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WHY COLLABORATE?

Issue-Linkage and International Regimes

By ERNST B. HAAS*

I. WHY STUDY REGIMES?

THIS essay is yet another attempt to specify the particular mode of international collaboration we call a "regime." The need for collaboration arises from the recognition that the costs of national self-reliance are usually excessive. Although that has always been true to a certain extent, in the contemporary world there are some novel features that seem to make collaboration more generally desirable. These have to do with the universal preoccupation with wealth and welfare, development and industrialization. One historically unprecedented feature is the reliance on scientific and technological knowledge in the attainment of economic welfare. Hence, we are concerned especially with regimes designed to increase welfare by relying on scientific and technological knowledge.

How do contemporary international economic relations differ from earlier patterns? The numbers and types of participating actors are greater than ever. In addition to foreign and economic ministries, almost every agency of modern government has a stake in some aspect of international relations and maintains direct contact—often by-passing the foreign ministry—with its opposite numbers. More business activity than ever before depends on overseas investment and trade, often sidestepping the firm's home country. More non-governmental groups of all kinds maintain continuous contact with their counterparts elsewhere, and seek to shape the foreign policies of their home countries. In short, the channels of international communication are more numerous, decentralized, and diverse than ever.

Moreover, there seems to be greater reluctance to use force in the solution of economic disputes. Governments no longer dispatch their navies to collect foreign debts or to open up ports to trade; they no longer conquer neighboring countries in order to gain access to oil,

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copper, or gold. They do not even use the threat of military force to foist an unwanted trade agreement on a weaker country. And the expectation that the stronger will not use violence in economic relations has given the weaker the courage to assert themselves in many international forums.

Finally, the proliferation of channels of communication and the relative unimportance of force go hand-in-hand with pervasive disagreement on how the issues on the global agenda should be ordered. There no longer is a consensus on what is "more" or "less" salient to wealth and welfare. Witness the inability of the world's rich countries to agree among each other whether it is more important to control inflation or to have stable rates of exchange. Nowadays, governments recognize complex cause-and-effect linkages between issues they once considered as distinct; but they no longer agree about the norms of conduct that governed collaboration in the past.

The ensemble constitutes the condition of "complex interdependence."¹ It underlies many of the efforts of governments to understand contemporary reality and to adapt to it by collaborating with each other. It underlies the core concept explored here: international regime.² *Regimes are norms, rules, and procedures agreed to in order to regulate an issue-area.* The specific definitions and justifications of each of these terms are the concern of this essay.

The focus is on arrangements for institutionalized collaboration on topics and issues characterized by complex interdependence—not *all* kinds of collaboration or even *all* multinational arrangements. A combination of deductive and inductive procedures is used to explicate the idea of a regime. The result is an ideal type. What we know of the

¹ The concept was developed by Robert O. Keohane and Joseph S. Nye, in *Power and Interdependence* (Boston: Little, Brown, 1977), 24-29. Some implications of the condition for international collaborative action are explored in Haas, "Turbulent Fields and the Theory of Regional Integration," *International Organization*, xxx (Spring 1976), 173-214.

² The literature on regimes tends to be focused on specific regimes, not the type, such as discussions of the Bretton Woods regime. For an excellent structural analysis of that regime, see Fred Hirsch, Michael Doyle, and Edward L. Morse, *Alternatives to Monetary Disorder* (New York: McGraw-Hill, 1977). Oran Young's essay in this issue, on the other hand, treats as a "regime" *any* international agreement which focuses and structures convergent expectations, rights, and obligations of actors with respect to a substantive matter. Although I am in broad agreement with his definitions of regime attributes, my purpose is narrower. I seek to reserve the concept for the particular kind of agreement that features "issue linkage"—a subset of Young's universe, but a broader notion than is implied in the literature on the decay of the Bretton Woods regime. I thoroughly agree with Young's restriction stressing *agreement* instead of following the practice of some writers who equate "regime" with the more diffuse notion of "world order."

history of other collaborative arrangements is the basis of the reasoning, though that reasoning follows some of the canons of organization and learning theory. The ensemble is history distilled through the apparatus of some current theories. Regime characteristics are deduced from the distillation, not established empirically. We do not yet know whether the ideal type accurately describes and explains the ongoing efforts to fashion collaborative arrangements. The discussion is a preliminary theoretical effort to guide empirical work.

This approach to the study of regimes is motivated by my ambivalence toward other efforts now prominent. These efforts often succeed in capturing aspects of the collaborative process that are undoubtedly significant. But they defer to two opposing organizing principles with which I am not at ease. One is the idea of "structure," and the other is the notion of "evolutionary holism."

Structuralists stress the role of hegemonial states—of power—in the creation and maintenance of regimes. No doubt power matters. But complex interdependence implies that we can no longer explain state behavior on the basis of a given international configuration. Explanations that rely on the structure of power assume a constancy of state interests; complex interdependence suggests that states are no longer certain how various goals should be ranked when the opportunity costs of adopting new goals at the expense of old ones must be evaluated. When old goals are in doubt, the previously used calculus of opportunity costs becomes equally problematical. Structural explanations can show how a regime fits into the global hierarchy of the moment; they can explain change only in terms of a different hierarchy, not in terms of a different calculus of benefits. Opportunity costs can be considered a structural constraint on choice only as long as interests remain constant. Goals may change because of developments that have little relation to the structure of international power; and familiar ways of determining the national interest may change with them. Power then still matters, but the extent of its explanatory vitality becomes ambiguous because states are uncertain how much power should be applied to which of several competing interests.

Evolutionary holists, in opposition to structuralists, stress both the fact of perceptual change and the need for further changes. They conclude that the contemporary world is different from all prior experience because key perceptions concerning welfare, equity, and the quality of life have changed rapidly; they also insist that these perceptions must change even more in order to assure a harmonious life on a

habitable planet. Desirable changes can be made to occur regardless of a given hierarchy of power, and desirable regimes can be specified in accordance with this teleological dynamic.³

In this essay, I will explore a notion of "regime" that accepts the existence of power differentials and the importance of hierarchy among states—without sacrificing to such a view the possibility of choice based on perception and cognition inspired by additional calculations. I also intend to capture the demonstrable change in perception—the dynamics of the evolutionists—without enshrining their particular view of evolution. My notion of regime is cognitive, but it is designed to subsume *all* competing perceptions, not a particular one.

Hence certain core themes in the current discussion of regimes are deliberately excluded as unnecessary. If the emphasis is on how actors perceive the need for collaboration, certain activities or places cannot *by definition* be regarded as a "collective good." Whether they are so regarded depends on the mixture of perceptions and the modes of reasoning employed by those who fashion regimes. We must drop the distinction commonly made between "politicized" and "depoliticized" collaboration, with the implication that the former is bad and the latter is to be cherished. Under complex interdependence, everything is actually or potentially politicized; institutionalized collaboration, though it may be of benefit to all, is still part of politics. Consequently, there is no need to spend time exploring the differences between "liberal" regimes and their "neomercantilist" enemies. Liberal regimes are supposed to be self-regulating; they should not require the interference of people other than the experts who manage them. Such a situation is not credible under complex interdependence; therefore, most regimes conform to the world portrayed by the neomercantilists.⁴ Conflict is far

³ Important works of this type are: Seyom Brown, Nina W. Cornell, Larry L. Fabian, and Edith Brown Weiss, *Regimes for the Ocean, Outer Space and Weather* (Washington, D.C.: The Brookings Institution, 1977); Richard A. Falk, *This Endangered Planet* (New York: Random House, 1971); and Falk, *A Study of Future Worlds* (New York: Free Press, 1975). For efforts to subsume world-order issues under the larger question of natural and human evolution, see Kenneth E. Boulding, *Ecodynamics: A New Theory of Societal Evolution* (Beverly Hills, Calif.: Sage, 1978), and Edward O. Wilson, *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978). For some political implications of the holistic approach, see Haas, "On Systems and International Regimes," *World Politics*, xxvii (January 1975), 147-74, and Haas, "Is There a Hole in the Whole?" *International Organization*, xxix (Summer 1975), 827-76.

⁴ Liberalism and neomercantilism, politicization and depoliticization are discussed in Hirsch and others (fn. 2). Collective goods and global commons as focuses for regimes are treated by Brown and others (fn. 3), and by Edward L. Morse, "The Global Commons," *Journal of International Affairs*, III (Spring/Summer 1977), 1-21. I question the utility of collective-goods theory when applied to these concerns, on grounds of inherent analytical shortcomings, as described in Jeffrey Hart and Peter Cowhey, "Theories of

from banished; in fact, since its prevalence must be taken for granted, the question becomes: Under what conditions do convergences of interest arise that call for the creation of regimes? How can there be international collaboration despite the persistence of conflict and of differentials in the power of actors?

Institutionalized collaboration can be explored in terms of the interaction between changing knowledge and changing social goals. It seems axiomatic that parties in conflict will, under conditions of changing understanding of their desires and of the constraints under which they must act, seek to define an area of joint gains. The definition of joint gains must be based on the goals of the actors *and* on the calculations ("knowledge") that influence the choice of goals. What, then, about the social power of certain groups and the hegemonic position of strong states in world politics?

If it were possible to predict the outcome of international negotiations by projecting the power of the parties, our question would be answered. If social classes and governments never changed their minds about individual and joint gains, there would be no question. But under conditions of complex interdependence, no such projection is possible. The existence of an unstable hierarchy of issues on the international agenda means that minds are being changed all the time. Hence we focus on changing knowledge and changing goals. If we did not, we would have predicted that in 1979 the oil-hungry bourgeoisie and its hegemonic governments would have taken on the Ayatollah Khomeini and Colonel Kaddafi, instead of letting their citizens line up at gas stations.

We will begin by exploring relationships between types of interdependence, issues, and the need for collaboration. Next, we will inquire how issues become "linked" into packages called "issue areas." By examining the role of changing knowledge and social goals in defining the content of such packages, four patterns of cognition for choosing regimes are developed. Finally, we will look into the type of organizational arrangements that correspond to various types of regimes.

The discussion is illustrated throughout with references to three actual attempts at institutionalized collaboration. The Bretton Woods Agreement on monetary management is used to show how and why a

Collective Goods Re-examined," *Western Political Quarterly*, xxx, No. 3 (1977), 351-62. For the classic argument that collective-goods theory predicts noncollaboration, see John Gerard Ruggie, "Collective Goods and Future International Collaboration," *American Political Science Review*, Vol. 66 (September 1972), 874-93.

regime that endured for about twenty years came into being and then disintegrated. The Law of the Sea (LOS) negotiations are used to illustrate the difficulties encountered by the world during the past ten years in defining joint gains and attempting to institutionalize them. The current negotiations for the New International Economic Order (NIEO) provide a focus for studying a huge package that may result in the creation of a regime.⁵ The three share one attribute of importance to the present effort: the participants are very conscious of the enormous impact of money, the oceans, and technology on overall prosperity and welfare. Each regime is just another way of talking about political economy.

II. INTERDEPENDENCE, ISSUES, ISSUE-AREAS

Negotiations may be controversial or smooth, laden with conflict or free of it. As long as the parties agree on the benefits to be derived from collaboration, conflict does not arise. During the 19th century, for instance, it was taken for granted by all concerned that British investment in Argentine beef production and electric utilities was beneficial for both Britain and Argentina. Negotiating the capital and technology transfers considered appropriate then did not pose a problem. No *issue*, no controversy arose until Britain sought to intervene, diplomatically or militarily, to protect the British investment against Argentine efforts to change the understanding under which it had been introduced earlier. Collaboration becomes conflictual only when the parties begin to disagree on the distribution of benefits to be derived. There is a need for regulating their interdependence if they wish to continue the collaboration despite the conflict.

INTERDEPENDENCE

Thus, an international issue arises when the terms of interdependence are questioned by one or more of the parties concerned, provided the weaker party succeeds in persuading the stronger to pay attention.

