

Ui Jun, "The Singularities of Japanese Pollution" in Japan Quarterly, July-Sept. 1972, p. 291.

170

Yoshida Shigeru, The Yoshida Memoirs (London, 1961), p. 96.

171

As Herman Kahn (op. cit., p. 125) observed, "It is

probably as impossible to seek to become one of the top three economic powers of the world, much less number one, without eventually becoming entangled in international political problems as it is to become an Olympic swimming champion without getting wet."

172

Hellman, op. cit., p. xi.

173

Kahn, op. cit., p. 101.

174

Mushakōji Kinhide, "In Search of a New Diplomacy" in Japan Quarterly, July-Sept. 1973, p. 267.

175

Wakaizumi Kei, "Japan's Role in a New World Order" in Foreign Affairs, Jan. 1973, p. 316.

176

Vogt, op. cit., p. 213.

177

The phrase "paper dragon", previously used with reference to China, was drawn from: John Selby, The Paper Dragon. An Account of the China Wars 1840-1900 (New York, 1968). In this connection, it is worth recalling Jean Mayer's reference to the prospect of 700 million rich Chinese and their probably ruinous effect on China and asking whether 100 million (+ or -) taller, fatter, and richer Japanese have not already proved Mayer's point?

178

Japan's conservation of nature related laws are in three basic categories: 1) Cultural Properties Protection Law (1950); to protect man-made and scenic spots; 2) Law Relative to the Protection and Hunting of Birds and Beasts (1963); wildlife preserves; & 3) Natural Park Law (1957); three types of parks - national parks, state-designated parks, and prefectural parks. These parks constitute 12.3 million acres or 14% of Japan's land area. In addition, the Environment Agency's Nature Conservation Bureau (see Note # 93) implements the Law for the Preservation of the Natural Environment (1972) by overseeing three types of conservation areas: Primeval Natural Environment Conservation Areas (wilderness and nationally sponsored) and Natural Environment Conservation Areas (less than wilderness and sponsored by 1) Tokyo and 2) prefecture). JR, 12/1/73, pp. 1-2, has a brief statement on these areas and laws. The writer is indebted to Dr. Ikeda Mayako, tutor at the Inter-University Center in Tokyo, for her observations on Japan's natural preserves.

179

Harvey Arden, "John Muir's Wild America" in National

Geographic, April 1973, p. 461.

180

This danger was covered above in Chapter IV. The writer was witness to the phenomenon on several occasions in Japan. Destructive mass adoration of nature by Japanese or any other people is self-defeating.

181

This attribute was well expressed in the following Japanese phrase. It is left in Japanese for its English version is merely a bland declarative statement, while the Japanese implies something which English does not seem to be able to fully connote: "Ningen wa itsuka shizen o mitsumeru toki ga atte ii." (Hamaya Hiroshi, Nihon Rettō (Japanese Archipelago/ cited as "Landscapes in Japan") (Tokyo, 1964), frontispiece.)

182

Anesaki, op. cit., pp. 18-19.

183

For an evaluation of the status of science in Japan, see: Science and Technology in Asian Development (New Delhi, 1968), pp. 20-21; and Arthur H. Livermore (ed.), Science in Japan (Washington, 1965).

184

For example, the Japanese hosted the second meeting of the Association for Science Cooperation in Asia (ASCA) in March 1973. ASCA was established in 1972 for the purpose of spreading scientific and technical knowledge throughout Asia. JR, 7/16/73, pp. 2-3. However, little concern was evidenced over the lesser effects of technology missapplied. For an example of a Japanese technocrat at work dealing with both social and ecological issues, see: Kishida Junnosuke, "New Problems of Advanced Societies" in Japan Quarterly, April-June 1973, p. 182. Such individuals are necessary to contend with these problems, but they need to recognize that they, too, are part of the problem.

185

For an assessment of this compartmentalization of values in Japanese society, see: Nakane Chie, Human Relations in Japan (Tokyo, 1972), pp. 84-86. See also: Nakane's Japanese Society (Berkeley, 1970); and the writer's "Japanese Aesthetic Values....", op. cit..

186

Nihonkan, Nihon to Nihonjin (Japanese Pavilion, Japan and the Japanese) (Osaka, undated, ca. 1970), pp. 19-20.

187

Mitsubishi Miraikan, Nihon no Shizen to Nihonjin no Yume (The Mitsubishi Future Hall, Nature in Japan and the Dreams of the Japanese) (Osaka (?), undated, ca. 1970); in

response to this type view, Kahn, op. cit., pp. 89 & 131 declared that Japan seems likely to become a "garden spot". One must wonder whether it was Herman Kahn or his predecessor who named New Jersey the "Garden State". Japan holds more promise of becoming that genre of "garden".

188

JR. 7/1/73. p. 8.

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Chapter X

1

It is worthwhile here to recall Derk Bodde's (China's Cultural Tradition (New York, 1957), p. 33) statement on Chinese man-nature relationships: "In China....people have been climbing mountains from times immemorial simply because it was natural and pleasing to them to do so; no one, however, would ever have dreamed of ascending an Everest because by so doing he would achieve what no man had ever achieved before.". This was certainly true and, up to a point, it is still true. However, the Communists have very different views. As for the Japanese, they might well try to be the first and since they were not the first they have, ever since, tried to surmount Everest and other noted peaks in better, faster, or more unusual ways.

2

Some Japanese recognize this distinction, witness critic Shiraishi Bon's statement (in "Japan's New Departure" in Japan Quarterly, Jan.-March 1973, p. 28): "The Japanese must understand that there is a difference between their idea of 'modernization' and the Chinese idea of 'modernization'." In a related vein, witness Taira Koji's statement on the U.S. and Japan (in "Power and Trade in U.S.-Japanese Relations" in Asian Survey, Nov. 1972, p. 987): "It is indeed one of the most fascinating ironies in the history of U.S.-Japanese relations that American animosity toward Japan has been correlated with Japanese success by standards and criteria in terms of American values.". His point is well taken, except that it is outdated by an even greater irony. This was the case throughout much of this century, but as the U.S. became engrossed with solving environmental problems it began to ascribe to many of the idealized values of the "East". The truly ironic situation of today is that Japan has adopted more and more of what might be termed the U.S.'s traditional values while the U.S. is swerving more and more toward what is seen in the West as Japan's and Asia's traditions of man-nature harmony. Thus irony is compounded.

3

Okita Saburo, "Japan and the World Economy Through the 1970's: A Projection" in JR, Special Supplement, 7/16/72, p. 12.

4

Zbigniew Brzezinski, Between Two Ages (New York, 1970), p. 125.

5

However, one should not go quite as far as Benjamin

Higgins, Economic Development (New York, 1968), p. 317, who in denying Japan's usefulness as-a model, stated: "Industrialization on the basis of toys and silk scarves is not a process that other countries can follow.". Japan's economic growth was launched on a great deal more than this - notably Japan's traditions of hard work, etc. - factors which UDCs today might well wish to emulate.

6

Not everyone would agree with this assessment, witness Keith Buchanan, The Chinese People & The Chinese Earth (London, 1966), p. 83, who would welcome the prospect of a world-wide change of nature-related attitudes. Should the rhetoric of the Chinese economic model prevail and spread, then the ecopolitical implications of the late Lin Piao's analogy of the third-world "rural areas of the World" encircling the "cities of the world" embodied by the developed nations (Lin Piao, Long Live The Victory of People's War (Peking, 1968), p. 108) would hold ominous prospects for the future of man on earth.

7

Brief reference to the other East Asian country - Mongolia - in incorporated within the section on Sino-Soviet affairs below. Mongolia may also offer some insights, but probably not very many since it is quite closely aligned with the Soviet Union and is in many respects more a part of the Central Asian culture realm.

8

For those readers interested in the cultural greatness of Korea's past, the following works are recommended. However, they tend to slight the material poverty which coexisted with cultural achievement. Han Woo-keun, The History of Korea (Honolulu, 1970); Hatada Takashi, A History of Korea (Santa Barbara, 1969); and William E. Henthorn, A History of Korea (New York, 1971).

9

Shannon McCune, Korea. Land of Broken Calm (Princeton, 1966), pp. 85-86.

10

Robert A. Scalapinó, "The United States and Asia" in Paul Seabury and Aaron Wildavsky (eds.), U.S. Foreign Policy: Perspectives and Proposals for the 1970s (New York, 1969), p. 131 called North Korea "the most heavily militarized society in Asia, possibly in the world, measured in terms of its allocation of available resources and energies." See also: B.C. Koh, "North Korea: Profile of a Garrison State" in Problems of Communism, Jan.-Feb. 1967, pp. 18-27.

11

Considering the handicaps, the following piece is an

admirable effort; Pong S. Lee, "An Estimate of North Korea's National Income" in Asian Survey, June 1972, pp. 518-526. See also: Shinn Rinn-sup, et. al., Area Handbook for North Korea (Washington, 1969), for a survey of other efforts.

12

Kim Il-sung, Revolution and Socialist Construction in Korea (New York, 1971), pp. 5-6.

13

For a discussion of this slowdown, see: Joseph S.H. Chung, "North Korea's 'Seven Year Plan' (1961-70): Economic Performance and Reforms" in Asian Survey, Sept. 1972, pp. 527-538. Chung stated of the military expenditures: "the share of national defense to the total national budget rose from an average of 4.3% during 1956-61 to an average of 31.2% between 1967-69. The big jump occurred in 1967 when the share increased to 30.4% from 10% for the previous year."

14

Shinn, op. cit., pp. 341-346.

15

Kim, op. cit., p. 87.

16

Ibid., p. 88.

17

Witness Kim Il-sung's statement (Ibid., p. 48): "The labor zeal and creative initiative of the masses can display their real power only when they are combined with science and technique. With the enthusiasm of the masses alone, devoid of advanced science and technique, we cannot go ahead far, nor can we make continuous innovations."

18

Ibid., p. 160.

19

The North Koreans do not agree. For Kim Il-sung's view of the current plan, see: Ibid., pp. 183-214.

20

W.D. Reeves, The Republic of Korea (London, 1963), p. 9, - one of the very few books on South Korea written without excessive patriotic fervor, said of Korean poverty in the early 1960s: "the vast mass of the people remain very poor and sometimes on the edge of starvation.". The system the U.S. had attempted to cultivate in South Korea was declared a failure by such authorities as: Edward H. Wagner, "Failure in Korea" in Foreign Affairs, Oct. 1961, pp. 128-135, as a result of the Pak revolt. Others would disagree, see: Lt. Col. David R. Hughes, "The Myth of Military Coups and Military Assistance" in Military Review, Dec. 1967, pp. 3-10.

21

For a copy of the treaty, see: Japan Handbook, 1968 (Tokyo, 1968), p. 250. Pre-treaty studies of Japanese-Korean relations indicate the degree of hostility which existed. See: Lee Chong-sik, "Japanese-Korean Relations in Perspective" in Pacific Affairs, Winter 1962-63; Lee Jin-won, "Brief Survey of Korean-Japanese Relations" in Koreana Quarterly, No. 1, 1959; Min Byung-ki, "Problems in the Korean-Japanese Relations" in Koreana Quarterly, No. 1, 1964; Nikkan Kankei no Tenkai (Developments in Japanese-Korean Relations) (Tokyo, 1962).

22

The ROK government actively seeks foreign investments in Korea by a variety of financial inducements, see: Facts About Korea (Seoul, 1972), pp. 65-66.

23

Ibid., pp. 51-58.

24

Korean Report, Winter 1972, p. 23.

25

Ibid., Spring 1972, pp. 8-9.

26

Ibid., Spring 1973, p. 11.