⁵ On the monetary regime, see W. F. Monroe, *International Monetary Reconstruction* (Lexington, Mass.: Lexington Books, 1974); Law of the Sea issues are summarized well in Edward Miles, ed., "Restructuring Ocean Regimes," *International Organization*, xxxi (Spring 1977). For an account of the ongoing negotiations dealing with technology transfers, see Karl P. Sauvants and Hajo Hasenpflug, eds., *The New International Economic Order* (Boulder, Colo.: Westview Press, 1977), Parts 5 and 6. For North-South issues, I have relied heavily on Robert L. Rothstein, *Global Bargaining* (Princeton: Princeton University Press, 1979), and Roger D. Hansen, *Beyond the North-South Stalemate* (New York: McGraw-Hill, 1979). For mining, see George W. Bulkeley, *Who Gains From Deep-Ocean Mining?* (Berkeley: Institute of International Studies, University of California, 1979); for fishing, see *Papers of the Program of International Studies of Fishery Arrangements* (Washington, D.C.: Resources for the Future, 1974).

Conflict is rife in the negotiations designed to work out different terms. Issues become visible, acquire names and places on agendas, elicit studies, and emerge as recurrent topics of discussion in national parliaments and interest groups.

The attempt to resolve the issue forces the parties to examine the terms of their mutual dependence. Can Argentina do without British capital and still produce beef? Can it obtain the engineering know-how to maintain its electric utilities from some place other than Britain? If British investors abandon the beef industry, will Britain still buy the product? Are alternative markets available? Britain must also examine the terms. Are there places where investments of equal profitability can be made? Are there other countries who will buy electrical equipment if Argentina turns to the United States or Germany as its supplier? Can beef be obtained equally cheaply from Canada or Uruguay? If Britain decides that she can do as well without Argentina, we must conclude that Argentina is *more sensitive* to change in British policy than vice versa. If Britain considers herself relatively insensitive to a change, we say that Argentina is *more vulnerable* than Britain. Sensitivity is measured by the perceived effects of interrupting a pattern of interdependence. Vulnerability is measured by the opportunity costs incurred by making alternative arrangements for collaboration when the initial arrangement breaks down. Unequal sensitivity and vulnerability amount to *asymmetrical interdependence*: Britain is less dependent on Argentina than Argentina is on Britain. Such asymmetry is one complaint of the contemporary *dependentistas*. The construction of international arrangements regulating interdependence—which we call regimes—under conditions of complex interdependence depends on how the asymmetries are perceived by the participants. Their definition of the issues requiring regulation is a function of the perceived costs of asymmetrical interdependence. Calculations of sensitivity and vulnerability therefore inform the discussion of remedial measures.

Any two countries may collaborate on a number of topics at the same time. There is not necessarily a connection between these topics in the minds of the actors. Some may become controversial issues while others remain free of conflict. Some may involve third parties, others not. Some may raise overarching principles and longer-term collaboration while others remain confined to very immediate and mundane preoccupations. Conflict may be more or less intense. The simultaneous presence of several issues, therefore, should not lead us to the conclusion that, in the minds of the actors, these issues are somehow linked to each other.

Our first step must be to clarify what is meant by "issue" and by "linking issues." The discussion of linkages will enable us to specify what we mean by "issue-area."⁶ We will then be able to discuss how knowledge may or may not be used in the establishment of linkages, and how issue-areas differ from each other. Only then can we proceed to the discussion of regimes.

ISSUES AND ISSUE-AREAS

Issues are separate items that appear on the agenda of negotiators. In the LOS negotiations, some of the issues are concerned with the width of the territorial sea and the national economic zone, who can mine the deep sea for manganese nodules and under what conditions, who can draw up rules for fisheries conservation, and whether marine pollution should be controlled by national or multilateral means. The issues in international monetary collaboration include the size and type of reserve assets held by the International Monetary Fund, the conditions under which members can draw on them, and the proportion to be used for maintaining international liquidity, protecting the balance-of-payments positions of certain members, and compensating other members for losses incurred because of foreign trade vicissitudes. The agenda also includes, of course, the question of whether there should be fixed, flexible, or floating exchange rates. In what sense are these issues connected with each other?

It is possible to think of monetary management as being made up of separate issues. Central banks will negotiate to increase liquidity, shore up each others' currencies, and fix the rate of exchange between currencies either by manipulating the currency market or through administrative regulation. In negotiating a conflict, each issue can be handled separately. Monetary management was largely handled this way prior to the Bretton Woods Agreement. Efforts were made to deal with monetary issues as packages only when it was generally recognized that the resolution of *each* of these issues had an effect on the overall economic health of the participants. Degrees of currency fluctuation were no longer considered in terms of the short-term balance of pay-

⁶ My use of the term "issue-area" differs from Dahl's and from the version adapted by James Rosenau for use in the comparative study of foreign policy in "Pre-Theories and Theories of Foreign Policy," in R. Barry Farrell, ed., *Approaches to Comparative and International Politics* (Evanston, Ill.: Northwestern University Press, 1966). In Rosenau's version, each issue-area is thought to possess unique attributes, apparent to the analyst but not necessarily to the actor, making boundary maintenance a part of the definition. Whether boundaries are or are not maintained is an important empirical question. Rosenau seeks to make issue-areas "objectively real," while my concern is to abstract only what can be experienced by the actors.

ments alone but also in conjunction with overall rates of growth, inflation, and deflation. Previously separate monetary issues had been converted by the actors themselves into an *issue-area*, a recognized cluster of concerns involving interdependence not only among the parties but among the issues themselves. One-dimensional sets of conflicts were converted into a two-dimensional pattern. We can speak, since 1944, of the existence of an internationally recognized monetary issue-area.

How did central banks learn to recognize the existence of a more complex set of interdependencies while, at the same time, bureaucracies dealing with world trade failed to do so? The lesson of the disasters associated with mercantilist policies during the Great Depression was learned by both sets of actors. The new macroeconomic goals associated with Keynesianism were also shared (though the conversion was not complete in the United States until some years later, whereas Lord Keynes himself led the British delegation at Bretton Woods). New knowledge and new social goals provided the *necessary* explanations of the regime, but they were not *sufficient*. In the case of money, the hegemonic position of the United States meant that other countries had little choice, even if they had wished to opt differently (which most did not); but since no internal consensus on trade existed in the United States, the hegemonic actor was not motivated to impose the packaged issues represented by the version of the International Trade Organization that was preferred by the U.S. To put it differently: American power was put at the disposal of a consensus on monetary knowledge and broader goals for managing the economy to maintain full employment, but could not be so used in the absence of a consensus on desirable trade policies.

Things are more complicated in ocean management because no consensus on knowledge has emerged to give coherence to the consensus on goals. The ocean matters to governments because their citizens use it to fish, sail ships, extract oil, fight wars, and conduct research; they also now recognize that the oceans help determine the weather and that it may not be a good idea to use them as the world's garbage dump. Each of these activities has given rise to conflicts among countries. Governments have sought to resolve them by means of bilateral treaties and multilateral conventions establishing basic ground rules for behavior. But until very recently, each issue was approached separately.

The underlying conflict pitted the maritime countries with strong navies and active merchant and fishing fleets, with an interest in untrammelled access to all corners of the seas, against the weaker countries who were fearful of not being able to defend their actual or pre-

sumed ocean resources. The stronger held out for the three-mile territorial sea and unregulated access everywhere else; the weaker sought to extend the width of their territorial sea and to regulate access to their coastal waters. Until World War II, the strong had things their way under the reigning doctrine of the "freedom of the seas." Local conflicts between strong and weak were settled by means of separate treaties dealing with fisheries, innocent passage of ships, smuggling, and access to mineral deposits. The first breach came with the unilateral American declaration of the "continental shelf" doctrine, which extended territorial jurisdiction farther offshore for purposes of mining. When new superordinate principles chipping away at the freedom-of-the-seas doctrine were negotiated in 1958-1960, the issues were still kept separate in the form of different treaties for fishing, the continental shelf, the territorial sea, and the high seas. The separateness of the issues was underscored by the fact that some participating countries ratified fewer than the four treaties, and others ratified none.

In 1967 a new doctrine was announced: the oceans were to be considered "the common heritage of mankind," and the totality of their resources a means for redistributing income and welfare among all countries. To achieve this, it was no longer possible to consider issues separately since each issue was thought to contribute to increased equality among states. More importantly, effects of interdependence *among* issues were now recognized: changing marine technology could result in over-fishing, unacceptable pollution, greater ship disasters; and the mining of deep-sea minerals could depress the price of the same minerals mined on land. As a result, the Law of the Sea Conference was convened by the United Nations to resolve the cluster of issues by means of a single treaty. Ocean matters became, for the first time, a tentatively recognized issue-area. But, as we shall see, there is a considerable distance between the cognitive event of issue-area recognition and the institutional event of regime construction: the inter-issue Law of the Sea negotiations have dragged on for a decade.

There are important differences between the construction of regimes for money and for the oceans. Knowledge relevant to ocean management is far less consensual than the macroeconomic professional consensus that existed between 1950 and 1970. Although oceanographers, fisheries specialists, and mining engineers accumulated a great deal of technical information during these decades, neither they nor government officials have succeeded in *integrating* this information into a strategy for realizing the common heritage of mankind. Global welfare is indeed recognized as an overriding social goal; but there is no con-

sensus on *how* the management of specific resources can be aggregated into attaining it in the form of joint gains. Hence the actors remain preoccupied with the realization of individual gains, and these depend on the special capability of each to fish, mine, wage war, transport containers and oil, or prevent pollution.

State power is a vital mediating agent in the absence of consensual knowledge. Those who claim the knowledge and the ability to act can negotiate for private goods they are able to control. When they want others to be barred from the benefits of fisheries conservation and prevented from polluting the shoreline, they create exclusive national zones; when they want to exploit a high-sea resource, they invoke the principle of open access. Nobody has the power to impose a global regime, but many have the power to impose private spheres; and a few have the capability to monopolize deep-ocean mining.

The LOS negotiations (like the parallel effort to construct the NIEO), constituted a case of "premature" issue-packaging. The package was the result of a negotiating strategy adopted by the weak—first in UNCTAD and later in all international economic forums. In addition, the character of the resources to be subjected to a regime may explain the difference in outcomes. Ocean-related resources constitute a very heterogeneous group of concerns, united only by the fact that they are situated on or under the water. Money, on the other hand, is a universal medium on which all economic activity depends; for better or for worse, the management of money responds to some widely accepted theories. The management of ocean resources does not, because it is characterized by the competing claims of the particular resource specialists who do not subscribe to a globally accepted doctrine of resource management for the benefit of all. The vision of ecological holism is not yet the political equivalent of monetary theory. Nor can we be certain that an aggregate welfare function for the oceans can ever be worked out.

KNOWLEDGE

Knowledge has emerged in our argument as a basic ingredient for exploring the development of issue-areas. A further explication of this notion is essential if I am to avoid being labelled a technocratic determinist. I do *not* mean that knowledge is a synonym for the discoveries of natural science, the opposite of ideology, the sole basis for establishing objective truth, superior to politics, or a substance that makes experts wise and politicians clowns.

Knowledge is the sum of technical information and of theories about

that information which commands sufficient consensus at a given time among interested actors to serve as a guide to public policy designed to achieve some social goal. Knowledge incorporates scientific notions relating to the social goal. Such notions are rarely free from ideological elements. Nor are they necessarily free from the self-interest of their proponents. Questionable metaphors, imperfect analogies, exaggeration, and other epistemological sins abound in science for policy as well as in policy for science. Economists adjust their models to the kind of society they prefer, and advocate the results of their simulations as the findings of science. So do ecologists, energy specialists, and lawyers drawing up regulations for technology transfers. None of this matters for our purposes. As long as these activities are accepted as a basis for public policy by groups and individuals professing varying political ideologies, we consider such notions as consensual. Knowledge is the professionally mediated body of theory and information that transcends prevailing lines of ideological cleavage.

Internationally, then, the sharing of a fund of knowledge among governments otherwise in opposition to each other is a form of cognitive convergence. When Soviet and American engineers agree on the properties of strategic weapons, and economists on the determinants of the business cycle and how to model it (and there is evidence that such agreement has occurred), certain ideological differences are being bridged by converging modes of thought. The same happens when pollutants are identified, measured, and related to the quality of life, or when the trade-offs among various sources of energy are assessed.