27

Park, Chung Hee (Pak Chung-hi), Our Nation's Path (Seoul, 1962), seemed to have been well-meaning and egalitarian, but he has continued doing many of the same things which he criticizes in his book during the years since it was published.

28

Pak's views on the "Saemaul" movement are presented in: Park, Chung Hee (Pak Chung-hi), 1973 Budgetary Message (Seoul, 1972), pp. 5-27. South Korea had spent \$10.7 billion (\$ 27 million) on this program by 1971, Landmarks of Development (Seoul, 1972), pp. 20-27.

29

McCune, op. cit., pp. 16, 45, & 50, provides assessments of these relationships. One must also question the influence of missionaries from Western cultures who import Western views of man in nature.

30

See for example: Jeon Sang-woon, Science and Technology in Korea: Traditional Instruments and Techniques (Cambridge, 1973).

31

Science and Technology in Asian Development (New Delhi, 1968), pp. 21-23.

32 See, for example, Pak Chung-hi on science: "I believe that everybody must learn, familiarize himself with and develop scientific ways of life. Only then will our national strength surge ahead rapidly. Without scientific skills we absolutely cannot be an advanced nation.", Korean Report, Spring 1973, p. 12.

33 Ibid., p. 7.

34 For an example of a study which allegedly examines South Korea's economic development vis-a-vis society and politics, but which does not mention its impact on either the physical or cultural environment, see: T.C. Rhee, "South Korea's Economic Development and its Socio-Political Impact" in Asian Survey, July 1973, pp. 677-690. Economic Survey 1971 (Seoul, 1972) is another example of the chamber of commerce ethic attwork. And Pak Chung-hi, in his Budget Message, op. cit., pp. 12-13, expresses concern with "side effects arising from the high degree of economic growth". However, his concern was with economic side-effects and not ecological or environmental side-effects.

35 Economic Survey 1971, op. cit., p. 136, table 6-106.

36 The South Koreans were hurt by direct Arab oil cut-offs and by indirect cut-offs by Western suppliers who had their own problems and were unable to supply South Korea. Washington Post, 12/16/73, p. A11.

37 Notably in continued strains in Japanese-Korean relations such as closer Japanese trade contacts in North Korea (TIME, 2/7/72, p. 42) and the economic upheavals resultant from the misadventures of the South Korean kidnapping of opposition politician Kim Dae-jung in Japan (Washington Post, 12/27/73, p. A15). The South Koreans also face continued population pressures, although they state that they are able to control population growth to within a 2.0% annual increase and expect to lower it below 0.5% by the year 2000 (Facts About Korea, 72, op. cit., p. 16). This remains to be seen.


38 Hahn Pyong-choon, " 'Cultural Nationalism' Stressed in Asia" in Korean Report, Spring 1973, pp. 20-21.

39 The talks arising out of North and South Korea's seven point agreement (listed in PR, 7/14/72, pp. 8 & 12) have yet to produce anything substantial and the threat of war has still not been banished, witness: Edwin O. Reisch-

auer and Gregory Henderson, "There's danger in Korea still" in The New York Times Magazine, 5/20/73, pp. 42-56. However, if peace should be achieved, it would be unfortunate if the DMZ area presently separating the two Koreas were to be developed as has been suggested (Korean Report, Spring 1972, p. 13). At present the political tensions between these two states has produced the unexpected benefit of providing an inviolable wildlife refuge - one of the few in Asia. If it is at all possible, this area ought to be left intact. The same might well be true of the region dividing North and South Vietnam, despite the less clear-cut boundaries in the latter instance. Unfortunately, however, the prospects for this development - in land-poor Asia - a quite minimal.

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Chapter XI

1  Yoshida Shigeru, Japan's Decisive Century, 1867-1967 (New York, 1967), p. 110.

2 For an excellent evaluation of Japan's past dual diplomacy, see Mushakōji Kinhide in Herbert Passin, (ed.), The United States and Japan (Englewood Cliffs, 1966), p. 134.

3 Ezra F. Vogel, JAPAN'S New Middle Class (Berkeley, 1967), p. 88, succinctly assesses this loss.

4 TIME, 2/10/67, p. 28.

5 Quoted in: John K. Emmerson, Arms, Yen & Power, The Japanese Dilemma (New York, 1971), pp. 378-379.

6 Satō Eisaku, New Tasks for Japan (Tokyo, 1969), p. 13; and Kajima Morinosuke, Modern Japan's Foreign Policy (Tokyo, 1969), p. 129.

7 As Richard M. Nixon, U.S. Foreign Policy For The 1970s (Washington, 1972), pp. 52-59, indicates, those shocks were consciously administered.

8 For the writer's further views on Japan's place in an Asia influenced by the Nixon Doctrine, see: Edward A. Olsen, "The Nixon Doctrine in East Asian Perspective" in Asian Forum, Jan.-March 1973, pp. 17-28.

9 Japanese officials were reported to have been muttering about the "gorotsuki" (hoodlums) in Washington. TIME, 9/6/71, p. 25.

10 A role so large that Donald C. Hellman, Japan and East Asia: The New International Order (New York, 1972), p. 35, described it as "a system of two elephants and many squirrels."

11 For an excellent analysis of this triangular relationship, see: Soedjatmoko, "The Role of the Major Powers in the East Asian-Pacific Region" in Survival, Jan.-Feb. 1972, p. 32.

12 George W. Ball, The Discipline of Power (Boston, 1968), p. 183.

13

Ellis Joffe, Party And Army, Professionalism And Political Control In The Chinese Officer Corps 1949-1964 (Cambridge, 1967), pp. 57-72; and Harrison E. Salisbury, Russia (New York, 1965), pp. 27, 32-35.

14

Benjamin Schwartz, "Modernization and the Maoist Vision: Some Reflections on Chinese Communist Goals" in Alvin Z. Rubinstein, Communist Political Systems (Englewood Cliffs, 1966), p. 393.

15

PR, 9/7/73, pp. 5-33, provides coverage of the selection of Wang Hung-wen at the PRC's 10th National Congress.

16

For a recent examination of the ethnocentric world-view of the Japanese, see: Katō Hidetoshi, "Weltanschauung" in Japan Quarterly, Jan.-March 1972, pp. 36-40.

17

For example, Herman Kahn, The Emerging Japanese Super-state (Englewood Cliffs, 1970), pp. 180-181, questions not whether but how it will occur. In contrast Robert Scalapino, in: United States & Japan, Danger Ahead (Washington, 1971), p. 10, doubts that Japan can be realistically included.

18

See comments by Emmerson, op. cit., p. 32. As Professor Etō Shinkichi, of Tokyo University, stated: "Japanese leadership has no grand political vision, no long-range plan of national aims. now that the multipolar world is emerging, the Japanese suddenly have no idea what they should do.", TIME, 9/6/71, p. 25.

19

This was dramatically illustrated by the appearance of former Prime Minister Satō Eisaku at the U.N. in 1970. A Soviet official preceded Satō and spoke to a full house. When Satō rose to speak, many present left the hall out of disinterest. A Japanese witness to this event has stated: "However proud Japan may be of ranking third in terms of GNP in the world, economic power alone will not enhance its international voice.". Quoted in Emmerson, op. cit., p. 396.

20

"Defense White Paper Published" in Information Bulletin 1970 (Tokyo, 1971), p. 232. This is a reflection of an argument presented by both Richard N. Rosecrance and Henry Kissinger. This may well have influenced the then Defense Agency Director-General Nakasone Yasuhiro who is reputedly quite knowledgeable about U.S. strategic thinking.

21

In this regard, one might well consider Japan as a

potential "balancer" of power as defined by Hans J. Morgenthau, Politics Among Nations (New York, 1967), p. 340.

22

The European states have rebuffed Japanese political and trade advances toward them. (TIME, 10/22/73, p. 57). Perhaps the most the Japanese can expect in Europe is, as Alastair Buchan, "A World Restored?" in Foreign Affairs, July 1972, p. 651, suggested, a role as an interested spectator, while Europe - because of its ties to South and South-East Asia may expect a somewhat larger role in the future of Asia.

23

Ruth Benedict, The Chrysanthemum and the Sword (New York, 1946), p. 171; and Nitobe Inazo, Bushido, The Soul of Japan (New York, 1905), p. 175.

24

Maruyama Masao, Thought And Behavior In Modern Japanese Politics (London, 1969), p. 137.

25

Such a sense of having been there before effectively forestalled a nascent revival in the early postwar period. For an evaluation of that period, see: Fujiwara Hirotsu, "Nationalism and the Ultraright Wing" in The Annals of The Academy of Political and Social Science, Nov. 1956; and Marius B. Jansen, "Ultrnationalism in Post-War Japan" in The Political Quarterly, April-June 1956.

26

Robert A. Scalapino and Masumi Junnosuke, Parties and Politics in Contemporary Japan (Berkeley, 1967), pp. 43-44. Maruyama's comments (op. cit., p. 143) are also instructive: "Far from uniting with social revolution, nationalism directed its efforts against revolution, or rather against its latent possibility."

27

Discussion of national interest is more openly discussed by Japan's conservative elite today. See: Mushakōji, op. cit., p. 131. As an example of the more extreme views which may well become more popular in the future, see Fujino Chujiro's statement: "America is beginning to put its own national interests before everything else. So it is time for us colored Asian races to unite again. I believe the concept of the prewar Greater East Asian Co-prosperity Sphere was right. We must look to the interests of our own country." Fujino is president of Mitsubishi Shōji. San Francisco Chronicle, The World, 11/8/70, p. 22.

28

This illogicality is reinforced by the present absence

of the Emperor as a symbol of rightist nationalis. See: Maruyama, op. cit., pp. 144-145. However, some Japanese are reported to believe that a short-term swing to the Left will be followed by a more basic swing back to the Right which will be led by the IDP's "Blue Storm" ("Seirankai") faction: TIME, 12/24/73, p. 45.

29

Edwin O. Reischauer, Japan, Past And Present (New York, 1964), pp. 160-161.

30

Edward Seidensticker, "The Image" in Passin, op. cit., p. 14; and Kamiya Fuji, "Japanese-U.S. Relations and the Security Treaty: A Japanese Perspective" in Asian Survey, Sept. 1972, p. 720.

31

Robert A. Scalapino, The Japanese Communist Movement, 1920-1966 (Berkeley, 1967), p. 44.

32

For those readers interested in a broader treatment of the SDF, see: Emmerson, op. cit., pp. 105-151; Martin E. Weinstein, Japan's Postwar Defense Policy (New York, 1971); and the writer's M.A. thesis: "The Role of the Self-Defense Forces in Post-War Japan, A Study of Japan's Armed Forces and Their Position in Japanese-American Relations", University of California, Berkeley, Sept. 1970.

33

The SDF had been referred to as "tax thieves" ("zeikin dorobō"); Ivan I. Morris, "Significance of the Military in Post-War Japan" in Pacific Affairs, March 1958, p. 10. Incidents such as the "Mitsuya Kenkyu" ("Three Arrows") preparedness controversy (see: Matsueda Tsukasa and George E. Moore, "Japan's Shifting Attitudes Toward the Military; Mitsuya Kenkyu and the Self Defense Forces" in Asian Survey, Sept. 1967, pp. 614-617) and the series of accidents involving SDF equipment and men (the most serious was the crash of an All-Japan Airlines' plane killing 155 following a collision with a SDF training flight; see: Newsweek, 8/9/71, p. 30) have all led the continued hostile social climate.

34

A copy of the article is in Appendix III of Edwin O. Reischauer, The United States & Japan (New York, 1957), p. 351.