It does not matter that the knowledge was generated originally in rich and powerful countries, that not everybody has equal access to it, and that some of it is being rationed by its possessors. Nor does it matter that the generation of knowledge may have been embedded in a certain class structure, and that it may have been manipulated for the benefit of a class, a state, or a single firm.⁷ All that matters for our

⁷ My argument obviously sidesteps a number of competing views on this matter. Some—notably those associated with the Pugwash movement—argue for the existence of an “internationale” of scientists whose knowledge can reform the world. Others—for instance Jean-Jacques Salomon—argue that science is always used in the service of power and of the state that finances science. Neo-Marxists—for instance Jürgen Habermas—consider science an instrument of bourgeois hegemony within the state, if not a means of oppression. Some classical economists and political realists treat scientific knowledge as an aspect of investment, and its diffusion as a result of how competition is structured internationally. All but the Pugwash view have some plausibility, though each is in fact disputed. But each also exaggerates the case by imputing a certain monolithic quality to the core actors: classes, the state, the scientific professions, entrepreneurs. My own empirical bias forces me to reject these as meaningful categories of actors on the stage of history, at least in the last quarter of this century.

purposes is the demonstration that technical theory and information is *in fact* being applied to policy making across the lines of cleavage associated with its origins. It is possible, indeed likely, that the lines of cleavage persist even while the sharing of knowledge takes place; but we must then suppose that policy resulting from the application of knowledge will eventually change the original lines of cleavage (to be replaced by new ones, no doubt). How else is one to explain the remarkable changes in national position that have taken place in recent international negotiations? To argue that the explanation lies exclusively in changes in national power positions is to say too little: the reappraisal of national power is itself partly the result of changing knowledge about capabilities to act meaningfully. The old national interest is questioned when a new claim to truth is generally accepted *and* when this claim is thought to contain a remedy for some generally experienced social ill. However, the two impulses may originate at different times and do not need to coincide.

There is no single point of origin for this process, no single historical or sociological cause. Knowledge is embedded in many social processes that are to be found in all economic and social systems which have come under the sway of scientific and technological modes of education and industrial organization. Once knowledge escapes the political and economic control of its originators, it becomes a kind of international public good. If the word "consciousness" had not acquired too many metaphysical and countercultural meanings, it might be a more appropriate term than "knowledge" for the notion I am developing.

But *who* is knowledgeable—the technical expert, the businessman, the politician, the peasant? Another way to put this question is to ask at what point knowledge is consensual. The monetary theory underlying the Bretton Woods regime existed in the professional literature before 1945; an effort to put it to work internationally was made in 1933. The management doctrine underlying the LOS negotiations had been developed by Arvid Pardo before 1967. Neoclassical economic development doctrine was challenged before 1974. What matters is not when a given view was first developed, but when it attains general acceptance as a guide to public policy. It is normal that technical specialists originate a particular body of knowledge and claim relevance for it. Knowledge becomes salient to regime construction only after it has seeped into the consciousness of policy makers and other influential groups and individuals.⁸ In 1945, Keynesian economics was

⁸ But, it is said, experts always disagree with each other; how can we speak of a consensus? In the early stages of any shift in paradigm, they certainly do disagree, and

widely accepted by economists and labor leaders, had made important inroads into the U.S. bureaucracy, but was still being resisted by the business community; a few years later, some key business groups made their peace with it. Pardo's approach to ocean management has not been accepted by specialists or governments. The "basic human needs" doctrine has officially taken the place of older development views without completely pre-empting them; it is not yet consensual, but it has its adherents. A claim to knowledge becomes consensual whenever it succeeds in dominating the policy-making process—and that implies acceptance by all major actors involved in that process. In the NIEO negotiations, no such consensus exists. The *dependencia* doctrine is the property of the poor; it is *their* way of organizing the appropriate knowledge, but not the lore on which the rich rely. It is therefore not knowledge in the sense in which the term is used here.

Knowledge constitutes only one dimension of our exploration into issue-areas and issue-linkages. Regimes are constructed by states through the medium of multilateral negotiation. The linking of issues that remained separate in earlier periods can be interpreted as a kind of learning. But learning is but another word for reinterpreting one's interests. Interests may—but need not—change with more consensual knowledge. We now inquire into negotiations and learning as an aspect of issue-linkage that takes into account the varying interests and goals of the parties.

KNOWLEDGE, LINKAGES AND ISSUE-AREAS

Issue-specific negotiations usually deal with topics on which there is an accepted body of knowledge. Economists in general agree on the effects that exchange rate systems have on the benefits derived from trade; fisheries specialists subscribe to the principle of the "maximum sustainable yield;" nodule miners agree that the existing technology and methods of oceanographic mapping serve to condition the profita-

there is no consensus. Even later, experts will continue to disagree on certain aspects of their field, but not on all. In the early stages of discussion regarding the creation of regimes, the use of knowledge will be no more consensual than is the current U.S. debate among the experts on the future of nuclear energy. Experts disagree with each other on the facts *and* on the social goals to be realized. Moreover, they do tailor the factual discussion to whatever goal they espouse. But that is not the case during the entire lifecycle of a technology or a theory. At times there is consensus (as there was with respect to nuclear energy in the 1950s and 1960s because the dissidents were few in number and outside the policy-making process); it is permanent consensus that is inconsistent with the process of scientific investigation itself. See Howard Margolis, *Technical Advice on Policy Issues*, Sage Professional Paper No. 03-009 (Beverly Hills, Calif.: Sage, 1973).

bility of deep-sea mining. This means that in issue-specific negotiations on these topics there is a high degree of certainty about the efficacy of the *immediate* solution; benefits can be calculated fairly reliably as long as the existing base of knowledge remains unchanged. All other things being equal, the narrower the scope of issues to be negotiated, the higher the degree of certainty about efficient solutions. However, when we assume a dynamic situation of rapidly changing knowledge, the pattern is reversed. Experts can no longer be sure that accepted solutions will bring certain benefits. They will be tempted to expand the scope of topics as they suspect that knowledge in cognate fields has something to tell them about the efficacy of broader types of solutions. For instance, fisheries specialists concerned only with optimal harvesting of a fixed stock may begin to think about artificially manipulating the size of the stock when (1) the means for doing this become known, and (2) fish stocks are considered as a constituent of overall dietary calculations. Under such conditions, inter-issue negotiations offer a greater hope of efficient solutions even though the knowledge base is itself changing and far from conclusive. Greater certainty is a hope, not a scientific given.

Why link issues? Since changes in knowledge and social goals do not necessarily go together we have no warrant for arguing that all economic regimes relying on scientific and technological information *must* owe their origin to this confluence. Nor are we entitled to argue that issues *will* be linked simply because we live under conditions of complex interdependence. Successful negotiations for institutionalizing international collaboration depend on the congruence of interests as much as on changes in consensual knowledge. It follows that issue-linkage will not succeed if the states with a strong stake in the existing distribution of benefits, and the capability to control it, prefer to keep things as they are. The United States and the Soviet Union, for example, saw no reason to link the issues of peaceful nuclear energy and the proliferation of nuclear weapons as long as each was able to control the process of technological diffusion. The desire to construct the non-proliferation regime arose only when the process seemed to pass out of their control. Issue-specific negotiations tend to favor the coalition of states who have long had an interest in the issue and who dominate the resource. Issue-linkage, on the other hand, is favored by those who want "in": a regime that links issues will come into existence only if the "outs" somehow manage to persuade the "ins."

There are three ways of persuasion. (1) One can link issues by introducing into the agenda of multilateral negotiations items that are not

connected by any intellectual coherence at all; we call this "tactical linkage." The objective is simply to obtain additional bargaining leverage, to extract a *quid pro quo* not obtainable if the discussion remains confined to a single issue. (2) Issue-linkage may also be attempted, however, to maintain the cohesion of one's coalition. The coalition is held together by a commitment to some overriding social goal, even though the partners disagree with respect to the knowledge necessary to attain it. They also disagree on the extent to which the issues in the package are interdependent in terms of the anticipated effects. Uncertainty about outcomes is part of the glue that holds the coalition together. Elements of consensual knowledge are unevenly distributed among the coalition partners; but doubts about connections between ends and means, cause and effect, are suspended in the interest of maintaining collective bargaining strength. We call this behavior pattern "fragmented linkage." (3) Issue-linkage may also proceed on the basis of cognitive developments based on consensual knowledge linked to an agreed social goal. This is the pattern of greatest interest to the construction of regimes; we call it "substantive linkage."⁹

Power is present as a mediating agent in all three modes. The credibility of a tactical linkage depends on the "linkee's" perception of the linker's ability and willingness to withhold collaboration if the linkage is refused. In fragmented linkage situations, the potential defectors from the coalition must be held in line by means of side-payments or promises, and the opposing coalition must be effectively threatened. Even in situations of substantive linkage, knowledge is rarely so consensual as to eliminate the role of threat and reward as a way of persuading the weaker negotiating partners. But the use of power is always limited by the perception of complex interdependence that motivates the parties to negotiate in the first place.

Tactical issue-linkage is a negotiating ploy that eschews reliance on intellectual coherence among the issues linked. The Jamaica monetary regime did not have to provide for special aid to underdeveloped countries merely because there was also a desire to legitimate floating exchange rates. Deep-sea nodule mining can be regulated without also worrying about the right of passage through straits. Yet these issues

⁹ Tactical and substantive linkage are discussed by Kenneth A. Oye in "The Domain of Choice: International Constraints and the Carter Administration Foreign Policy," in Oye, Donald Rothchild, and Robert J. Lieber, eds., *Eagle Entangled* (New York: Longman, 1979). Fragmented linkage is discussed in Ernst B. Haas, Mary Pat Williams, and Don Babai, *Scientists and World Order* (Berkeley: University of California Press, 1977), 121-23.

were in fact linked because the victims of asymmetrical interdependence wished to link them and had enough leverage to succeed. Tactical linkage is a cheap way to increase pay-offs because it expands the agenda of possible benefits to be derived. Since the issues are not inherently connected, the sacrifice of a peripheral demand poses no problem as long as what is really wanted is accomplished. The weaker party will be better off after an agreement even if some issues fail to be resolved; but the same is not always true of the stronger party. Negotiations featuring tactical linkages among issues are not necessarily Pareto-optimal. What is called "package dealing" and "linkage politics" in journalistic accounts of foreign policy conforms to this pattern; so does the legislative practice of log-rolling. Tactical issue-linkage, then, is simply a way of maximizing the separate gains of the parties, even though the outcome of the negotiations may be an agreement that establishes a new regime.

Fragmented linkages are best illustrated by the NIEO negotiations, which constitute an attempt to realize some joint gains, even though it is far from clear how the gains will be distributed.¹⁰ Uncertainty over distribution *is* a reason for issue-linkage. If the linkers are uncertain about the interdependence effects of the issues, it is safer to link, in the interest of gaining maximum concessions and holding their coalition together—even in disregard of knowledge that may suggest that linking is unwise substantively and unacceptable to the opposition politically. Thus we find in the NIEO that every outstanding economic grievance of the South is linked to an overarching argument for global redistribution of resources, ranging from such immediate matters as aid and debt relief to the long-range considerations of technology transfer, commodity price stability, and nonreciprocal tariff treatment. The intellectual justification for the package was worked out by the UNCTAD economists in a series of studies that were widely challenged by economists in the developed countries. Professional knowledge is far from consensual. Naturally, the negotiators relied on what-

¹⁰ I rely greatly on Rothstein (fn. 5), in this section, even though he considers the inter-issue linkage in the Integrated Commodity Program to be essentially tactical, used solely to hold the heterogeneous Group of 77 together. Rothstein also shows that, while the parties agreed on many specific economic arguments and demonstrations, they continued to disagree on whether to act in accordance with them in the creation of the UNCTAD-designed Common Fund. What mattered was whether they thought in terms of "best-case" or "worst-case" scenarios. The issue that divided them was whether, in the process of commodity price stabilization, equity (the goal of the G-77) or efficiency (the goal of Group B) should be maximized. The Common Fund that they eventually agreed to differs from the proposal UNCTAD had used to link the issues.

ever intellectual justification supported their demands. Yet it would be an exaggeration to maintain that there is no coherence at all among the issues. Technology transfers *are* related to industrialization and exported growth. Multinational corporations, if they remain unregulated, *do* influence technology transfers, even if the precise relationship is not exactly as presented by UNCTAD. In general, the entire package *is* related to the global redistribution of resources. There is some coherence from the point of view of the coalition attempting the linkage; but if there is none for the opposing party, we still lack a base of consensual knowledge.