35

See: Yoshida Shigeru's statement in Kajima, op. cit., p. 295; Morris, op. cit., p. 16; George R. Packard III, Protest in Tokyo, The Security Treaty Crisis of 1960 (Princeton, 1966), p. 20 for an analysis of the prevalent "Ashida-Kiyose" interpretation; and the AEN, 10/17/69, for coverage

of the controversial Sakurada proposal for the revision of the constitution.

36

See: Kajima, op. cit., for a description of the events leading up to the Sunakawa incident and court decision upon which the SDF have grown (p. 296); See also: TIME, 9/24/73, p. 57, for coverage of the Sapporo District Court's ruling which again places the SDF's legality in doubt.

37

The issuance of the Defense White Paper, op. cit., amounts to a formal admission by the government of what it had been doing for many years, a declaration of a "fait accompli".

38

World Military Expenditures and Related Data (Washington, 1970), p. 8.

39

Recent defense budgets have consumed approximately 0.8% of a growing GNP and have amounted to about 7% of the national budget. (Defense of Japan (Tokyo, 1970), p. 18). This is appreciably less than the 30-60% of the national budget prevailing in the 1930s; James H. Buck, "The Japanese Self-Defense Forces" in Asian Survey, Sept. 1967, p. 607.

40

See the statement by former Prime Minister Satō in: Jonathan Unger, "Japan: The Economic Threat" in Survival, Jan.-Feb. 1972, p. 40.

41

These pressures emerged early in the post-occupation period. See references to the Ikeda-Robertson meeting in: Asahi Shimbun Anzen Hoshō Mondai Chōsakai (Asahi Newspapers Security Problems Investigating Committee), Nihon no Jieiryō-ku (Japan's Self-Defense Strength) (Tokyo, 1969), pp. 29-31. The U.S. kept the pressures on by withdrawing its MAAG (interview, U.S. Embassy, 12/5/69, with R. Aka) and by a continuing withdrawal of U.S. forces from Japan; Washington Post, 1/24/73, p. A15. This has led to the Japanese resisting U.S. pressures and to doubts about the forces themselves. As one study asks, are they merely "ten tori mushi" (point-grabbing-bugs/a crammer)? (See: "Japan's Peace and Security", Part II, No. 17).

42

Defense White Paper, op. cit., pp. 233-235. See also former JDA Director-General Arita Kiichi's comparison of Nō Drama roles in: Doba Hajime, "Jishu Bōei ni tsuite" in Kokubō, Oct. 1969, pp. 64-65.

43

As William J. Sebald and C. Nelson Spinks, Japan:

Prospects, Options, and Opportunities (Washington, 1967), p. 74 pointed out, the Japanese once looked to the Gaulist political and possibly nuclear model with a great deal of favor. However, since China's first nuclear test in 1964, the Japanese have remained wary and adhered to their so-called "Three Anti-Nuclear Principles" (Hikaku Sangensoku) (See: Asahi Shimbun, 4/24/69, for a concise background of these principles). However, a variety of authorities have stated that the Japanese could easily produce nuclear arms: Kahn, op. cit., p. 168; "Tip-Toe Rearmament" in The Economist, 7/2/66, p. 26; & Morton H. Halperin, Contemporary Military Strategy (Boston, 1967), pp. 122-126. The Japanese briefly gave some indication of following that path by not ratifying the Nuclear-Non-Proliferation Treaty (AEN, 2/4/70), by giving some indication that they were actively thinking of a nuclear option (TIME, 7/26/71, pp. 28 & 31), and by declaring the "theoretical" possibility of permitting nuclear arms under their constitution (Defense White Paper, op. cit., p. 237).

44

Washington Post, 12/12/73, p. A4.

45

Sebald & Spinks, op. cit., p. 72; & TIME, 3/27/72,

p. 60.

46

AEN, 9/19/69.

47

See the provisions of U.N. Charter, Article 43, as cited in Norman J. Padelford and George A. Lincoln, The Dynamics of International Politics (New York, 1962), p. 587.

48

Quoted in: Ibid., p. 359.

49

Wakaizumi Kei, "Japan's Role in a New World Order" in Foreign Affairs, Jan. 1973, p. 326.

50

Mushakōji Kinhide, "In Search of a New Diplomacy" in Japan Quarterly, July-Sept. 1973, p. 267.

51

Alastair Buchan, "Power Relationship in the Far East: A European View" in Survival, May/June 1972, p. 107, has observed that any East Asian balance of power will be very different from Europe's past B.O.P. because of this four-sided interface of political cultures.

52

The Russian liberal Imperialist Count Muraviev-Amursky viewed the area encompassing Korea, Manchuria, and Mongolia as central to power in the area. As quoted in

Harrison E. Salisbury, War Between Russia and China (New York, 1969), p. 19, the Japanese "Tanaka Memorial" also viewed the region in geopolitical terms: "In order to conquer China we must first conquer Manchuria and Mongolia. In order to conquer the world we must begin by conquering China."

53

Witness: Salisbury, Ibid., p. 26-27; and the Soviet Union's use of Mongolia. For the latter, see: Henry S. Bradsher, "The Sovietization of Mongolia" in Foreign Affairs, pp. 545-553; Owen Lattimore, Nomads and Commissars (New York, 1962), pp. 170-201; and Victor P. Petrov, Mongolia, A Profile (New York, 1970), pp. 10-20 & 70-105.

54

W.A. Douglas Jackson, Russo-Chinese Borderlands (Princeton, 1962), pp. 98-104.

55

O. Edmund Clubb, China & Russia, The "Great Game" (New York, 1971), p. 520.

56

Salisbury, Russia, op. cit., pp. 7-9; and David J.M. Hooson, A New Soviet Heartland? (Princeton, 1964), p. 125.

57

Salisbury, Russia, op. cit., pp. 14-15 & 23-24 and War Russia & China, op. cit., pp. 30-38.

58

This shift originated as a reaction against Nazi attacks, but retained its momentum as a counterbalance against China, see: Hooson, op. cit..

59

CPR Foreign Ministry, "Sino-Soviet Border Dispute, The Chinese View" in Survival, May 1969, pp. 149-151; and Hsiang Ming, "Soviet Revisionist Social-Imperialism: Every Inch a Hegemonic Sea Power" in PR, 10/12/73, p. 14.

60

Local leaders inadvertently support China's fears, witness the statement of Singapore's Lee Kuan Yew: "The Soviet naval capacity in the Indian Ocean and the South China Sea can be a counterpoise to China's weight... on the littoral countries of Asia and Southeast Asia." Newsweek, 4/12/71, p. 50.

61

As Salisbury, War Russia & China, op. cit., p. 154 indicates, the Russians learned this lesson well in their 1904-5 war with Japan. For contemporary substantiating views, see: Ernst Kux, "Is Russia a Pacific Power?" in The Pacific Community, April 1970, pp. 498-510; and A.M. Tideman and G.S. Ronkin, "Regional Planning Problems in

The Soviet Far East" in Soviet Geography, Feb. 1971, pp. 124-132.

62

Clubb, op. cit., quotes both Grigori Zinoviev, Comintern chief in 1922 at the First Congress of the Toilers of the Far East, and Joseph Stalin, as believing that Japan was the crucial nation in East Asia, not China (pp. 267 & 345). George F. Kennan, Memoirs, 1925-1950 (Boston, 1967), pp. 374-375, supports this contention for the postwar period.

63

See, for example: Down With Revived Japanese Militarism (Peking, 1971) and Vladimir Khlynov, "TRUD" editorial in AEN, 11/14/69.

64

See: Wakaizumi, op. cit., 321, for comments on Japan's growing need to seek alliances with both Russia and China. See also: Warren S. Hunsberger, Japan, New Industrial Giant (New York, 1972), p. 7; and United States Foreign Economic Policy Toward Japan (Washington, 1971), p. 82, for warnings of growing tensions between the U.S. and Japan which might get out of control.

65

See, for example: Zbigniew Brzezinski, "Japan's Global Engagement" in Foreign Affairs, Jan. 1972, p. 272.

66

Although for somewhat different, i.e., more military, reasons, Clubb, op. cit., p. 518 reaches a similar conclusion.

67

For an excellent examination of this resource base, see: Theodore Shabad, Basic Industrial Resources of the USSR (New York, 1969); pp. 234-267 (Siberia) and 267-283 (Soviet Far East).

68

Thus, views such as Tiet Tran-minh, L'Asie et la paix mondiale (Paris, 1970), pp. 416-417, expresses favoring "detaching" and "decommunizing" Siberia cannot be seriously considered.

69

For an example of their official recognition, see: B.P. Orlov, "Tendencies of Economic Development in Siberia and Promotion of the Region's Role in the National Economy" in Soviet Geography, Jan. 1970, pp. 1-13.

70

V.A. Krotov, et. al., "The Role of Eastern Siberia in Solving Some of the Economic Problems of the Pacific Basin" in Ibid., pp. 64-66; and Y. Shipov, "Economic Relations Between the USSR and Japan" in International Affairs, Dec. 1969, p. 91.

71

TIME, 9/13/68, p. 88.

72 The "Northern Territories" of Japan consist of a small cluster of islands offshore Hokkaidō (Etorofu, Kunashiri, Shikotan, and Habomai) kept by the Soviet Union in the aftermath of the Second World War. For a brief history of this affair, see: The Northern Territorial Issue (Tokyo, 1968). By late 1973 this issue had made some slight progress. Following talks between P.M. Tanaka and Party Chairman Brezhnev, the Russians agreed to talk about the Northern Territories issue. This was a "first", since the Russians had theretofore refused to even discuss the issue. TIME, 10/22/73, p. 57.

73 Seaki Kiichi, "Toward Japanese Cooperation in Siberian Development" in Problems of Communism, May-June 1972, p. 6. See also: David I. Hitchcock, "Joint Development of Siberia: Decision-Making in Japanese-Soviet Relations" in Asian Survey, March 1971, pp. 279-300.

74 Violet Conolly, "Soviet-Japanese Economic Cooperation in Siberia" in The Pacific Community, Oct. 1970, pp. 55-65.

75 For Japanese views on these issues, see: Saeki, op. cit., pp. 9-11; and Kajima, op. cit., pp. 147-148.

76 Elizabeth Pond, "Japan and Russia: The View From Tokyo" in Foreign Affairs, Oct. 1973, p. 149.

77 Originally, as Clubb, op. cit., p. 483, noted, Peking charged that the Soviet Union was acting at the suggestion of the U.S., but this has been altered as a result of U.S. policy changes vis-a-vis China.

78 The Russians and the Japanese temporarily indicated a sudden readiness to deal with each other after witnessing the Sino-American contacts. TIME, 2/7/72, p. 41 & 3/6/72, p. 28.

79 The Chinese have sought to gain Japanese favor with statements favoring Japan's position in the Northern Territories dispute (Washington Post, 12/3/72, p. A26) and by holding out the offer of Chinese petroleum (Washington Post, 1/10/74, p. A14), but in the long-run, Chou En-lai's statement at the CCP 10th Party Congress: "Relaxation is a temporary and superficial phenomenon, and great disorder will continue." seems likely to be seen in retrospect as more than mere adherence to party dogma.

80

Kahn, op. cit., pp. 153-154, has speculated about this prospect. One might also ask how the Russians might accept the Japanese in their "Japan, Inc." guise?

81

This prospect must must also be modified by an awareness of Russian racial prejudices vis-a-vis Asians.

82

Buchan, World Restored, op. cit., pp. 656-657.

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Chapter XII

1

Pierre Teilhard de Chardin, Building the Earth (Wilkes-Barre, 1965), p. 110.

2

R.G. Collingwood, The Idea of Nature (New York, 1945), pp. 9-16.

3

Frank Graham, Jr., Since Silent Spring (Boston, 1970), p. xii.

4

Jacques Ellul, Technological Society (New York, 1964) and Zbigniew Brzezinski, Between Two Ages (New York, 1970).

5

Quincy Wright, "Modern Technology and the World Order" in William F. Ogburn (ed.), Technology and International Relations (Chicago, 1949), p. 177.

6

Victor C. Ferkiss, "Man's Tools and Man's Choices: The Confrontation of Technology and Political Science" in AFSR, Sept. 1973, pp. 973-974.

7

Or as one writer put it: "Is man still exercising free choice - that one absolute necessity if he is to avoid the fate of the dinosaurs and the dodos?"; U.S. Department of the Interior, Man, an Endangered Species? (Washington, 1968), p.

7.

8

Richard and Pätty Watson, Man and Nature (New York, 1969), p. 159, asked themselves the same question and answered "yes", but for different reasons: "In a sense it does, but then scientific knowledge of any sort is deterministic. Science rests on the principles that there is no effect without a cause and that from similar causes similar effects result."

9

The Watsons, Ibid., p. 160, concisely stated the possibilist viewpoint: "It is the physical environment that sets the possibilities for and the limitations of cultural development. Nature poses the problems for man, who is an animal that must live on earth. He must sustain himself with resources of the earth, and it is only within the range of potentialities presented by these resources that man can develop his culture." Paraphrasing the old saying, the Watsons said (pp. 117-118): "The mother of invention may in some part be necessity, but the limits of invention are largely set by the amounts of raw materials and utilizable energy available."

10

Harold & Margaret Sprout, "Environmental Factors in the Study of International Politics" in James N. Rosenau (ed.), International Politics and Foreign Policy (New York, 1969), p. 44.

11

The present variant of environmental determinism does not fit the Sprout's pre-cast mold. It is, however, unlikely that this variant's validity will ever be tested by man. Rather, it is unlikely that man will ever know the results of such a test. Its proof will inherently coincide with the end of human cultures.

12

Quoted in: William Leiss, The Domination of Nature (New York, 1972), p. 195.

13

Kenneth E. Boulding, "Fun and Games with the Gross National Product - The Role of Misleading Indicators in Social Policy" in Harold W. Helrich, Jr. (ed.), The Environmental Crisis, Man's Struggle to Live with Himself (New Haven, 1970), p. 170. Boulding had been preceded by William Vogt who had the same idea several years earlier in Road to Survival (New York, 1948), pp. 276-278.

14

See also, the comments of: Stanley A. Gain, "Can Ecology Provide the Basis for Synthesis Among the Social Sciences?" in Dennis L. Thompson (ed.), Politics, Policy, and Natural Resources (New York, 1972), p. 17.

15

Tuan Yi-fu, Man and Nature (Washington, 1971), p. 21.

16

Robert W. Patterson, "The Art of the Impossible" in Daedalus, No. 4, 1967, pp. 1020-1033.

17

Frank Lorimer, "Issues of Population Policy" in Philip M. Hauser (ed.), The Population Dilemma (Englewood Cliffs, 1963), p. 152.

18

This inward-looking posture was perhaps best expressed in Robert W. Tucker, A New Isolationism, Threat or Promise? (New York, 1972). Plans such as that presented in: Carroll L. Wilson, "A Plan for Energy Independence" in Foreign Affairs, July 1973, pp. 657-675, and favored by the Nixon administration as a way out of the energy "crisis" miss the point of world interdependency and also focus on an area - energy resources - which must be considered relatively easily solvable when contrasted to food resources. The inward-looking posture can be found in strange quarters, witness:

"Isn't it time to stop defining trade as the control of markets for our surplus products and control of raw materials for our factories? Isn't it time to stop depending so narrowly - in our thinking as well as in our practice - upon an informal empire for our well-being and welfare? Isn't it time to ask ourselves if we are really so unimaginative that we have to have a frontier in the form of an informal empire in order to have democracy and prosperity at home? Isn't it time to say that we can make American society function even better on the basis of equitable relationships with other people?" (William Appleman Williams, The Tragedy of American Diplomacy (New York, 1962), p. 305). Up until his last sentence appeal for international cooperation, this passage could just as well fit a protectionist or isolationist. If the alternative of international cooperation fails, then isolationism may be the next step.

19

Garrett Hardin, "The Survival of Nations and Civilizations" in Science, 6/25/71, p. 1297. Vogt, op. cit., p. 77, expressed a somewhat similar sentiment.

20

Barry Commoner, The Closing Circle (New York, 1972), p. 297.

21

Harold D. Lasswell, "The Garrison State Hypothesis Today" in Samuel P. Huntington (ed.), Changing Patterns of Military Politics (New York, 1962), p. 67.

22

Zbigniew Brzezinski, "U.S. Foreign Policy: The Search for Focus" in Foreign Affairs, July 1973, pp. 712-713.

23

Richard A. Ralk, "Environmental Policy as a World Order Problem" in Natural Resources Journal, April 1972, p. 170.

24

Aldo Leopold, A Sand County Almanac (New York, 1970), p. 238.

25

Harrison Brown, The Challenge of Man's Future (New York, 1954), p. 255.

26

See, for example: Seyom Brown, "The Changing Essence of Power" in Foreign Affairs, Jan. 1973, p. 294; David Calleo, The Atlantic Fantasy (Baltimore, 1970), p. 54; and Earl C. Ravenal, "The Case for Strategic Disengagement" in Foreign Affairs, April 1973, pp. 505-521.

27

For additional comments by the writer on the value of a condominium, see the "Correspondence" section of Foreign Affairs, Oct. 1973, pp. 181-183, including a reply by Earl C. Ravenal. In this regard, one might note that even the Sprouts - despite their preference for a cooperative international measure - recognized (Toward A Politics of The Planet Earth (New York; 1971), p. 46) that the U.N. was created with a Security Council meant to act as a "new concert of power" with representation in the General Assembly designed to make such domination "palatable" to the remaining countries.

28

Quoted in: Study Guide for Environmental Education (New York, 1973), p. 1. In a more metaphysical sense, Teilhard de Chardin's words (in, op. cit., p. 60) also reflect this hope: "The more man is man, the more he will feel the need to devote himself to something which is greater than he is."

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Appendix A*International Relations:
Quantitative and Qualitative Approaches

by Hans J. Morgenthau

The typology of theories of international relations presented by Professor Aron evolves from two fundamental and irreconcilable approaches to international politics. These approaches, in turn, express fundamentally different conceptions of the nature of man, of society, and of politics. According to one conception, a rational political order derived from universally valid principles is attainable, both in theory and practice. Failure to attain it must be attributed to obsolete modes of thought, to lack of knowledge and understanding. It will be attained if new modes of thought and methodological devices have been brought to bear on the seemingly recalcitrant subject matter of politics. According to the other conception, the rational deficiencies of the political world, as well as of man and society in general, are the result of forces inherent in human nature. These forces present insuperable obstacles to rational understanding and management. The political world, domestic and international, in particular, is in good measure the realm of the unique, the contingent, the unforeseeable, the uncontrollable; and in the measure that it is that, it is not susceptible to theoretical understanding.

It follows from these philosophical characteristics of the two conceptions that one is experimental, intellectually adventurous, and attracted by novelty, while the other is cautious when it comes to theorizing, intellectually conservative, and respectful of the wisdom of the ancients. One seeks to overcome the resistance of the subject matter of politics to comprehensive rationalization by conceptualizing it in a manner proven or assumed to be successful elsewhere, especially in economics; and in consequence tends toward quantitative abstraction, by depoliticizing politics and reducing it to something different, intellectually and practically more manageable. The other conception reconciles itself to that resistance and looks for the particular and uniform out of which fragments of theory may be fashioned, relying on the illumination which history and philosophy can bestow on the subject matter of politics.

The first view approaches the sphere of practice with confidence in its ability, present or future, to predict at least large-scale political trends and configurations. The other view is satisfied to use the concept of "interest defined as power" as a standard for practical judgment - which, at best, consists of a series of hunches as to which of a limited number of alternatives is most likely to occur under a limited number of conditions. The theoretician is here reduced to admitting that what he does is not essentially different from what the practitioner does, and is just as precarious.

Inasmuch as the latter approach is generally called traditional, it is hardly necessary to point to its ties with traditional political philosophy and history. However, it is significant and revealing that the modern approach, priding itself on the novelty of its concepts and methods, continues a tradition of Utopianism which has always been strong in the Western world and more particularly in America. What distinguishes the modern Utopianism from its predecessors is the emphasis on methodology to the detriment of morally inspired reform.

In international relations, the period between the end of the Napoleonic Wars and the Second World War is the age of reform. The dominant interest was less in understanding international relations as they were than in changing them. The purpose of change was to make international peace more secure. Great intellectual energies and ingenuity were spent on developing theories of international law that, if they could be put into practice, would limit the discretion of national governments. During the nineteenth century, disarmament and international arbitration were promoted as the main devices for putting international peace on a more stable foundation; in our century, collective security, peaceful change, and international organization have been added to these devices.

A NEW PHASE

In the aftermath of the Second World War, reflections on international relations entered an entirely new phase. This phase is marked by a number of academic schools of thought that have one aim in common: the pervasive rationalization of international relations by means of a comprehensive theory. The ultimate purpose is still practical: to increase the reliability of prediction and thereby remove uncertainty from political action. In the measure that they

attempt to eradicate obstacles to pervasive rationalization that are inherent in the objective character of international relations by overwhelming them with theoretical devices, the new theories are in truth not so much theories as dogmas. They do not so much try to reflect reality as it actually is, as to superimpose upon a recalcitrant reality a theoretical scheme that satisfies the desire for thorough rationalization. Their practicality is specious, since it substitutes what is desirable for what is possible. The new theories are in truth utopias, differing from the utopias of old only in that they replace the simple and obvious deductions from ethical postulates with a highly complex and sophisticated methodological and terminological apparatus, creating the illusion of empirical demonstration.

This illusion is made plausible by two interconnected devices: a reductionism that deprives international relations of political content and quantification. Reductionism has been a necessary and, hence, persistent element of all international Utopias from the Middle Ages to the present. For it is only by abstracting from that quality of politics, domestic and international, that resists pervasive rationalization and is responsible for the moral dilemmas, political risks, and intellectual uncertainties inherent in politics, that it is possible to construct a morally and intellectually satisfying theoretical scheme. That distinctive quality of politics is the struggle for power. It is at the root of all that is morally repellent, politically risky, and intellectually unsatisfactory in international relations

It is morally repellent because it violates the basic precept of Judaeo-Christian morality: to treat a man as an end and not as a means. For it is of the very essence of the animus dominandi to impose the actor's will upon another man and to make him an instrument of that will.

It is politically risky because out of the conflict of opposing desires for power there arises the propensity to violence whose consummation is the physical destruction of the opponent, who resists that consummation with violence of his own.

It is theoretically unsatisfactory because power, like love, is a complex psychological relationship that cannot be completely dissolved into a rational theoretical scheme. The theoretician of international relations who approaches his subject matter with respect for its intrinsic nature will

find himself frustrated morally, politically, and intellectually; for his aspiration for a pervasively rational theory is hemmed in by the insuperable resistance of the subject matter.

POWER A HARD CONCEPT

The new theories of international relations have yielded to the temptation to overcome this resistance of the subject matter by disregarding its intrinsic nature. Thus, some of these theories have assumed that since power is a difficult concept to deal with, power is not the central concept giving unity to international relations. Others have assumed that power is not the complex and elusive psychological phenomenon it actually is, by equating it with military power. Still others - and they have dominated the scene during the last decade - have assumed that politics does not need to be explained in its own terms, that is, in terms of power, but can be reduced to the manifestation of something else more susceptible to pervasive rationalization. That "something else" was found, either explicitly or implicitly, in economics.