Hence it is the principle of substantive linkage that is of greatest interest to us. We are concerned with explaining how negotiators link issues into packages in deference to some intellectual strategy or evolving awareness of causal understanding. How do issue-areas emerge from a multitude of separate issues in response to challenges additional to the logic of coalitions? Latin American engineers, scientists, economists, and civil servants have come to think of "technology transfer" as an issue-area instead of worrying about such matters as foreign capital inflows, obtaining patents for specific products, finding markets for their products, or building a certain type of factory. These things *are* the issues; they remain in people's minds even when issues are combined and abstracted into a more holistic construct. But instead of being ends in themselves, they become means toward a more complicated end. Instead of being effects, they are reconceived as causes leading to new effects: wealth, prestige, status, autonomy.

This proposition must not be overstated: substantive knowledge *alone* cannot legitimate a holistic package of issues. The legitimation depends on the acceptance of a new understanding on the part of key political actors. Governments—even when exposed to novel insights about energy, growth, pollution, or food—cannot be expected to stop considering their policies within the perspective of what passes for the national interest. Substantive issue-linkage depends on learning that the national interest can be redefined or broadened, and that international collaboration is *required* for the realization of national goals. *Knowledge can legitimate collaborative behavior only when the possibility of joint gains from the collaboration exists and is recognized.*

All modes are "rational" in the sense that the actors show concern over cause and effect, and the relationship between ends and means, in seeking to attain a specific goal. But the types of rationality differ. In issue-specific and tactical linkage negotiations the actors may agree in

principle that their understanding is incomplete, that ends may change, and that new means for attaining them may be discovered. But they will insist that their understanding of the specific topic is better than any rival understanding of linked topics *at the time of action*. Solutions may thus be sub-optimal in the context of a possible wider understanding; but since the wider understanding eludes the actors, they consider their solution as the best to be had under the circumstances. Moreover, they may be buying stability by excluding other possible options.

Bargaining under conditions of fragmented issue-linkage is not always rational. Everything depends on whether the challengers of the status quo are interested in increasing their share of a fixed pie, changing the rules under which the pie is baked, or joining the bakers. The revisionist coalition will defeat its own purpose if it merely seeks to enlarge its share of the global pie because it sacrifices a comprehensive agreement to the maintenance of its internal unity when it knows that the opposing coalition will not accept the formula. This tends to happen in single-shot conferences pitting the North against the South. However, changing the rules and joining the bakers implies that any single negotiating session is merely an episode in a long struggle. Here the maintenance of political cohesion in the challenging coalition is rational in order to sap the divide-and-conquer tactics that the opposing coalition will surely adopt.¹¹ It makes sense to give up immediate gains in the expectation of eventual success in joining the firm as a regular member.

Substantive issue-linkages lend themselves to holistic prescriptions of salvation. Many holists consider them to be the most conscious of complex systems of cause and effect, most sensitive to many ends and purposes, and most attuned to scan the full range of the means available for solving "the problem." Hence, they consider only this mode "rational" in the common use of the term, and issue-packages agreed upon by any process less rational as just another case of sub-optimizing. This view is not helpful if we wish to understand how regimes come into being; substantive issue-linkage can be effected by cognitive means short of the holistic extreme.

We now apply these propositions about issue-areas and issue-linkage to the way actors order their goals and apply knowledge in the construction of regimes. Issue-linkage refers to negotiating behavior. Our next concern is with the negotiators' structure of perceptions.

¹¹ Rothstein (fn. 5), 150-51.

III. KNOWLEDGE AND GOALS: HOW TO ORDER THEM TO CHOOSE REGIMES

KNOWLEDGE AND GOALS IN OVERCOMING DEPENDENCY

The actors whose cognition is of interest are thinking beings: they do not normally act randomly. They are anxious to "understand" their world, so as to be able to reshape it. We need not assume goal-seeking behavior which desires to "optimize" with respect to the results to be obtained. We do assume that the actors are "motivated by a conscious calculation of advantage"—the minimum Thomas Schelling assumes when he dissects modes of strategic bargaining.¹² Actors can be expected to utilize whatever knowledge is available to help them in the calculation of advantage, whether they do so efficiently or not.

The regimes of concern here all have to do with wealth, welfare, and economic equality among nations. All the goals that matter to the actors are articulated in the global debate about the New International Order. That debate encompasses the conflict over goals associated with an open international economy and the Bretton Woods regime on the one hand, and the revolt of the Third World against that regime on the other. It pits the "liberal" ideology of the wealthy North against the antidependency ideology of the South. Asymmetrical, complex interdependence, as perceived by the underdeveloped countries, provides the basis for the confrontation; the shared goal of the South is to overcome dependency. That goal contains several different development strategies which provide the occasion for the introduction of knowledge.

Import-substituting industrialization is one of the strategies. Its proponents are concerned with raising aggregate national income; they expect the benefits accruing to a few successful enterprises to trickle down into the rest of the society eventually. The policy issues consist mainly of fiscal and monetary measures to motivate innovation by domestic entrepreneurs and foreign investors. The need for collaboration among nations becomes an additional issue only when these policies fail to result in the anticipated benefits. Collaboration is an unanticipated consequence of failure. The goals remain "specific," somewhat separate, and static.

Others propose the strategy of economic and technological self-determination. They associate dependency with the structure of capitalism and its global division of labor. The factors causing dependency are thought to include education, the media, the habits of the "center"

¹² Schelling, *The Strategy of Conflict* (New York: Oxford University Press, 1963), 4.

classes in the "periphery" and their unholy alliances with the elites of the North, as well as the behavior of foreign investors. The remedies include selective disengagement from the North, obtaining the best from the North on terms defined by the South, and cautious and informed participation in the global division of labor. No single goal can be attained without paying attention to a wide variety of economic, scientific, and social policies now considered relevant. Hence, goals "expand" and "become interconnected."

REDEFINING GOALS

Changes in goals and in knowledge are crucial to our argument. But in the real world neither one changes all the time. We summarize the two processes under discussion without assuming covariation. The goals of governments, in modern times, change because new groups, parties, opinions, and demands enter the national political arena rapidly and in large numbers, reflecting the process of accelerating social mobilization. The increase in the number of actors implies the articulation of ever more ambitious goals for the governments. Authoritarian Brazil and democratic Venezuela today aim at goals that had not occurred to their rulers twenty years ago. But this expansion of goals may occur *without* a coherent intellectual understanding of causes and effects, and *without* a complete mastery of the means considered necessary and sufficient to attain the ends. Or the expansion of goals may include such understandings, even if only provisional and filtered through the simplifying mechanisms of ideologies. A call for international collaboration in order to help attain goals that promise joint gains may involve a sophisticated understanding of ends and means, or it may simply be an ill-thought-out reaction.

Similarly, knowledge about causes and effects, means and ends, may expand rapidly and command an increasing consensus among the experts who generate it. Consensual knowledge may or may not infect the politicians. Biologists, resource economists, and some engineers are increasingly concerned about and united in proposing strategies of development that respect ecological constraints; some politicians are impressed and others are not. The conventional wisdom among economists used to be that increases in aggregate income will trigger welfare benefits for all; the widespread popularity of the doctrine of "basic needs" suggests that a new consensus which questions this assumption is evolving among experts.

The hallmark of complex interdependence is uncertainty: there are too many goals, all competing for attention; there is no agreement

on the best means for attaining them; the understanding of causes is subject to ideological disputation, not consensus; what is a cause to one actor is an effect to another. In short, *goals cannot be ordered into a hierarchy of importance or salience equally acceptable to all*. International collaboration, the effort to regulate asymmetrical interdependence, is an attempt to reduce uncertainty when a multiplicity of values are at stake and the simplest strategy for reducing uncertainty—autarky—is not practicable. Linking issues is fallible man's way of marshaling what knowledge he has in order to attain his goals. Constructing issue-areas by way of substantive linkages implies some ordering. How orderly is the ordering?

Occasionally, a persuasive doctrine lights up the murky world of uncertainty, and consensus develops around it—thus ordering the steps the rulers must take. More often, political actors do not subscribe to such unambiguous uncertainty-reducing ideologies; they therefore must make policy by means that do not meet the canons of rationality associated with operations analysis and marginal utility theory. They may cope with uncertainty by filtering, simplifying, and foreclosing choices. Trade-offs are fudged rather than systematically examined. Causal sequences are assumed or guessed at rather than studied fully. Means found effective in past situations are projected as being useful in a new crisis, even though the ends may not be comparable. Or actors may employ the techniques of sub-optimizing and “satisficing.”¹³

We can now come back to our discussion of how linkages among issues are negotiated. Issue-specific negotiations do not involve these kinds of uncertainties and coping mechanisms because I do not associate them with complex interdependence. They do not refer to situations in which the need for a new regime is felt, though they are commonly used for adapting and maintaining existing institutional arrangements. We may therefore disregard issue-specific negotiations. In tactical linkage negotiations, knowledge is either not consensual or irrelevant; therefore it cannot inform the negotiations in a systematic fashion. The dissonance-reducing mechanisms used by the negotiators defy clear attribution: each actor or coalition uses its own psychological defense, not one shared by all in the effort to master uncertainty. Goals to be attained—although perhaps rendered under some rhetorical label to which all claim to subscribe—are in fact very diverse. Any resulting

¹³ See Jack L. Snyder, “Rationality at the Brink: The Role of Cognitive Processes in Failures of Deterrence,” *World Politics*, xxx (April 1978), 347-53; Robert Jervis, *Perception and Misperception in International Politics* (Princeton: Princeton University Press, 1976), chaps. 4 and 11.

agreement bears the scars of this situation; it is only as stable as the power of the most resourceful linkers can make it.

Linking issues on the basis of fragmented or complete substantive awareness of applicable knowledge is our real concern: actors espousing an "expanding" set of goals seem doomed to relying on what is known or knowable about the physical and social world. That is true of all societies which concede that they depend on this kind of knowledge in order to industrialize, have a technologically proficient military, fight malnutrition, stop the population explosion, halt environmental degradation, or overcome dependency. They therefore share a commitment to consensual knowledge, whether on a partial or a more complete basis. In an international negotiating situation they may or may not share a common set of goals. Or they may use the negotiations as an opportunity for defining joint gains although no such notion prevailed when the bargaining began. The cognitive processes associated with reduction of dissonance must become common to the parties if such an outcome is to be envisaged.

FOUR COGNITIVE STYLES

Goals and knowledge may be combined. Figure 1 suggests schematically how issue-areas develop from separate issues.

FIGURE 1

		GOALS CONSIDERED BY POLITICIANS ARE:	
		<i>specific, static</i>	<i>interconnected, expanding</i>
BELIEFS OF EXPERTS ABOUT KNOWLEDGE BECOME:	<i>more consensual</i>	pragmatic	rational
	<i>not more consensual</i>	eclectic	skeptic

Each cell captures a particular cognitive style, a particular convergence of ways of thinking about knowledge and action. One may think of the units in the cells as individuals or decision-making teams such as delegations to conferences. The units, however, are *not* the bargaining style that dominates any single conference; that style must be coded as the interaction among delegations; it is described in our typology of issue-linkage.

The distinction between static-specific and interconnected-expanding

goals has been explained. A clarification about "consensual" knowledge is now needed. What matters is not that substantive knowledge about soil chemistry, ocean currents, or the biology of fish stocks is changing, but that there be a constant and active evolution of ideas about how scientific knowledge can and should be related to politics and policy making. Not merely information, but the management of *knowledge for action* is the vital consideration for the growth of issue-areas. Some scientists believe that, if the right kinds of questions are asked, a consensus on disciplinary and interdisciplinary issues can evolve which will link knowledge effectively with the attainment of social goals. Others are less sanguine. The management of knowledge which uses as its focal point a given *machine* or *method* or *place* (particle accelerators, gene splicing, space research) is for our purposes "not more consensual," because it concentrates on research whose possibilities and range are defined by the experts without reference to clear political goals. "More consensual" knowledge includes efforts to pick and choose, from among scientific disciplines and endeavors, those items that can be combined in a comprehensive effort to achieve the social or political goals of concern to us. The two modes opt for different principles of organization. They also use different ideologies to justify one procedure or the other.¹⁴

The Rational Mode. In the rational mode, there is covariation between changes in knowledge and changes in goals. Experts increasingly agree on the management of knowledge for action; politicians accept their consensus as they make it part of their striving to attain more ambitious goals. The combination implies an acceptance of synoptic planning as the appropriate administrative technique. Enough validated knowledge is assumed to exist to permit the formal analysis of a problem, its decomposition into interrelated components, the specification of overarching objectives, and the assignment (to given administrative and production units) of quantified tasks designed to bring about the realization of the goals. The rational mode presupposes inspiration by a comprehensive doctrine which is the source of the planners' optimism, be it sociobiology, environmental holism, or "soft

¹⁴ This distinction originates with Stephen Toulmin, "The Complexity of Scientific Choice: A Stocktaking," in Edward Shils, ed., *Criteria for Scientific Development, Public Policy, and National Goals* (Cambridge, Mass.: M.I.T. Press, 1968), 63-79. The full rationale underlying this discussion and the matrix is contained in Haas, Williams, and Babai (fn. 9), chaps. 3, 5, and 6. For illustrations of the distinction in the early history of nuclear energy, see Spencer R. Weart, *Scientists in Power* (Cambridge, Mass.: Harvard University Press, 1979).

energy paths." Rationalists consider themselves masters of technique and substance, means and ends, causes and effects.