What characterizes contemporary theories of international relations is the attempt to use the tools of modern economic analysis in a modified form in order to understand international relations. Their mainstay is quantification. The use of terms such as "systems analysis", "feedback", and "output" (to mention only a few common and easily accessible ones), is revealing; for these concepts were first developed by economic theory. Even more revealing is the mode of thought that dominates many of the contemporary theories of international relations. Whether they deal with the strategy of conflict or diplomatic bargaining or nuclear escalation, they visualize international conflict as a special case of social conflict in general (which is correct if one does not neglect the paramount distinctive factor that the parties to international conflict are sovereign nations with a monopoly of organized force), whose paradigm is economic conflict (which, as we shall see, is incorrect). In such a theoretical scheme, nations confront each other not as living historic entities with all their complexities but as rational abstractions, after the model of "economic man", playing games of military and diplomatic chess according to a rational calculus that exists nowhere but in the theoretician's mind.

It is widely recognized by economists that this rationalistic, quantitative approach is of limited applicability even to economics; for even here it neglects psycho-

logical forces that interfere with the smooth operation of the rational calculus. Its applicability is established by the nature of the central concepts of economics: wealth. Conversely, its inapplicability to politics is established by the nature of the central concept of politics: power. Wealth is a measurable quantity that an individual aspires to, competes or fights for, controls, possesses, or loses. Power is a quality of interpersonal relations that can be experienced, evaluated, guessed at, but that is not susceptible to quantification. What can be quantified are certain elements that go into the making of power, individual or collective, and it is a common error to equate quantifiable elements of power with power as such. It is certainly possible and necessary to determine how many votes a politician controls, how many divisions or nuclear warheads a government disposes of; but if I want to know how much power this politician or that government has, I must leave the adding machine and the computer for historical and necessarily qualitative judgment.

(* From: Palmer, Norman D., (ed.). Monograph 10, The American Academy of Political and Social Science, 1970.

Appendix B*

This We Believe, Statement of Conservation Policy

The Conservation Policy of the National Wildlife Federation has these objectives:

To create and encourage an awareness among the people of this Nation of the need for wise use and proper management of those resources of the earth upon which the lives and welfare of men depend; the soils, the waters, the forests, the minerals, the plantlife, and the wildlife.

TO REACH THESE OBJECTIVES THE FOLLOWING POLICIES ARE ADOPTED:

CONSERVATION EDUCATION

As an instrument of democracy in a free society, the National Wildlife Federation is organized to stimulate a proper public attitude and appreciation regarding the wise use and management of all natural resources. If the United States of America is to maintain a position of world leadership and survive, its citizens must be competent to appraise the values and importance of all resources, and learn to husband and wisely manage them in perpetuity. Conservation Education therefore is recognized by the National Wildlife Federation as the principal tool to reach the objectives.

It is the policy of the Federation to promote improved educational methods, to encourage the training of teachers in conservation, and to provide useful educational materials for schools, youth groups and adult organizations for the enlightened advancement and understanding of resource management.

COOPERATION

The Federation recognizes the interdependence and relationship of all elements, organic and inorganic, in developing a balanced civilization. Further, our structure of government, our social philosophies, and the husbandry of our natural resources are one and inseparable, since all are factors basic to the perpetuity of an enlightened civilization. For these reasons the Federation allies itself with

all other agencies and organizations, public or private, that concern themselves with the sound management and wise use of the land and its products. For these same reasons the Federation makes available to every individual free for the asking, a number of educational and informative abstracts, articles, pamphlets and books on the conservation and wise use of resources.

We recognize that the depletion of the natural resources of another nation or another continent will adversely affect the welfare of the United States by placing an added drain on this nation's resources. For that reason the Federation pledges to cooperate with agencies and organizations of other nations toward the common objective of mutual survival.

PARTISAN INFLUENCE IN THE MANAGEMENT OF RESOURCES

An intelligent appreciation of resource management includes not only an understanding of plants, animals, soils and water, and their interrelationships, but an accurate appraisal of industry, standards of living, education, markets, courts, and the democratic processes of free enterprise. It is the firm conviction of the National Wildlife Federation that the management of the nation's resources should neither be directed nor influenced on the basis of partisan politics or special user interests which conflict with over-all public benefits; and it follows that agencies charged with the administration of resources cannot perform their responsibilities with the highest degree of honesty and in the best interests of the people when subjected to and hampered by partisan considerations.

Therefore the Federation will encourage public recognition of:

1. The selection of individuals to policy-making boards and commissions, and officials who are legally protected from political pressures and free to discharge their duties without partisan considerations;
2. The selection of policy-making groups at the state level whose members serve for overlapping terms and who are selected on the basis of their ability to carry out the long-range continuity so vital to conservation programs that may take decades to accomplish; and who possess the proper qualifications to recognize the necessity of planning the best possible long-range programs designed to use wisely America's natural resources;

3. The selection of qualified personnel in all state and federal agencies on a non-partisan basis;
4. The continuous upgrading of personnel standards in state and federal conservation agencies commensurate with the duties of office.

EFFICIENCY IN GOVERNMENT

Efficiency and economy in government are essential parts of conservation, just as is elimination of unnecessary waste everywhere. In recognition of the principle that all natural resources are related in management and use, the Federation will strive to bring about a better understanding of a need for the coordination of all conservation agencies and programs, and for the elimination of overlapping in functions and of unnecessary agencies or personnel.

RESOURCE CONSERVATION (Abridged)

MULTIPLE USE

To meet mounting demands of an expanding human population, the National Wildlife Federation believes the nation must adopt and apply the multiple use principle to the management of all natural resources. In this respect, "multiple use" means the harmonious and coordinated utilization of resources in the combination of purposes best suited to meet the needs of the American people, and not necessarily all purposes or those giving the greatest monetary return or unit output.

WILDLIFE

The Federation recognizes the esthetic and recreational values of wildlife as highly important to the public welfare. Where these values and commercial demands come in conflict, the issue is to be resolved in favor of the esthetic and recreational uses.

WILDLIFE RESEARCH

WATER RESOURCES

COORDINATION OF RIVER BASIN DEVELOPMENT

NATURAL STREAM VALUES

WATER POLLUTION CONTROL

The Federation asserts the principle that the producer of contaminating wastes, whether citizen, industry or muni-

cipality, has a social responsibility and moral obligation voluntarily to prevent the pollution of public waters. Users of public waters have the responsibility for returning them as clean as when they were taken.

WATERFOWL AREAS

THE PUBLIC LANDS

PRIVATE LAND

..... Because much of the recreational opportunity in the United States today is on private property, it is the desire of the Federation to develop a proper public attitude and sense of responsibility toward the use of private lands.

NATIONAL PARKS AND MONUMENTS

WILDERNESS AREAS

The American wilderness is a diminishing and threatened resource, existing only in remnants protected until now by their inaccessibility and their remoteness from the streams of commercial activity. The wilderness yields certain unique values to mankind - values measurable only in terms of spiritual uplift, of scientific interest, and of recreational benefit. These values, we believe, are destined to grow in importance with, and in direct proportion to, the very pressures of human population and expanding industrial development that threaten to destroy them. Therefore the Federation pledges its best efforts to educate and inform the public on the necessity of safeguarding the remaining areas of true wilderness within the public lands of the United States.

SOIL CONSERVATION

(*) This We Believe, Statement of Conservation Policy.
Washington, D.C.: National Wildlife Federation, 1973.

Appendix C*

Economic Development and Environmental Protection

by Fang Hsin

The increasing amount of harmful industrial waste liquid, gas and residue in capitalist countries has resulted in serious pollution and damage to the environment, thus posing a threat to the health of the people. The question of economic development and environmental protection, therefore, has aroused widespread concern. With socialist construction surging ahead in China, it is important that we rely on the superiority of the socialist system to protect and continually improve our environment at the same time as we speedily develop our economy.

(I)

Man utilizes natural resources to create wealth through labour and develop the economy. In this process, he constantly transforms nature and improves the environment. But because of man's limited cognitive ability and knowledge of science and technology, economic development often brings harmful influences to the environment and hence to humanity. In explaining such influences, Engels cited the example of reclamation. In Mesopotamia, Greece and Asia Minor, people destroyed large tracts of forests to obtain cultivable land. They never dreamt that they were bringing, in succeeding ages, devastation to these areas by removing, along with the forests, the collection centres and reservoirs of moisture. In the same way, the Italians in the Alps cut down the fir forests on the slopes, having no idea that by doing this they were striking at the roots of the dairy industry in their region; still less did they have any inkling they were thereby depriving their mountain springs of water, making it possible for these to pour still more furious floods on the plains during the rainy season.

There are, however, profound social causes for the serious pollution and destruction of the environment in capitalist societies. There, making money is of primary importance. Engels pointed out: "As individual capitalists are engaged in production and exchange for the sake of the immediate profit, only the nearest, most immediate results can be taken into account in the first place." Speaking of the malpractices of the Spanish planters, Engels penetratingly exposed the crime

of the bourgeoisie in destroying the natural environment in order to get profits. Spanish planters burnt down whole forests on Cuba's mountain slopes in order to obtain sufficient fertilizer from the ashes for one generation of very highly profitable coffee trees. As a result, heavy tropical rainfalls afterwards washed away the unprotected top soil, leaving only bare rock.

Such uninhibited plunder of natural resources and destruction of environment increased along with the development of capitalist industry. In the mid-18th century, the industrial revolution took place, while the invention and popularity of the steam-engine released great productive forces previously unknown by society, it also gave rise to grave environmental pollution. Engels pointed out: "The first requirement of the steam-engine, and a main requirement of almost all branches of production in modern industry, is relatively pure water. But the factory town transforms all water into stinking manure. However much therefore urban concentration is a basic condition of capitalist production, each individual capitalist is constantly striving to get away from the large towns necessarily created by this concentration, and to transfer his plant to the countryside." New pollution ensued, as Engels said, because "modern capitalist industry is constantly bringing new large towns into being there by constant flight from the towns into the country." This is the insuperable "vicious cycle" of capitalist society.

Monopoly-capitalists lust for maximum profits in capitalist countries today, and this results in even greater anarchy in production. Factories discharge industrial wastes and natural resources are exploited at will, cities develop even more abnormally and the environment suffers even worse pollution and harm, and the health of the masses of the labouring people is seriously endangered. All these facts, past and present, point to the conclusion that the pollution and destruction of the environment in these countries is a social phenomenon of capitalism and a manifestation of the sharpening contradiction between the private ownership of the means of production and the social character of production.

(II)

The socialist system is the most advanced social system in the history of mankind. Under socialism, public ownership of the means of production replaces private ownership and

planned economy replaces anarchy in production. Industrial and agricultural production is arranged rationally; the abnormal development of the cities and urban concentration of population are avoided, so that urban construction is carried out in a planned and rational way and the masses can be mobilized and relied upon to protect the environment. In a word, the socialist system provides favourable conditions for protecting and improving the environment while swiftly expanding the economy. This does not mean, however, that the question of environmental protection does not exist under socialist conditions. On the contrary, we must pay great attention to it while developing the socialist economy.

China is a socialist country which "proceeds in all cases from the interests of the people." The basic object of developing the socialist economy is the people's welfare. An important principle in such development, therefore, is to protect the environment and eliminate industrial wastes. This is also the bounden duty of socialist enterprises. Otherwise, pollution and destruction of the environment will be harmful to the health of the workers and staff members and the people in general, and this will go against Chairman Mao's revolutionary line and the fundamental object of socialist economic development.