Of course, an ordering of goals is achieved by such means—however temporarily. *This ordering depends on the acceptance of the goals and the knowledge by all important actors*, or the exclusion from decision making of any actors who do not share the faith. Has such a situation ever existed in the history of international collaboration? One can think of experts who advocated doctrines of this kind and failed to convince all of the key actors of their vision: such was Arvid Pardo's fate in the Law of the Sea negotiations, Robert Triffin's in the reform of the international monetary system, and Lord Orr's in the field of food.

In the heyday of the Northern economic boom after World War II, Keynesian macroeconomics came close to providing such a consensus. There was considerable agreement among economists on the instrumental role of monetary policy in attaining other economic objectives. This consensus was successful in convincing the major governments of the West. Domestic full employment, rapid industrial modernization, the growth of world trade under nondiscriminatory conditions, and the expansion of the welfare state *were* considered together as a set of interconnected and expanding goals informed by a consensual body of knowledge. The Bretton Woods economic regime was the expression of this mode. The substantive way of linking the issues was used when the regime was perfected, even though the institutionalization took place under the hegemony of the United States.

We now know that the consensus was temporary. The goals of many of the actors changed; the NIEO reflects the change. Consensual economics disintegrated into "left" and "right" Keynesianism, neoconservatism and neo-Marxism. Each school has its own way of linking issues, or of not linking them. The rational mode has not demonstrated its staying power—whether the knowledge comes from economics, oceanography, or nuclear engineering.

The Eclectic Mode. Eclecticism is the logical obverse of rationalism. Knowledge is not used in decision making so as to arrive at a more integrated understanding among sectors and disciplines. Fisheries experts, geophysicists, petroleum engineers, and naval architects go their separate professional ways; they make little effort to reinterpret their specialized knowledge under the conceptual roof of "managing the common heritage of mankind." Politicians and administrators also

make no concerted effort to change the social objectives to which they are committed. They continue to conserve fish stocks instead of planning to meet nutritional needs; they encourage the construction of supertankers, issue leases for ocean mining, exclude foreign polluters from straits and harbors—all without integrating these objectives into an ordered set of priorities for the oceans.

“Eclectics” comprise the large number of actors who are content to continue doing what they have always done. They believe neither in salvation by way of more consensual knowledge about techniques nor in the possibility of fashioning more integrated and ambitious goals. They support or oppose new ideas and programs for reasons having little to do with any structured attitudes toward either knowledge or political purpose. Such actors may engage in package-dealing when they encounter one another in international negotiations; but the deals feature the *tactical* linking of issues.

Whether or not conceptual integration takes place is a matter judged by the outside observer on his own terms. The participants, unmindful of the distinctions made by us, may well consider their activities as constructing issue-areas in line with the best scientific knowledge available to them. The key is the mode of decision making they adopt; eclecticism prevails if no attempt is made to transcend disjointed incrementalism. The participants do not use methods of synoptic assessment; they do not construct formal models of the oceans including *all* activities of concern; they do not attempt to make a joint simulation of cost-benefit alternatives covering fishing, mining, shipping, and pollution control (and hence, there is no real appreciation of trade-offs). Politicians package issues in line with coalitional and bargaining dynamics, rather than in terms of agreement on integrated objectives to be attained. A little is added at each new encounter, without necessary reference to a superordinate conception of shared objectives. Existing knowledge does inform the process of adding items, but it is not knowledge integrated by the methods of planning and formal analysis.¹⁵

¹⁵ This discussion runs parallel with and is indebted to Charles E. Lindblom's *Politics and Markets* (New York: Basic Books, 1977).

At this point we must face the question of “who decides”: a given phenomenon may be coded as an “issue” by the analyst and seen as an “issue-area” by the participating actors; two analysts may well code the phenomenon differently. How reliable, then, are our attributions?

It is useful to distinguish between three ways of assigning attributes. (1) The simplest way is to code phenomena on the basis of the actors' self-perception; if they characterize their style as “eclectic,” that is it. (2) A more complex procedure is to code the actors' *behavior*, not only their self-perception, on the basis of categories defined by the analyst. This procedure calls for inferring self-perceptions and matching them with actual

The Skeptic Mode. What if goals entertained by politicians *do* become broader, more interconnected, and more consensual, but the accompanying knowledge remains or becomes fragmented? The effort to order issues along a hierarchy of priorities is made, but there is no adequate, accepted body of knowledge informing the order. The ordering is merely rhetorical: one set of negotiators is committed to one line of analysis with its source of certainty while another set professes quite a different approach. Agreement among actors on the hierarchy is not likely to be long-lived. Substantive linkage of issues is certainly attempted; but the participants are unsure about the way of going about it, and the attempt is fragmented. There may be some tactical linkage: some actors may be content to reach agreements based on a fragmentary consensus on goals; others may be preoccupied with merely insti-

behavior for consistency. (3) The third procedure is to neglect the actors' perceptions and behavior altogether and make attributions solely on the basis of categories set up by the analyst. The first two methods stress cognitive concepts; the third way relies on structural considerations. Making attributions on the basis of structural concepts is the procedure favored by analysts working in the Marxist, state-centric, and Parsonian traditions. It is illustrated by Rosenau's use of the notion of issue-area.

In opting for the second of these procedures, we code by asking the following questions of the negotiations being studied:

1. How did the actors define the substantive items about which they are negotiating *before* the session under examination?
2. *In* the session being studied, is there evidence that these items are being redefined and regrouped under larger headings corresponding to more ambitious goals not previously on the agenda?
3. *In* the session being studied, is there evidence that the redefinition and regrouping of items under larger headings is tending toward the acceptance by all actors of some core concept (or doctrine) which represents the ambitious social goals?

If we were to compare the LOS, monetary, and NIEO negotiations before and after 1967, 1971, and 1977, respectively, we would arrive at the following answers:

	<u>Law of the Sea</u>		<u>Money</u>		<u>NIEO</u>	
	<i>Before</i> 1967	<i>After</i> 1967	<i>Before</i> 1971	<i>After</i> 1971	<i>Before</i> 1977	<i>After</i> 1977
Issues linked?	no	tactically	substantively	tactically	fragmented	no?
Issues redefined?	no	yes	yes	yes	yes	no
Core concept consensual?	no	no	yes	no	no	no

The price of this procedure is lack of uniformity and of full comparability among issue-areas and regimes. Uniform empirical attributions that correspond to the actors' self-perceptions are sacrificed to a scheme that allows assessments of change, but the assessment is a function of the analyst's view of the world, which may or may not be shared by the actors. Comparison of different regimes and their evolution is possible, but only if we neglect the *salience* of these regimes to the various actors. Since the actors' self-assessments are subordinated to the analyst's way of ordering the world, we have no way of being sure that the Law of the Sea and monetary management are of equal importance in terms of the allocations of time, energy, and attempts to plan which the governments have allocated.

tutionalizing a process of learning, while resisting fragmentary solutions based on the unlinking of the issue-package.

"Skeptics," therefore, are either impatient or unconcerned with knowledge. They do not believe in, or are unwilling to wait for, the arrival of consensus among the experts about the means and causes that might require understanding before they define ends and specify effects. Yet they are interested in using whatever consensual knowledge may exist at the moment in order to realize the ambitious goals they have in mind. Synoptic planning and analytic techniques coexist with disjointed incrementalism in making decisions. Therefore there can be no collective certainty, only fragmentary bits of it. The collective effort is condemned to continuing experimentation as the promise of joint gains remains in doubt. The larger goals are approached through hit-or-miss programs and single-shot solutions that are not consistently justified in terms of some overarching logic or method.

The Pragmatic Mode. But what if there is an increasing body of consensual knowledge among experts, which is not fully matched among politicians with an expanding set of social goals recognizing intellectual interconnections? The situation prevails when publics and policy makers become aware of unwanted and unanticipated consequences of industrialism while also wanting its benefits. Goals do change in recognition of more consensual knowledge, but not all actors agree on how the goals ought to be ordered. Pragmatists attempt to use the analytical techniques associated with what Lindblom calls "strategic planning." They do seek to contrive substantive linkages on the basis of such efforts at integrating knowledge. But pragmatic experts can never be sure to find an understanding and sympathetic audience among all of their political masters.

While rationalists strive for the aggregating of goals into issue-areas, pragmatists tend to experiment with combining two or three issues; they may consent to decompose them into separate issues once they are convinced that the aggregation is conceptually faulty or politically ineffective. Pragmatists would prefer to link issues substantively at all times, but will settle for partial substantive linkage when they must. Tentative moves toward the growth of consensual doctrines are discernible; to the extent that they take root, certainty about how to proceed also develops. But in the pragmatic mode, nothing is ever final and complete. The social and economic goals to which the politicians subscribe are *not* expanding and not becoming more interconnected under the umbrella of some consensual doctrine; they continue to co-

exist and to compete in a more inchoate fashion. Therefore, improved and accepted knowledge cannot be used to order goals in any final way. As single goals change and coalitions among actors shift, so does the order of priorities among goals. Improved knowledge may help in the ordering; but knowledge, too, is rarely final and uncontested. Pragmatists must work on the border of relative and temporary certainty and of occasionally ordered social goals. Hence, they must settle for stop-and-go tactics—attempts at grasping larger wholes, followed by periods of retrenchment. And their inability to opt for a clear set of ordered consensual goals at a high level of abstraction is bound to make pragmatists cautious about the sweep of techniques they employ for marshaling knowledge.

IV. COGNITIVE PROCESSES, CHANGE, AND REGIMES

My purpose is to suggest an ideal-typical definition of regimes, to inquire how, in our era, international collaboration can flourish in a setting of conflict, how islands of order can form in an ocean of disorder. Different modes of cognition can suggest how men redefine their interests to attempt the realization of joint gains in some fields while continuing to play the zero-sum game in others. Negotiation on the basis of substantive linkages does not guarantee successful regimes. Cooperation on an informal basis can certainly take place in the absence of full-fledged regimes.¹⁶ Other writers have suggested the utility of such qualifiers as “partial,” “weak,” “quasi-,” and “proto-” regimes as expressions of less-than-complete regulation of interdependence. The value of such distinctions depends on the purpose of the analysis. As long as my purpose is the elaboration of an ideal type useful for empirical exploration, I see no need to disaggregate the concept prematurely.

HYPOTHESES OF CHANGE

Our immediate purpose is to summarize the discussion in terms of some hypotheses about regime construction. Since we are dealing with ideal types, these hypotheses are modest: they suggest what *cannot* happen rather than predicting what *will* happen. They limit the universe of possibilities, but they suggest no determinate outcome.

¹⁶ Various modes of collaboration for reducing uncertainty, involving issues similar to technology transfers, are explored systematically and searchingly by Peter Cowhey in *The Problems of Plenty* (Berkeley: University of California Press, forthcoming). Cowhey shows how such collaboration can be carried out in the absence of a full-fledged regime, and at what cost. Both structural and cognitive explanations are used and fully integrated, with “structure” being identified as an unchanging and consensual knowledge base.

The four hypotheses that follow make claims about cognitive styles, issue-linkage, the prominence of state power in the linkage, and the capacity of any resulting regime to survive. We assume that the cognitive style informing the negotiations characterizes all the important parties: all are rationalists, skeptics, eclectics, or pragmatists. The more complex situation of mixtures of prevalent styles will be taken up when we discuss "learning through negotiation."

1. If the negotiating conference is characterized by *eclecticism*, issues will be linked exclusively in a tactical manner. The credibility of the linkage is largely a function of the will and the ability of key parties to impose it, including the manipulation of technical information. It is unlikely that a regime will emerge; if it does, it will not outlive the first important technological innovation.

2. If the negotiating conference is dominated by the *rational mode*, substantive issue-linkage on the basis of agreed doctrines will prevail. Power differentials among states are not important as mediating instruments. The resulting regime will be as stable as the doctrinal consensus on which it rests.

3. If the negotiators are *skeptics*, fragmented issue-linkage will prevail, and the will and capability of powerful states can be expected to remain important as instrumentalities for rewarding coalition partners and paying off opponents. The resulting regime will be weak and unstable.

4. If the negotiators are *pragmatists*, they will first attempt substantive issue-linkage and withdraw to fragmented linkage when this becomes politic. State power is a factor in reaching an agreement, but not an essential one. The resulting regime, though including fewer issues than had been hoped, will nevertheless be fairly stable. It will also be capable of being adapted and adjusted so as to include additional issues later.

Regime stability implies several things. The norms, rules, and procedures that make up the regime will not be challenged by the members so as to throw the existence of the arrangement into doubt. The rights of the parties will be generally respected and obligations will be carried out. Challenges will take the form of conduct specified by the regime's procedures. The rewards and gains expected of the regime will in fact eventuate. In terms of efficiency and equity, the regime will perform as hoped. But even if we can agree on the meaning of stability, controversy remains as to which of the four hypotheses is the most persuasive.

STRUCTURAL EXPLANATION OF CHANGE

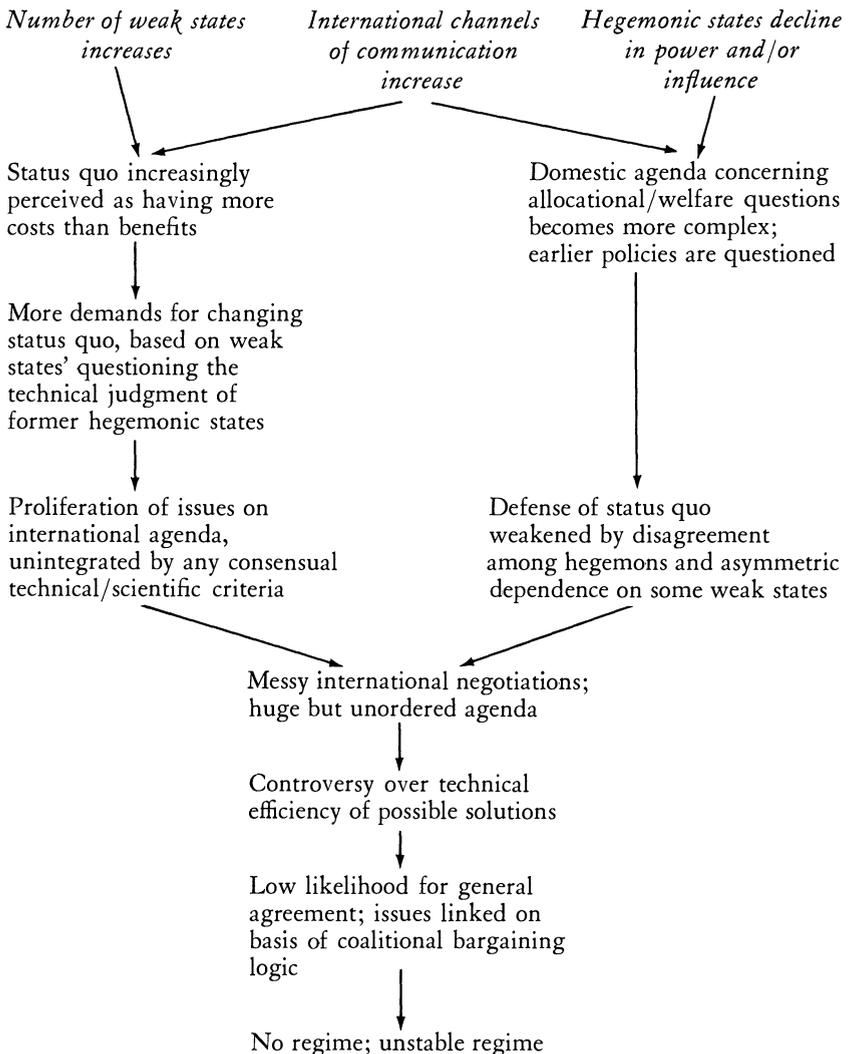
Students of international regimes are in disagreement as to whether changes in the rules of collaborative games among nations are best explained in "structural" or in "cognitive" terms. While my explanation is cognitive, the burden of this section is to suggest that the differences can be reconciled with the help of the notion of the "national interest," albeit not a platonic ideal interest, but interest perceived by actors and identified by analysts.

In the structural explanation, we seek to identify deep-seated patterns or conditions in the international system and to ask whether these have or have not changed. We can then explain new institutional patterns in terms of such changes. The differential in power, influence, and stratification among states is the condition of greatest interest to the structuralist. He sees the world in terms of changing balances between "weak" (or new, or underdeveloped) states and "hegemonic" (or strong, industrialized, and—potentially or actually—militarily dominant) states. International regimes flourish when hegemonic states define them, operate them, and pay for them; they decline when hegemons change their minds. Naturally, the rules of a regime are tailored to the national interests of the hegemons. The law of the sea was dictated by those who owned big navies, merchant marines, and fishing fleets before 1967; monetary order was maintained by the economically most powerful: Britain before 1914, the United States between 1945 and 1971. When the relative power position of the hegemon eroded—for whatever reasons—the regime had to change. Structuralists do not worry about differences in *how* the national interest may be understood by various groups, bureaucracies, and individuals within a state. The strength of the state is taken as the key ingredient of the explanation, and the balance of power among states as the predictor of specific regimes.

This approach can be applied to our way of explaining regime construction. It explains fully the situation in which no new consensual knowledge enters the negotiating process. Interests are considered fixed. When a given state lacks the capability to make its interests prevail and new actors challenge its former primacy, the game changes. One may then say that international collaborative arrangements that reflect *static* knowledge of cause-and-effect patterns and *settled* views about the relationship of means to ends *are* a reflection of established stratification patterns. Since there are no influential ideas challenging the prevailing technical wisdom of how to manage money

or fish stocks, choice is effectively constrained by prevalent schedules of opportunity costs. When the distribution of power and influence among states changes—as it surely has since 1960—national interests that had previously lacked the opportunity to be heard, now become very audible indeed. But since these “weak” states lack the ability to

FIGURE 2
EVOLUTION OF GLOBAL ISSUE-AREAS:
STRUCTURAL EXPLANATION WITH TACTICAL LINKAGES



challenge the prevailing technical knowledge they must seek a better deal on the basis of the negotiating processes we have identified with tactical and fragmented linkages. The weak must rely on their numerical strength and their ability to forge coalitions by granting or withholding benefits desired by the "strong." More voices mean more interests, more demands, and more complex negotiations; they are made more complicated still if, at the same time, changes within the hegemonic states undermine their ability to take a clear position. Expressed in terms of the cognitive modes presented above, the structural explanation of change is consistent with the skeptical and the eclectic types of process. The absence of new knowledge in the model forces reliance on less-than-substantive ways of linking issues. This sequence of events is summarized in Figure 2.

COGNITIVE EXPLANATION OF CHANGE

In the pragmatic and rational modes of negotiating, emphasis is put on the use of increasingly consensual new knowledge in making more ambitious policies. An explicit additional variable is introduced to explain change—a variable that accentuates new ways in which actors think. Since actors can be expected to make use of whatever help they can get in reducing their uncertainty about how to attain their increasingly complex and ambitious objectives, this knowledge will be put to use through cognitive means. In Figure 3, the addition of new knowledge is imagined to be associated with new communications channels, think tanks, international research institutes, and efforts to model "world systems" at national and international, public and private institutions. Substantive issue-linkage then prevails, though it may be mixed with fragmented linkage. State power remains in the picture to the extent that the pure rationalist style does not prevail.

LEARNING THROUGH NEGOTIATION

To students of international organizations condemned to follow the debates of United Nations bodies, it may seem odd to associate these discussions with the idea of learning. In fact, the iteration of familiar patterns of behavior suggests the analogy of the anthill rather than that of the academy. Hence, the comment of Lewis Thomas is comforting:

It is not surprising that many analogies have been drawn between the social insects and human societies. Fundamentally, however, these are misleading or meaningless, for the behavior of insects is rigidly stereo-

typed and determined by innate instructive mechanisms; they show little or no insight or capacity for learning, and they lack the ability to develop a social tradition based on the accumulated experience of many generations.¹⁷

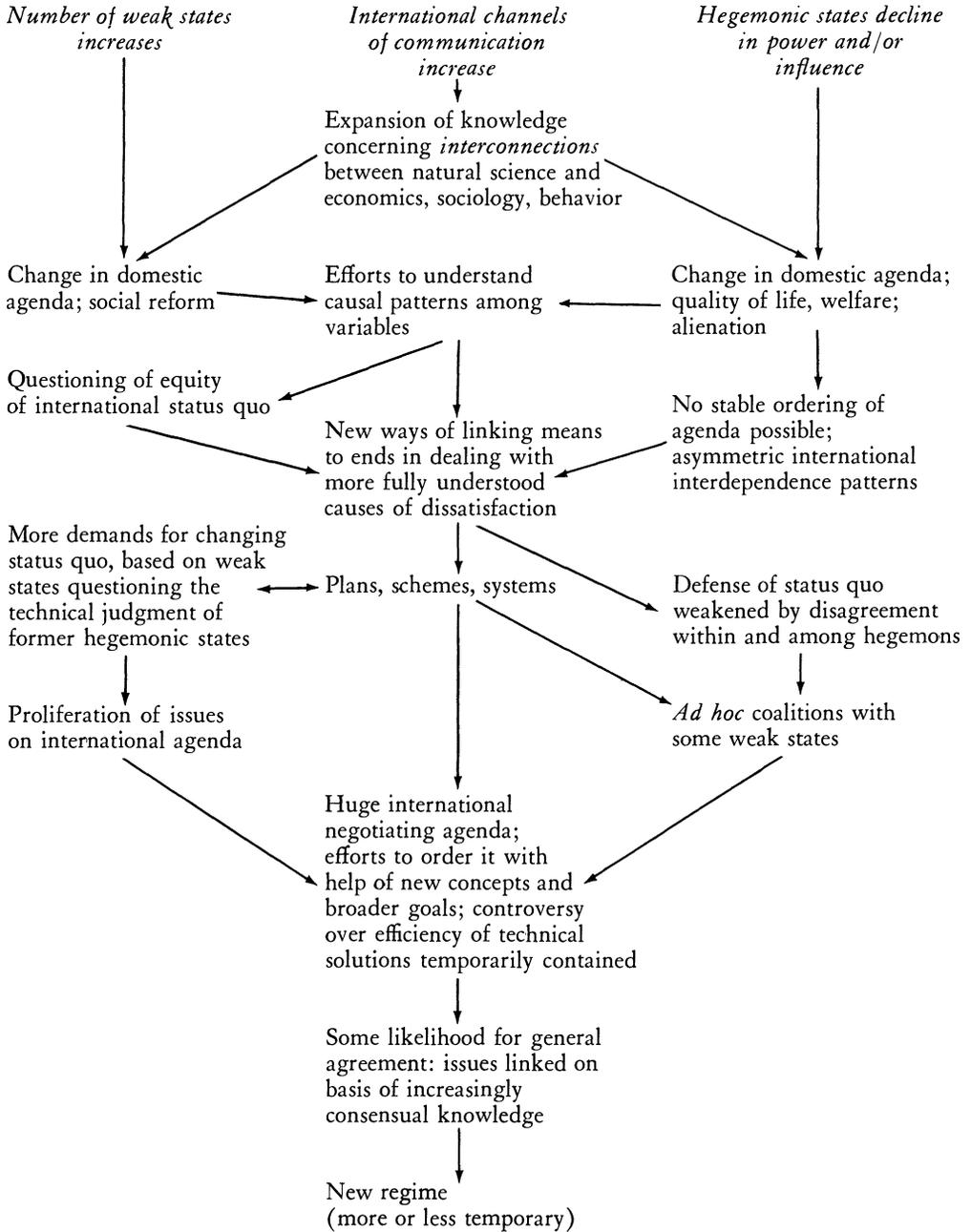
Insects cannot transcend stereotyped behavior without genetic change, but people can by drawing on experience. One kind of experience consists of making use of information that becomes available. Another kind integrates various bodies of information to construct theories and other intellectual aids. Such processes can be experienced by individuals, groups, organizations, and even states. Information and knowledge can be used to advance private as well as collective interests. We have stipulated that collaboration will not occur unless the opportunity costs of acting jointly are considered to be less than the costs of individual action. Learning, in the context of regime construction, is the cumulative recognition of knowledge necessary for realizing joint gains; learning must be Pareto-optimal. We know that learning has taken place when the actors adopt new rules of behavior that make use of new information and knowledge, or adopt ways for the search for such knowledge. If learning does not imply "the end of ideology," it certainly means that the prevailing dogmas are being relaxed sufficiently to allow for the introduction of new information considered relevant by the proponents of many ideologies. Learning occurs when communists, capitalists, totalitarians, and democrats agree that, in some issue-area, new information or knowledge compels the redefinition of past interests in the service of joint gains.