Economic development gives rise to the problem of environmental protection which, in turn, is an indispensable condition for carrying on normal production and developing the economy. If we allow the environment to be polluted and destroyed through lack of protection, it will endanger the people's health and the development of the socialist economy. Harmful industrial waste gas and liquid invading the farms hamper the growth of the crops, reduce yields or kill them altogether. Harmful waste liquid flowing into the rivers, lakes and seas endangers the growth of fish and other aquatic life and even causes them to die in large numbers. Industrial residue, if it is allowed to accumulate, will take up large tracts of land and farms, and if it is discharged into the rivers, will cause them to silt up and hampers navigation. Harmful waste liquid corrodes ships, pollutes water sources and spoils the water for residential or industrial use, thereby affecting the quality of industrial products. Besides, industrial waste gas corrodes workshops, pipes and other facilities.

Whether from the point of view of the object of socialist economic development or from the needs of developing the socialist economy itself, environmental protection is impor-

tant and indispensable. Marxism holds that a problem should be observed from the relation between things and their development. Environmental protection must be carried out in order to develop the economy faster. Conversely, if environmental protection is neglected in the course of economic development, the people's health will be threatened and the economy will not be able to develop well. Experience has shown that pollution of the environment is rapid whereas its elimination takes a longer time. We must, therefore, lose no time in strengthening prevention work while seriously undertaking elimination of pollution. This will benefit our people and our future generations.

Chairman Mao has taught us: "Marxist philosophy holds that the law of the unity of opposites is the fundamental law of the universe. This law operates universally, whether in the natural world, in human society, or in man's thinking. Between the opposites in a contradiction there is at once unity and struggle, and it is this that impels things to move and change." Like all other things, the contradictions between economic development and environmental protection are constant and absolute and their unity is temporary and relative. Economic progress will give rise to new problems in environmental protection, and new problems in this field will arise and call for solution after the old ones have been solved. This is the dialectical relationship between economic development and environmental protection. We must have a correct understanding of it. Under the socialist system the ability to protect and improve the environment is decided, to a considerable extent, by the economic and technical level. Only when the economy develops at a faster pace can this ability be raised more rapidly. Therefore, we can only solve the problem of environmental protection by developing the economy, and not seek a good environment by slowing down economic development or by other negative methods.

(III)

Chairman Mao has pointed out: "Socialism has freed not only the labouring people and the means of production from the old society, but also the vast realm of nature which could not be made use of in the old society." To develop multi-purpose use under socialist conditions is an important means for both developing the economy and protecting and improving the environment.

Environmental pollution in modern times is mainly created by industrial waste gas, liquid and residue. In the absolute sense, however, there is no such thing as "waste". There are unused materials in the world but there are no materials which cannot be used. What is "waste" under a certain condition can be turned into a useful thing under another condition; what is "harmful" under a certain condition can be turned into a "beneficial" thing under another condition. The Chinese Government is embarking on, in a planned way, work to prevent and eliminate environmental pollution caused by industrial waste gas, liquid and residue. Some achievements in this respect have been made. For example, piled high and unused, the slag of an iron alloy plant used to be a harmful thing. By adopting multi-purpose use in the past few years, it has been turned into many products. This not only gets rid of the harmful effects of the slag, but provides industry with an excellent abrasion-resistant and corrosion-resistant material.

Multi-purpose use is also the inevitable road for concentrating on production in depth and breadth and developing industry with greater, faster, better and more economical results. Guided by Chairman Mao's revolutionary line and crossing the boundaries of trades, many enterprises in China are making big efforts in multi-purpose use. While maintaining one field as their main activity, they develop in a diversified manner. Instead of using resources once, for a single purpose and at a primary level, they make use of them many times, for a wider purpose and at a higher level. Thus, they tap a new and tremendous source of raw materials for socialist construction and open a new and broad field for economic development. For instance, substantial results were obtained by multi-purpose use in 1971 alone. Peking made use of more than 1.5 million tons of different kinds of solid waste. Shanghai extracted more than 6,500 tons of some 20 precious and rare metals from industrial waste residues, and recovered over a million tons of dyestuffs, waste acid, caustic soda, oil and fat and fertilizers from industrial waste liquids.

Mankind's ability to know and protect natural environment grows continuously with economic and scientific progress. History proves that many things, once regarded as waste, have become valuable today. Things which cannot be used today may become useful tomorrow. In the 19th century people produced soda from salt and sulphuric acid. The large amount of hydrochloric acid formed in the process of production was regarded

as poisonous water and its disposal created pollution. Later this poisonous water became a basic raw material in the chemical industry.

At the turn of this century people used coal to develop the iron and steel industry, and tar produced in the making of coke was regarded as waste. But it was later discovered that this is an important raw material for making dyestuffs, pharmaceuticals, synthetic rubber, synthetic fibre and synthetic plastics. In the course of our industrial development today, many things are disposed of as waste because we do not fully know them yet. Sometimes they create pollution and bring on arduous tasks in environmental protection. But we are fully convinced that with the development of production and science, these harmful things will certainly be turned into valuable things.

It is necessary to point out that to prevent any harmful effects we must seriously deal with industrial waste gas, liquid and residue which are very harmful and cannot be recovered and used for the time being because of technical and economic limitations. But in the people's interests, this is very necessary even if it calls for certain expenditures.

Chairman Mao has taught us: "In the fields of the struggle for production and scientific experiment, mankind makes constant progress and nature undergoes constant change; they never remain at the same level. Therefore, man has constantly to sum up experience and go on discovering, inventing, creating and advancing. Ideas of stagnation, pessimism, inertia and complacency are all wrong." Guided by Chairman Mao's revolutionary line and with the superior socialist system and hundreds of millions of industrious and ingenious working people, we will certainly create a society with a highly developed economy and a beautiful environment as long as we take the struggle between the two lines as the key link, carry out overall planning and rational geographical distribution and go in for multi-purpose use to turn the harmful into the useful.

(*) Fang Hsin. "Economic Development and Environmental Protection" in Peking Review, 7/20/73, pp. 6-8.

Appendix D*

Japan's "Basic Law for Environmental Pollution Control"
as enacted in 1967; amended in 1970.

CHAPTER I GENERAL PROVISIONS

(Purpose)

Article 2

In view of the vital importance of environmental pollution control for the preservation of a healthy and civilized life for the nation, this Law is enacted for the purpose of identifying the responsibilities of the enterprise, the State and the local government bodies with regard to environmental pollution control and of determining the fundamental requirements for control measures, in order to promote comprehensive policies to combat environmental pollution, thereby ensuring the protection of the people's health and the conservation of their living environment.

(Definition)

Article 2

1. The term "environmental pollution", as used in this Law, shall mean any situation in which human health and the living environment are damaged by air pollution, water pollution (including the deterioration of the quality and other conditions of water as well as of the beds of rivers, lakes, the sea and other bodies of water. The same shall apply hereinafter, except in the case of paragraph 1, Article 9.), soil pollution, noise, vibration, ground subsidence (except for subsidence caused by drilling activities for mining. This exception shall apply hereinafter.), and offensive odors, which arise over a considerable area as a result of industrial or other human activities.

2. The term "living environment", as used in this Law, shall include property closely related to human life, and animals and plants closely related to human life and the environment in which such animals and plants live.

(Responsibility of the enterprise)

Article 3

1. The enterprise shall be responsible for taking the measures necessary for the prevention of environmental pollution, such as the treatment or disposal of smoke and soot, polluted water, wastes, etc. resulting from its industrial activities, and for cooperating with the State

and local government bodies in their efforts to prevent environmental pollution:

2. The enterprise, in manufacturing and processing activities, shall endeavor to take precautionary measures to prevent environmental pollution which might otherwise be caused by the use of the products which it manufactures or processes.

(Responsibility of the State)

Article 4

The State has the responsibility to establish fundamental and comprehensive policies for environmental pollution control and to implement them, in view of the fact that it has the duty to protect the people's health and conserve the living environment.

(Responsibility of local government bodies)

Article 5

In order to protect the health of the local population and to conserve the living environment, local government bodies shall take measures in line with the policy of the State and shall also work out and implement appropriate measures for environmental pollution control which take into account the specific natural and social conditions of the area concerned.

(Responsibility of citizens)

Article 6

Citizens shall endeavor to contribute to the prevention of environmental pollution in all appropriate ways such as cooperating with the State and with local government bodies in the implementation of control measures.

(Annual report, etc.)

Article 7

1. The Government shall present to the Diet an annual report on the situation with regard to environmental pollution and on those measures taken by the Government in order to control it.

2. The Government shall present to the Diet annually a document, outlining the measures which the Government is going to take to deal with the environmental pollution situation described in the report referred to in the preceding paragraph.

(Control of air pollution, etc. caused by radioactive substances)

Article 8

With regard to measures for the control of pollution of the air, water and soil by radioactive substances, the Atomic Energy Basic Law (Law No. 186, 1955) and other related laws shall apply.

CHAPTER II FUNDAMENTAL POLICIES FOR ENVIRONMENTAL POLLUTION CONTROL

Section I Environmental Quality Standards

Article 9

1. With regard to environmental conditions relating to air, water and soil pollution and noise, the Government shall establish environmental quality standards, the maintenance of which is desirable for the protection of human health and the conservation of the living environment.
2. In the event that one of the standards referred to in the preceding paragraph establishes more than one category and stipulates that land areas or areas of water to which those categories are to be applied should be designated, the Government may delegate to the prefectural governors concerned the authority to designate those land areas or areas of water.
3. With regard to the standards provided for in paragraph 1, due scientific consideration shall always be given and such standards shall be revised whenever necessary.
4. The Government shall make efforts to ensure the maintenance of the above-mentioned standards, by implementing environmental pollution control measures in a comprehensive, effective and appropriate manner.

Section II Measures to be Taken by the State

(Emission control, etc.)

Article 10

1. In order to control environmental pollution, the Government shall take measures for the control of the emission of pollutants responsible for air, water and soil pollution, establishing standards to be observed by the enterprise.
2. In order to control environmental pollution, the Government shall endeavor to take measures to deal with noise, vibration, ground subsidence and offensive odors, in a manner similar to that referred to in the preceding paragraph.

(Control of land use and installation of facilities)

Article 11

In order to control environmental pollution, the Government shall take necessary measures with regard to land use and shall, in areas where environmental pollution is serious or likely to become serious, also take measures to control the installation of facilities which cause environmental pollution.

(Promotion of establishment of facilities for the prevention of environmental pollution)

Article 12

The Government shall take measures to promote necessary projects for the prevention of environmental pollution, such as the establishment of buffer zones, etc., as well as those projects to establish public facilities which will contribute to the prevention of environmental pollution, such as sewerage and public waste disposal plants.

(Establishment of surveillance and monitoring systems)

Article 13

The Government shall endeavor to establish systems for surveillance, monitoring, measurement, examination and inspection in order to ascertain what the situation with regard to environmental pollution is and to ensure enforcement of measures to combat environmental pollution.

(Carrying out of surveys and investigations)

Article 14

The Government shall carry out surveys and investigations necessary for the planning of measures for environmental pollution control, such as those for predicting environmental pollution trends.

(Promotion of science and technology)

Article 15

In order to promote the development of science and technology which will contribute to the prevention of environmental pollution, the Government shall take the necessary measures such as the consolidation of survey and research systems, the promotion of research and development, the dissemination of the results of such research and development work, and the education and training of research experts.

(Dissemination of knowledge and information)

Article 16

The Government shall endeavor to disseminate knowledge and information concerning environmental pollution and also to make the nation more conscious of the need to prevent environmental pollution.