Actors who seek to use new knowledge to link issues substantively cannot be said to act contrary to their national interests. There is no need to assume the sudden victory of dispassionate wisdom over selfish interest. But why assume the contrary—that actors will continue to cut off their noses to spite their faces when it is within their power to enjoy both wisdom and self-interest? New knowledge, then, is used to redefine the content of the national interest. Awareness of newly understood causes of unwanted effects usually results in the adoption of different, and more effective, means to attain one's ends. A more complex understanding of what causes the malaise of industrial and developing societies usually results in the adoption of more ambitious and demanding governmental programs with new objectives. In making use of this knowledge—however fragmentary the carry-over into action may be—interests take on a different form. It used to be in the national inter-

¹⁷ Thomas, *The Lives of a Cell* (New York: Viking, 1974), 57.

FIGURE 3

EVOLUTION OF GLOBAL ISSUE-AREAS:
COGNITIVE EXPLANATION WITH SUBSTANTIVE LINKAGES



est of the United States to maintain the three-mile limit of the territorial sea, and to guarantee the stability of other countries' currencies. It no longer is. If we adopt this perceptual notion of the national interest, we must discard the idea of "structurally necessary" regimes; nothing is *absolutely* necessary. Necessity is a function of perception, of knowledge; it is time-bound. What was considered necessary in one epistemological perspective becomes obsolete in another. What one set of politicians considered safe and settled knowledge as long as public administration meant running the night watchman's state, another set must discard in exchange for a more ambitious knowledge when the objective is to maintain the welfare state.

How can we conceptualize the process of learning to use new knowledge in the redefinition of national interests? Obviously, the impulse may come from many sources in domestic political systems and may be diffused through many international agencies, public and private. The knowledge, however, does not become politically relevant until it shows up as an ingredient in the formulation of national demands for altering the existing pattern of interdependence. The empirical locus for the next encounter is the process of negotiating new regimes.¹⁸

Hence, learning is a form of persuasion, and persuasion implies an initial disagreement among the parties, which is gradually resolved or settled by compromise. Learning through negotiation is more likely to take place in a setting in which *no single* cognitive style characterizes

¹⁸ One cannot speak of "a theory" of negotiation—only of competing "theories" that differ from each other in *what* they attempt to predict and in *how* they view the process. See the special issue of the *Journal of Conflict Resolution*, xxi (December 1977). A specification of givens that characterize negotiations relating to regime construction includes: (1) lack of a superordinate legal framework; (2) tacit acceptance of a procedure that is unstable because one or more of the parties may seek to upset it during the negotiations; (3) conviction that any resulting agreement will be sufficiently in the common interest to be implemented; (4) initial lack of accurate information in minds of negotiators with respect to the ranking of utilities in the minds of their opponents; (5) all negotiators are the instructed agents of governments and are rational actors in Schelling's sense; (6) no party has a veto power; (7) voting and adjudication cannot be used to break stalemate; (8) all parties have mixed motives because the utilities attaching to the good(s) being bargained over are not homogeneously distributed; (9) there are no deadlines; (10) mediators are active; their role is facilitated by the heterogeneous distribution of utilities; (11) non-agreement is a possibility accepted by all. Obviously, such characteristics differentiate these negotiations sharply from most game-theoretic models and all real situations that abstract from industrial relations. See also Zartman, ed., *The Negotiation Process* (Beverly Hills, Calif.: Sage, 1978), 70-71.

The diffusion of new knowledge through various mechanisms is analyzed in Haas, Williams, and Babai (fn. 9), Part III; Jean Touscoz, *La Coopération Scientifique Internationale* (Paris: Éditions Techniques et Economiques, 1973). The literature on this subject is summarized and reviewed by Brigitte Schröder-Gudehus, in Derek de Sola Price and Ina Spiegel-Rösing, eds., *Science, Technology and Society* (Beverly Hills, Calif.: Sage, 1977).

the negotiators, but where pragmatists encounter skeptics or eclectics. Learning is associated with mixed cognitive settings rather than with the pure types hypothesized above. The knowledge is unevenly diffused and not completely consensual; there is conflict over goals; power is perceived to be asymmetrically distributed, though not concentrated in one country for purposes of all issues and sectors of concern. In the negotiations that ensue for resolving conflicts over clashing national interests so as to find a zone of joint gains, learning takes place if and when the bargaining positions of the parties begin to *converge* on the basis of consensual knowledge tied to consensual goals (or interests), and when the *concessions* that are exchanged by the parties are perceived as instrumental toward the realization of the joint gains.¹⁹

Must all knowledge in all circumstances have this effect? The experience of the LOS has demonstrated avoidance of issue-linkage; the Jamaica Agreement taught us the continued importance of tactical linkages in the creation of a regime; the still unsettled nature of the NIEO negotiations begs the question of the effectiveness of the process of learning. *Learning as conceptualized above occurs only when pragmatists and rationalists have the edge over their eclectic and skeptic colleagues.*

And when is this likely to occur? Negotiations toward a food regime suggest that the substantive knowledge incorporated into the bargaining is accepted by most experts and is admitted by politicians to be relevant to the attainment of their converging goals. Another condition has to do with empathy among negotiators—with their ability to grasp the opponent's hopes and fears. This condition implies overcoming, through continued negotiation, the initial situation in which one party *assesses incorrectly* the ranking of utilities in the mind of the other. Convergence then means an adjustment of mutual utilities in some rough common rank-order.²⁰ Once this breakthrough occurs,

¹⁹ Zartman (fn. 18, 1978), 75ff., argues that the "convergence/concession" model of learning through negotiations is less powerful than the alternative "formula/detail" model. The latter, while still true to the constraints summarized in fn. 18, is said to capture more accurately the manner in which conflicts are gradually resolved; the hard negotiations are over finding a "formula" to "capture" the zone of joint gains while the details can be deduced less conflictually afterward. I would counter that this argument applies to the kinds of intra-regime negotiations carried on in adapting and maintaining the rules by incrementally tinkering with the norms, but not to the creation of a new regime where the new norm is essential.

²⁰ See John G. Cross, "Negotiation as a Learning Process," in Zartman (fn. 18, 1978), 29-54, for a formal model of this process. In the NIEO negotiations, neither the convergence of knowledge nor the agreement on mutual utilities has occurred. But there is a literature which, if more widely accepted, would contribute to both. On the knowledge side, see the studies in William R. Cline, ed., *Policy Alternatives for a New International Economic Order* (New York: Praeger, 1979). On the adjustment of

bluffs and threats cease to be useful negotiating tactics. The resulting agreement makes it impossible to differentiate winners from losers; everybody is a winner on some dimension. After that, a second initial constraint—the unwillingness to accept a predetermined procedure for negotiating the regime—becomes less important; the conference can settle down to a bargaining process in which mediators become key actors.

But what if the pragmatists and rationalists are not successful? If no convergence occurs on any dimension, there will be no regime. The LOS is again our example, and it demonstrates the prevalence of a process that is just as much part of the creation and diffusion of new knowledge as the forging of substantive issue-linkages. New information may actually sensitize negotiators to possible future gains that are best realized without a regime. New knowledge on fisheries conservation, pollution control, and off-shore mining had the effect of making several Third-World governments determined to reap these advantages for themselves alone, to the exclusion of others. Their example was soon followed by all countries that espoused the formula of a 200-mile economic zone. New knowledge can also sensitize actors to costs, not just benefits. And if the character of the resource is such that it can be manipulated by excluding others so as to preserve benefits and limit costs, the packaging of issues will be considered harmful. That may be the fate in store for negotiations to fashion a regime for the nuclear fuel cycle. The failure of the Integrated Commodity Program of NIEO has been explained as resulting from the realization of the parties, after being exposed to the results of modeling commodity markets, that their interests are far less congruent than they had supposed. Learning to link issues substantively requires more than new scientific and technical information, and more than a formula that declares international equity to be the norm of order. It also requires a demonstration that *only by linking issues substantively* can everyone's goals be realized. If one is not an ecological holist, it may be impossible to sustain such a demonstration.

In the NIEO negotiations, we can characterize the Group of 77 as skeptics and the developed countries as eclectics. Since some new agreements of a collective kind (unlike the private-goods-dominant solution

utilities, see the ingenious argument for reconciling the "graduation," "global reform," and "basic needs" scenarios embedded in the NIEO controversy, in Roger D. Hansen, *Beyond the North-South Stalemate* (New York: McGraw-Hill, 1979). For an interesting effort to define a consensus on both dimensions, see Christopher Freeman and Marie Jahoda, eds., *World Futures* (New York: Universe Books, 1978).

to most LOS issues) were concluded and others remain on the agenda, we cannot declare the NIEO an outright failure. Nevertheless, it is clear that whatever issue-packaging occurred is quite fragmented and replete with efforts at tactical linkages. In fact, the process seems best characterized as *declining* issue-linkage: in 1974 the agenda appeared as a huge package; by 1980 it had been disaggregated into a number of issue-specific items (debt relief, technology transfer, commodities, etc.). Substantive linkages were more prominent in the organizational mind of UNCTAD than in the foreign ministries of the member states. Knowledge was used to sharpen an awareness of separate, not joint, gains. Even so, the agreements that did come about suggest that some rank-ordering of utilities has occurred since 1975—enough to have a fragmentary consensus, but not one that adds up to a new regime. And so the door remains ajar to some further cognitive changes which require that the fragments be reordered into a substantive package.²¹

The mixture of cognitive styles leads us to a second set of hypotheses about regime construction.²²

1. If the negotiations are dominated by a conflict between rationalists and pragmatists, the solution will still feature the use of substan-

²¹ The political reordering is described in Rothstein (fn. 5), chap. 7. It presupposes the kind of intellectual reordering found in Hansen (fn. 20). Rothstein argues that the parties must recognize that any single NIEO negotiating episode is merely a step in a continuing process that incorporates learning. There is evidence that the European countries and the United States do recognize this. However, the developed countries must also accept that their concern with "efficiency" cannot be squared with the emphasis placed by the G-77s on "equity," and that the issue must be fudged or reinterpreted in short-term versus long-term considerations. This, in turn, cannot be accomplished without re-linking issues that are now treated separately; whatever issue-specific agreements are now concluded must be seen in the context of overall welfare choices that will involve substantive issue-linkage later. The separate deals must be made to interlock so as to provide side-payments to countries (especially the poorest) that perceive only costs in extensive issue-packaging. But Rothstein sees a danger in a global regime that includes all the parts; he prefers separate regimes, all of which are committed to the norm of "dependability" in meeting the G-77's aspirations, and are thus coordinated normatively rather than in terms of rules and procedures. Thus, the G-77's reliance on the maximum common denominator can continue to hold the coalition together symbolically without infecting every item on the agenda.