(Consideration of environmental pollution control in the planning of regional development policies, etc.)

Article 17-1

The Government shall take into consideration the need to control environmental pollution in the planning and implementation of regional development measures such as those for urban development and the construction of factories.

(Protection of the natural environment)
Article 17-2

In order to contribute to the prevention of environmental pollution, the Government shall, in conjunction with other measures prescribed in this Section, endeavor to protect the natural environment as well as to conserve green areas.

Section III Measures to be Taken by Local
Government Bodies

Article 18

The local government bodies shall, provided that the measures do not infringe laws and regulations, take measures in line with the policy of the State provided for in the preceding Section and shall also implement measures for environmental pollution control which take into account the specific natural and social conditions of the area concerned. In this case, the prefectural governments shall be responsible mainly for the implementation of measures covering wide areas and also for the coordination of measures to be taken by the municipal governments.

Section IV Environmental Pollution Control
in Specified Areas

(Formulation of Environmental Pollution Control Programs)
Article 19

1. The Prime Minister shall instruct the prefectural governors concerned to formulate programs relating to the environmental pollution control measures (hereinafter called "Environmental Pollution Control Programs") to be implemented in specific areas which fall into any one of the following categories, by showing to those governors fundamental policies for such programs:

- (1) areas in which environmental pollution is serious and in which it is recognized that it will be extremely difficult to achieve effective environmental pollution control unless comprehensive control measures are taken;
- (2) areas in which environmental pollution is likely to become serious on account of rapidly increasing concentrations of population, industry, etc., and in which it is recognized that it will be extremely difficult to achieve effective environmental pollution control unless comprehensive control measures are taken.

2. When the prefectural governor concerned has received the instruction referred to in the preceding paragraph, he

shall draw up an Environmental Pollution Control Program in accordance with the fundamental policies referred to in the preceding paragraph and shall submit it to the Prime Minister for his approval.

3. Prior to issuing an instruction under paragraph 1 or giving the approval required under the preceding paragraph, the Prime Minister shall consult with the Conference on Environmental Pollution Control.

4. Prior to issuing an instruction under paragraph 1, the Prime Minister shall seek the opinion of the prefectural governor concerned.

(Implementation of Environmental Pollution Control Programs)
Article 20

The State and local government bodies shall endeavor to take measures necessary for the full implementation of Environmental Pollution Control Programs.

Section V Settlement of Disputes Relating to
Environmental Pollution and Relief for
Damage Caused Thereby

Article 21

1. The Government shall take the measures necessary to establish a system for the settlement, by such means as mediation and arbitration, of disputes which arise in connection with environmental pollution.

2. The Government shall take the measures necessary to establish a system which will make possible the efficient implementation of relief measures for damage caused by environmental pollution.

CHAPTER III BEARING OF COSTS AND
FINANCIAL MEASURES

Article 22

1. The enterprise shall bear all or part of the necessary cost of the works carried out by the State or local government bodies to control environmental pollution arising from the industrial activities of such enterprise.

2. The nature and amount of the costs which the enterprise shall bear under the preceding paragraph, the enterprises which shall bear such costs, the method of calculation of the amount to be borne by such enterprises, and other necessary matters relating to the bearing of costs shall be laid down in other laws.

(Financial measures for local government bodies)

Article 23

The State shall endeavor to take necessary financial and other measures relating to the necessary cost of environmental pollution control measures implemented by local government bodies.

(Assistance to the enterprise)

Article 24

1. The State and local government bodies shall endeavor to take the necessary measures, such as monetary and taxation measures, to encourage the installation and improvement, by the enterprise, of facilities for the prevention of environmental pollution.

2. In taking the measures referred to in the preceding paragraph, special consideration shall be given to the small and medium enterprise.

CHAPTER IV THE CONFERENCE ON ENVIRONMENTAL
POLLUTION CONTROL AND THE COUNCILS
ON ENVIRONMENTAL POLLUTION CONTROL

Section I The Conference on Environmental
Pollution Control

(Establishment and functions)

Article 25

1. There is hereby established a Conference on Environmental Pollution Control (hereinafter called "the Conference") as an Agency attached to the Prime Minister's Office.

2. The Conference shall perform the following functions. It shall:

(1) deal with matters provided for in paragraph 3, Article 19, with respect to the Environmental Pollution Control Programs;

(2) in addition to performing the function referred to in the preceding sub-paragraph, deliberate on basic and comprehensive measures for environmental pollution control, and promote the implementation of such measures;

(3) in addition to performing the functions referred to in the preceding two sub-paragraphs, deal with matters which come within the jurisdiction of the Conference under laws and regulations.

(Organization, etc.)

Article 26

1. The Conference shall be composed of a Chairman and Members.

2. The Prime Minister shall hold the office of Chairman.

3. Members shall be appointed by the Prime Minister from among the heads of related Ministries and Agencies.

4. There shall be Secretaries of the Conference.
5. The Secretaries shall be appointed by the Prime Minister from among the officials of related Ministries and Agencies.
6. The Secretaries shall assist the Chairman and Members in dealing with the matters which come within the jurisdiction of the Conference.
7. The secretarial affairs of the Conference shall be handled by the Prime Minister's Secretariat.
8. Matters necessary for the organization and operation of the Conference, other than those provided for in the preceding paragraphs, shall be provided by Cabinet Orders.

Section II Councils on Environmental Pollution Control

(Organization and Functions of the Central Council on Environmental Pollution Control)

Article 27

1. There is hereby established a Central Council on Environmental Pollution Control (hereinafter called "the Central Council") as an Agency attached to the Prime Minister's Office.
2. The Central Council shall perform the following functions. It shall:
 - (1) study and deliberate on basic matters related to environmental pollution control, when requested to do so by the Prime Minister;
 - (2) in addition to performing the function referred to in the preceding sub-paragraph, deal with matters which come within the jurisdiction of the Central Council under laws and regulations.
3. The Central Council may express its opinion to the Prime Minister with regard to matters provided for in the preceding paragraph.

Article 28

1. The Central Council shall be composed of not more than 20 Members.
2. The Members shall be appointed by the Prime Minister from among those experts who have both knowledge and experience in environmental pollution control.
3. The Members shall serve on a part-time basis.
4. The secretarial affairs of the Central Council shall be handled by the Prime Minister's Secretariat.
5. Matters necessary for the organization and operation of the Central Council, other than those provided for in the preceding paragraphs, shall be provided for by Cabinet Orders.

(Prefectural Councils on Environmental Pollution Control)

Article 29

1. The prefectural governments shall establish Prefectural Councils on Environmental Pollution Control which shall perform such functions as the study of and deliberation on basic matters relating to control measures for environmental pollution within the prefectures concerned.

2. Matters necessary for the organization and operation of the Prefectural Councils on Environmental Pollution Control shall be provided for by prefectural ordinances.

(Municipal Councils on Environmental Pollution Control)

Article 30

Municipal governments may, under the provisions of relevant municipal ordinances, establish Municipal Councils on Environmental Pollution Control which shall perform such functions as the study of and deliberation on basic matters relating to control measures for environmental pollution within the municipalities concerned.

(*) Annex I in Problems of the Human Environment in Japan.
Tokyo: Ministry of Foreign Affairs, 1971; pp. 24-32.

Appendix E*

Problems of the Human Environment in Japan (Abridged)

I. INTRODUCTION

Since the deterioration of the human environment is one of the most crucial problems that Japan will have to face in the 1970's, both the Government and people of Japan are making determined efforts to find solutions to this complex and difficult problem.

Japan, a small island country with an area of 370,000 square kilometers (only about a quarter of which is suitable for habitation) and a population of about 100 million, has enjoyed a high rate of economic growth and industrial expansion in recent years. This high rate of economic growth has, however, had a great and far-reaching impact on all phases of the nation's life, even to the extent of adversely affecting people's health and living environment.

In fact, the expansion of industrial activities, particularly in the field of the heavy and chemical industries which have sustained such a high rate of economic growth, has taken place mainly in major metropolitan areas on the Pacific coast, such as the Tokyo and Osaka areas. This has inevitably accelerated the concentration of both population and industry in these areas. And this rapid concentration, combined with a relative lag in social overhead capital investment in the same areas, has resulted in various kinds of environmental pollution, which has become serious enough to give rise to wide spread concern among the people about the state and quality of the human environment. At the same time, there are now problems even outside these major metropolitan areas, such as the side-effects of the use of agricultural chemicals and soil pollution in agricultural areas and, in some areas, industrial pollution.

These are problems that call urgently for solution, and the Government has, for some time now, been taking various countermeasures to cope with them. Particularly with the enactment of special legislation - altogether 14 laws and amendments - in December 1970, the Government is now in a better position to deal with these problems. Moreover, the administrative machinery was also strengthened with the establishment of the Headquarters of Countermeasures for

Environmental Pollution (HCEP) under the Cabinet in July 1970 in order to coordinate the Government's environmental pollution control measures which had previously been implemented by various Ministries and Agencies. This organization is to be strengthened and expanded, developing into the Environment Agency which is to come into being on July 1, 1971, with a Minister of State at its head. Preparations for the establishment of this new Agency are already under way.

However, notwithstanding all these efforts by the Government and the people, it is still to be feared that the deterioration of the human environment, particularly that resulting from environmental pollution, will be further aggravated. If a fundamental solution to these problems is to be found, it is no longer enough to take measures aimed only at curing symptoms in each specific field. Rather, it is now necessary to take a positive approach to improve the human environment in a broader and longer-term perspective, recognizing the importance of achieving overall harmony between human activities and the eco-system.

Furthermore, throughout the world today, albeit in varying degrees, human environment problems are considered to be of the utmost importance, and the need for international cooperation in this field is widely recognized.

Thus, it is most appropriate that the United Nations should have taken the lead in tackling human environment problems on a global scale and has decided to hold the United Nations Conference on the Human Environment in June 1972. In keeping with the spirit of the relevant resolutions of the United Nations General Assembly, and at the same time bearing in mind the special interests of the developing countries, Japan is determined to make every possible contribution at all stages of the preparatory work for the Conference. Japan, too, earnestly hopes that worldwide efforts to protect the human environment will be promoted in the most effective manner by the United Nations and other international organizations through regional as well as international cooperation.

II. BACKGROUND AND CURRENT SITUATION OF HUMAN ENVIRONMENT PROBLEMS IN JAPAN

1. Rapid Social and Economic Developments and Their Impact

Among other things, the recent high rate of economic growth of more than 10% per year, accompanied by the concentration of population and industry in urban areas and

progressing "automobilization," may be singled out as the most important factors affecting the human environment in Japan.

In the major metropolitan areas, population has increased by 13% during the past five years, coming to account for 43% of the nation's total population. Public facilities in these areas have been unable to keep pace with the population increase and the demand for improved living standards. Consequently there has been a deterioration of the human environment as evidenced by such problems as a housing shortage, scarcity of open spaces, difficulty of commuting, and air and water pollution.

On the other hand, mainly in rural areas, the decrease in total population as well as the increase in the ratio of older people in the population has been witnessed due to the outflow of the labor force, especially young people. In some such areas, it has now become difficult not only to continue activities in the primary industries but also to maintain basic public services such as disaster prevention works, education, health services, etc., thus creating serious problems affecting the maintenance of traditional community life itself.

2. Relative Lag in Social Overhead Capital Investment

Concentration of population and industry in metropolitan areas and the changing structure of agricultural communities brought about by the rapid economic growth of Japan have sharply increased the need, quantitative as well as qualitative, for investment in social overhead capital.

Given this situation, the Government in several economic plans gave priority and emphasis to coordinated investment in social overhead capital, but even such plans have been unable to keep pace with the rapidly increasing investment for industrial activities in the private sector. Thus, the relative lag in social overhead capital investment in the fields related to the daily life of the people, such as housing, water supply, sewerage, waste disposal facilities, and recreational facilities, is one of the major causes of the deterioration of the living environment.

3. Emergence of Environmental Pollution Problems

Against this background, various kinds of potential pollutants such as harmful gases and other substances

contained in smoke and soot, waste water, etc., have increased remarkably in volume in recent years creating pollution problems in various areas in Japan.

The current situation with regard to the major types of pollution is outlined below.

- (1) Air Pollution.
- (2) Water Pollution.
- (3) Noise and Other Forms of Pollution.
- (4) Waste Disposal.

III. MEASURES TO PROTECT THE HUMAN ENVIRONMENT IN JAPAN

According to the terminology of the Preparatory Committee for the United Nations Conference on the Human Environment to be held in 1972, the term "human environment" appears to include (1) problems of environmental pollution, (2) human settlements, and (3) rational management of natural resources including the conservation of nature.

In Japan, environmental pollution - which the Law* defines as air pollution, water pollution, soil pollution, noise, vibration, ground subsidence, and offensive odors, and the damage to human health and living environment caused thereby - is a pressing social problem for which countermeasures are urgently being sought. Therefore, in the following pages, first the measures taken by the Japanese Government for the control of environmental pollution are explained, and then various other government measures for the protection of the human environment as a whole are referred to briefly.

1. Measures for Environmental Pollution Control

Japan's measures for environmental pollution control are based on the Basic Law for Environmental Pollution Control which was enacted in August 1967, and the coordination of various policies is proceeding accordingly.*

- (1) Methodology of Control Measures
 - (a) Establishment of Environmental Control Standards. ...
 - (b) Formulation of Environmental Pollution Control Programs. ...
 - (c) Measures to Encourage the Installation of Anti-Pollution Facilities. ...
 - (d) Promotion of Research and Development. ...
- (2) Individual Control Measures
 - (a) Air Pollution. ...

* See Appendix D.

- (b) Water Pollution. ...
- (c) Marine Pollution. ...
- (d) Waste Disposal. ...
- (e) Noise and Ground Subsidence. ...
- (f) Soil Pollution. ...
- (g) Agricultural Chemicals. ...

2. Improvement of Human Settlements

- (1) Urban Environment
- (2) Housing
- (3) Community Facilities
- (4) Transportation

3. Conservation of Nature

- (1) Systems and Methods for Conserving Nature
 - (a) Natural Parks. ...
 - (b) Suburban Conservation Areas. ...
 - (c) Protection of Cultural Treasures. ...
 - (d) Protection of Forests and Wildlife. ...
- (2) "Charter for the Protection of Nature"

In recognition of the fact that the natural environment is gradually being endangered, there is a movement in Japan to mobilize national opinion for the establishment of a "Charter for the Protection of Nature". The aim of this movement is to eradicate the traditional conquest-minded approach to nature and instead emphasize a more harmonious relationship between man and nature, thereby encouraging the nationwide campaign for making wiser use of nature and conserving it perpetually. The draft text of this Charter is being drawn up by private citizens, and it is understood that the Government will assist efforts to have such a Charter adopted.

4. Rational Management of Natural Resources

Resources management, which is closely related to measures aimed at protecting the human environment, can be divided into three broad categories.

The first of these is the management which, in exploiting individual natural resources such as marine products, forest products, minerals, soil and, in recent years, marine development, aims at achieving the preservation of the vulnerable natural environment and the optimum long-term use of resources by planned and organized production activities.

The second is the conservation, by means of multipurpose use, of water, energy, forest, land resources, etc., as is done in the unified development of river basins.

For the 1970's, a third category has been added to the above two - namely management which contributes to a qualitative improvement of man's life and environment through the effective coordination and management of the development of the artificial environment for resources utilization and conservation of nature for the maintenance of the eco-system.

The basic measures for resources management for environmental conservation are heading in two directions. One direction is for the securing of natural open space in the fragile natural environment by the active promotion of nature protection measures aimed at (1) the regeneration and maintenance of natural cycles and the self-preserving function of nature, (2) surveillance to guard against the destruction of the environment and the maintenance of the quality of the environment by utilizing vegetation indicators, etc., and (3) protecting natural beauty spots and securing places for recreation.

The other is to transform the waste disposal system which has traditionally depended upon nature's self-purifying function into a man-made treatment system involving recycling and reuse. In other words, instead of being content with the primary and secondary disposal of wastes, we must develop the technology that will enable us to deal with the sources of pollution, by such means as improving production processes, effecting a fuel change-over, etc., so as to prevent the discharge of pollutants into the environment.

Especially in areas with a heavy population, industry, and transportation concentration, it is necessary to promote these basic measures as part of comprehensive regional development plans. In Japan, particularly important areas in this regard are considered to be those areas around inland seas and bays and their hinterlands.

For this reason, the Government has singled out major inland-sea and bay areas in an effort, in keeping with the above-mentioned basic principles for environmental protection, to coordinate the measures relating to industrial location, transportation, housing development, natural conservation areas, recreational area designation, port and harbor consolidation, disaster prevention and so forth. At the same time, the Government is also continuing to address itself to comprehensive regional development, with, as its prime object, predictive and preventive environmental conservation and control in order to keep pollution below levels that would cause irreversible damage to the environment.

5. Education for Environmental Protection

The living environment and the educational environment are both important factors in young people's healthy growth and development. Therefore, we are dealing positively, both in school education and social education, with the various problems of protecting the human environment, especially the recent problems of environmental pollution.

In school, pupils are taught about the need to protect the people's health and living environment from environmental pollution and about ways of effectively combating pollution in various ways depending on the different educational levels of primary school, junior high school, and high school students so that the young people who will be the next generation of Japanese will have a deep understanding of the problems of environmental pollution.

In primary schools, for example, we try to guide the children to understand, by means of concrete examples, the great importance of protecting the people's health and living environment from various kinds of environmental pollution caused by industrial and other activities. In junior high schools and higher educational institutions, we endeavor to guide the students to understand the role of the national and local governments and to consider the social responsibility of individuals and industry, all of this from the standpoint of respect for man and the welfare of the people. Along with this, efforts are being made to introduce appropriate educational measures such as offering guidance in the proper handling of relevant problems in text guides and teacher's manuals. We are also working to safeguard and improve the health of young children by the installation of facilities for outdoor activities in order that they may feel closer to nature.

In the field of social education, in view of the fact that harmony between man and nature is important to a richer life for man, we are endeavoring by means of various classes or lecture meetings for youth, women, and other citizens to spread the concept of nature conservation. In addition, we are assisting these groups of people to introduce relevant information into their studies concerning the maintenance of a decent environment and the prevention of environmental pollution in actual local conditions.

IV. INTERNATIONAL COOPERATION ON ENVIRONMENTAL PROBLEMS

1. Japan's International Cooperation in Recent Years

Today environmental problems have come to assume global importance, and therefore broad international cooperation is required for the solution of these problems. One especially effective and urgently necessary form of international cooperation at present is the exchange of information, research results, and technology relating to measures for environmental control. To this end, Japan, for its part, is endeavoring to make relevant research results available to the rest of the world, while availing itself of such research results from abroad.

(1) Multilateral Cooperation

In accordance with this policy, Japan, as a member of the Preparatory Committee for the United Nations Conference on the Human Environment to be held in June 1972, will do everything in its power to cooperate in the preparatory work for the Conference. We are also actively participating in the activities relating to human environment problems undertaken by various international organizations, including those within the United Nations system such as WHO, FAO, IMCO, WMO, UNESCO, IAEA, UNDP, ECE, and ECAFE, and other organizations such as the OECD, of which Japan is a member. As an example of such international cooperation, the Japanese Government cooperated fully with WHO in holding the "WHO Inter-Regional Training Course on Public Health Aspects of Environmental Pollution Control", which was held in Osaka in November and December 1970 as the first undertaking of its kind.

(2) Bilateral Cooperation

As regards bilateral cooperation in the field of environmental problems, Japan and the United States of America have long been cooperating in research and development in such areas as air pollution, water pollution, park administration, forest management, ocean weather, ocean surveys, urban planning, and housing. Moreover, as a result of the "U.S.-Japan Conference on Environmental Pollution" held in Tokyo in October 1970, it was decided to hold regular ministerial-level meetings between Japan and the United States on environmental problems. These are expected to promote greatly the cooperation between the two countries in broad areas of environmental control problems, including technical exchanges. Japan is also

exchanging information and data, as well as scientists and specialists, with such countries as the United Kingdom and France.

2. Promotion of International Cooperation within the Framework of the U.N.

(1) Selection of Priority Areas

In order to promote international cooperation on environmental problems within the framework of the United Nations in a truly effective manner, we should select priority areas, giving sufficient consideration to the urgency of each problem and the feasibility of the action that will be required to deal with that problem. As the first step to this end, we should carefully identify and categorize the problems according to certain criteria, such as whether they are -

- (i) problems, international action on which will provide a useful and effective basis for individual countries as they endeavor to adopt countermeasures on a local or national scale;
- (ii) problems affecting wider areas and so requiring bilateral or multilateral cooperation between countries in the areas concerned for the solution thereof; or
- (iii) problems which can only be tackled on a global scale - for example, changes in global atmospheric or marine conditions or in the global ecological balance - and which will be helpful in forecasting worldwide environmental conditions so that each country may adopt long-term preventive measures.

For many of the current problems concerning environmental pollution, human settlements and nature conservation, the method of selecting priority areas will differ from place to place and from country to country, depending on the pollutants and media polluted or on natural, social, or economic conditions; for such problems, criteria (i) and (ii) above will probably be the guiding criteria. On the other hand, in the case of problems arising from changes that are the cumulative result of pollution over long periods of time, it will be necessary to select priority areas giving full consideration to criterion (iii) above.

(2) Forms of International Cooperation within the U.N. Framework Necessary at the Present Stage

In those priority areas which will be selected in the manner suggested above, it is considered to be appropriate at the present stage to promote international cooperation in the following ways:

(a) Promotion of Studies and Research Activities

Various specialized agencies of the United Nations and other international organizations such as OECD have been undertaking studies and research on the problems of environmental pollution, human settlements, and the conservation of nature. While we must continue to step up these activities in keeping with the nature and functions of these organizations, it would be worthwhile for the United Nations to study the possibilities of establishing within its framework special arrangements for coordinating the activities of these organizations so as to make them function more effectively.

It appears especially necessary, in this context, to promote the standardization of those effects studies which will provide the basis for setting various environmental quality standards in the future and of those measuring techniques and research methods which will make possible the comparative study of various research results.

(b) Promotion of Information Exchanges

It is also considered necessary to intensify the activities of the United Nations specialized agencies relating to the exchange of information on the present situation with regard to human environment problems in each country and the countermeasures that are adopted to cope with such problems. In this connection, the establishment of a network system linking information centers in various agencies seems to be necessary. Above all, in the light of the urgency of the problems of controlling environmental pollution, it is recommended that we set up such a system as soon as possible for the exchange of information relating to various criteria and standards, control measures, problems of effects, measuring techniques, research and development work on control techniques, information about special cases, and so forth.

(c) Promotion of Education and Training of Specialists and Technicians.....

(*) Problems of the Human Environment in Japan. Tokyo: Ministry of Foreign Affairs, 1971; pp. 1-23 (Abridged). (A report submitted to the United Nations in preparation for Japan's participation in the United Nations' Stockholm Conference on the Environment held in June 1972.)

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