²² For evidence that there is some support for these hypotheses in the history of various multilateral scientific/technological programs (rather than regimes), see Haas, Williams, and Babai (fn. 9), chap. 10. The interaction of eclectics and rationalists is too farfetched to be credible. It resembles an encounter between representatives of basically different cultures. We also ignore the interaction between skeptics and rationalists, but for a different reason. Such an encounter prevails now if we take world-order modelers as rationalists and the governments of developing countries as skeptics; however, in terms of global negotiations they are on the same side! Moreover, they cannot meaningfully work together unless they agree on an integration of development strategies (means) with the goals on which both claim to be in agreement. And such integration depends on consensual knowledge of causation. The development of such knowledge is the link postulated in the skeptic-pragmatic interaction.

tive issue-linkage dominated by consensual knowledge. There is no clear case that illustrates this pattern, though approximations to it are found in the U.N. Environmental Program. A relatively stable regime will result.

2. If the negotiations are dominated by a conflict between eclectics and pragmatists and the new information is unpersuasive with respect to joint gains, any issue-linkage will be purely tactical. That case is illustrated by the LOS negotiations. If there is a regime, it will be unstable.

3. If the negotiations are dominated by conflict between skeptics and eclectics, fragmented issue-linkage will dominate, and various partial regimes will be built. None will be stable because the controversy over goals to be achieved continues even if knowledge does not become more consensual. The NIEO is in this situation now.

4. If the negotiations are dominated by conflict between skeptics and pragmatists, the possibility exists that fragmented issue-linkage will yield to substantive linkages, though these may well be temporary and dependent on the next turn of the screw of knowledge. Regimes will be more stable than in case 3 and less stable than in case 1 because this hypothesis incorporates the notion of learning-by-negotiation; skeptics respect new knowledge though they do not wish to wait for it. The food regime comes close to presenting a current example.

V. REGIMES AND ORGANIZATIONS

The concept of an "international regime" is almost as old as international law itself. In common legal parlance, a "regime" is a recognized set of *rules* devised by governments (or non-governmental actors) for regulating conflict-prone behavior. Political analysis adds several components to this definition. If there were no potential conflict, there would be no need for rules. A regime thus creates a set of mutual expectations among the actors that each will go about his business without getting in the other's way; the regime will provide *procedures* for avoiding conflict. Rules and procedures, however, must be inspired by some sense of common purpose, some agreement on the character and value of the subject singled out for regulation. We call these the *norms* inspiring the regime. In international regimes, these norms are always an expression of some idea of order and predictability, of a regularity or a pattern to be encouraged. Norms are formalized preferences for a particular "world order."²³

²³ The lawyers' simpler meaning of the word "regime" is captured in the exhaustive

Historically, regimes have been created for regulating single issues rather than issue-areas. Hence, lawyers speak of regimes for fishing, allocation of radio frequencies, pure food and drugs, money, or foreign investment. Norms, rules, and procedures—centralized in international organizations or left to the decentralized network of national officials—have existed for many years. Such arrangements are not of interest here. The term “regime” as used here is reserved to the situation in which rapid changes in scientific knowledge and political expectations combine to produce the types of visions represented in the contemporary debate about the global economic order.

Regimes are norms, procedures, and rules agreed to in order to regulate an issue-area. Norms tell us *why* states collaborate; rules tell us *what*, substantively speaking, the collaboration is about; procedures answer the question of *how* the collaboration is to be carried out. Procedures, therefore, involve the choice of whether specific administrative arrangements should be set up to regulate the issue-area. Administration involves organization.

These thoughts on the character of regimes are now applied to the strategy of nondependent industrial development. With respect to technology, what are the possible and imaginable norms, rules, and procedures relating to international collaboration? Why would actors wish to collaborate? What kinds of activities would the collaboration entail? Would there be need for organizations?

NORMS

Why would states wish to collaborate with respect to managing and regulating the process of improving their technological positions? The purposes of those who demand a regime—and hence the norms underlying collective action—can be summarized as the *acquisition of a capability* to act in a specific domain, either nationally or collectively. This includes creating the ability to make decisions, to analyze a situation, to set up new relationships, as well as to fashion physical goods, and perfect, adjust, or change decision-making norms or manufacturing fa-

study by David M. Leive, *International Regulatory Regimes* (Lexington, Mass.: Lexington Books, 1976). Leive describes the workings of treaties and organizations dealing with health, food, and the weather. He isolates the rules in each field and analyzes the procedures for implementing them. He pays little attention to underlying norms, and none to the changing expectations of the parties, which might tell us something about the linking of old issues at a more complex level of understanding. Whether the activities discussed constitute a “regime” in my sense is not apparent from this study. On the other hand, L. N. Rangarajan, in *Commodity Conflict* (Ithaca, N.Y.: Cornell University Press, 1978), analyzes the conditions under which multi-commodity management is feasible; in doing so, he describes the preconditions for a regime in precisely the sense here advocated, even though he does not use the term.

cilities or habits of action so as to better exploit something already in place.

The acquisition of a technological capability thus involves a great deal more than simply importing or manufacturing hardware. It takes in the entire range of activities involved in *choosing* the type and rate of industrialization a country desires. Substantive linkages among issues are part of the norm. However, the tightness and the finality of the linkages depend on the type of industrialization process chosen.

Our norm does not enjoy a firm consensus. Neither all of the developing countries nor the industrial countries called upon to help them acquire modern technology are fully committed to a crisp and clear purpose. The developed countries show continued reluctance to accept the norm on the terms defined by the underdeveloped. But the poor are by no means agreed among themselves. The tightness of the substantive linkage among issues of technological and economic development depends on whether the development strategy is export-led, import-substituting, or self-reliant. An import-substituting approach can afford to link issues loosely because the emphasis is placed on trickling-down effects considered to be largely automatic. Self-reliance discards faith in automatic economic processes, and features forecasting or planning; it requires a tighter linking of issues.

This difference is reflected in the debate over investment/technology regimes. The foreign-investment regime of the past was concerned exclusively with the sanctity of private property and the conditions under which it could be infringed. Today, foreign investment is considered as a part of a cluster of activities that include the selection and siting of new technology; the mixture of public and private, national and multinational finance; effects on employment, trade, and the balance of payments. These issues are now substantively linked to the negotiation of technology transfers.

PROCEDURES

Whatever the strength of the norm, the next question must be: *How* shall the norm be implemented? I distinguish between four procedural modes. (1) A *common framework* seeks to affect national behavior through exchanges of information and common rules of reporting and record-keeping. In the language of organization theory, the division of labor sought here is confined to "pooling" separate capabilities without re-arranging them in the search for a common product. (2) A *joint facility* is a more ambitious and demanding way of pooling capabilities by seeking to harmonize and standardize the behavior of the partici-

pants through the imposition of common routines. The actors agree to a loose division of labor, not merely by keeping each other informed but by changing routinized ways of doing things so as to meet an agreed standard. (3) A *common policy* is more demanding still. It calls for the ordering and scheduling of national behavior in such a way that the participants agree to adjust their action to the planned needs of the collectivity by re-arranging prior patterns—a type of division of labor called “sequencing” in organization theory. (4) A *single policy* substitutes a centralized set of plans and objectives for the national ones. Since in doing so it absorbs the pre-existing commitments of the national actors, the resulting pattern of interaction (and the division of labor among the parts) is far more complex than in the other instrumentalities: the interaction is “reciprocal.”

The pooling of instrumentalities of action through a common framework calls for very simple coordinating bodies. Interbureaucratic committees of high civil servants suffice. When a joint facility is to be operated, however, a research staff may be necessary to devise the appropriate standards and norms; the staff need be no more than a working party of independent experts, convened when necessary. But it often develops into an international secretariat, which then comes to service the interbureaucratic committee. These institutions are sufficient for setting out common ground rules for national action. Sequencing is more ambitious, since priorities for action must be established. Some parts of the whole must act before others; some kinds of previously legitimate action will become illicit. Creation of a common policy thus demands a capacity to make joint commitments; that is the task of councils of ministers and summit conferences, aided by lower-level committees of national civil servants and rudimentary international staffs. It must be understood, however, that these lower-level bodies are incapable of making commitments without the agreement of their superiors. A single policy, and the relationships of reciprocity it implies, calls for a full-fledged “government,” whether in the federal tradition or in some other approximation. In short, there is no need for a formal organization if the actors opt merely for a common framework; but there is need for a very elaborate organization if a single policy is deemed necessary.²⁴

²⁴ The typology and the rationale on which it is based are adapted from John Gerard Ruggie, “International Responses to Technology: Concepts and Trends,” *International Organization*, xxix (Summer 1975), 570-74. For various ways of matching the typology with cognitive modes in explaining institutional variation, see Haas, Williams, and Babai (fn. 9), chap. 6.

RULES

Rules are injunctions to the member governments committed to some norm. They tell the participants *what* to do under specified circumstances, and what not to do. Rules mediate between the purpose of a regime and the procedures selected for implementing the purpose. For example, the rules of the monetary regime before 1976 specified when member states were allowed to change the value of their currency, and by how much. Since the Jamaica amendments to the IMF agreement, these rules have lost their relevance: the purpose of the regime is no longer the maintenance of fixed exchange rates. Few rules remain in the monetary regime; they include understandings among the members that poor countries must be compensated for exchange losses under certain conditions and that, in order to qualify for assistance, countries must follow domestic deflationary policies. The law of the sea, prior to the current negotiations, had rules governing the right to fish and to mine. The evolving rules suggest, among other things, that half of all manganese nodules must be mined by an international public agency and that fishing within the 200-mile economic zone is subject to the consent of the coastal state. These alternatives appear as possible rules for a technological regime: all contracts with sellers of technology must be subject to the law of the importing state; contracts are valid irrespective of local law.

The foregoing examples only illustrate one type of rules—injunctions designed to *channel or foreclose action*. Although these are the most prominent type, they do not exhaust the possibilities. Rules may be designed merely to *increase information* available to the members of the regime, such as commitments to furnish standardized data to consult on their meaning. More ambitiously, rules may also be designed to *increase the body of consensual knowledge* considered relevant to the issue-area. Participation in modeling exercises or other activities intended to increase the analytical capacities of the members fall into this category. Since the core norm is the acquisition of the capability to choose technologies, the rules can then be classified as (1) increasing information, (2) increasing interdisciplinary knowledge, and (3) channeling and/or foreclosing action.

TYPES OF REGIMES

When the norm is accepted with roughly equal fervor among all participants in a regime, the varieties of rules and procedures give us the types presented in Figure 4.

FIGURE 4
TYPES OF REGIMES

<i>Procedures</i>	<i>Rules</i>		
	<i>Share Information</i>	<i>Increase Knowledge</i>	<i>Channel/Foreclose Action</i>
COMMON FRAMEWORK	yes (1)	no	no
JOINT FACILITY	yes	yes (2)	no
COMMON POLICY	yes	yes (3)	yes (4)
SINGLE POLICY	yes	yes	yes (5)

The five possible regimes are labelled in conformity with what organization theory has to say about the character of the activities: pooling/aiding, standardizing/scheduling, forecasting, targeting, and planning. (1) Actors proceeding within a common framework engage essentially in collecting and exchanging information. Their pooling of information is supplemented with technical assistance from the better- to the poorer-endowed countries when existing capabilities are unevenly distributed among the members. (2) If they wish to do more than share information, they must choose a joint facility. If they so choose, information is not only pooled, but new information requested and the substantive area of concern is subjected to standardized monitoring procedures. The standardization of information processing amounts to "shaping" the information into accepted bodies of knowledge used in making policies. If capabilities are unevenly distributed, the richer are expected to aid the poorer by allocating a disproportionate share of common resources to them. Allocation implies that joint action is "scheduled"; there has to be some understanding on who is to give whom how much before the activity can be carried out effectively.

A common policy also requires the sharing of information and the increasing of knowledge. In addition, it carries with it understandings that each actor will seek to attain a desirable outcome by a certain time. The outcome is decided collectively, but each participant remains in charge of implementing the decision. (3) One way of accomplishing this involves forecasting without setting targets for achievement. The collective forecasting of the future is an exercise in increasing knowledge, but the forecasts need not call for action. (4) If action is desired, the results of the forecasts are translated into targets for each of the participants. Targeting without forecasting and the sharing of information is not conceivable. (5) Finally, a single policy for a set of states

presupposes all of the above, plus commitment to a firm plan of action which is implemented by the central organization.

Before drawing any conclusions from the discussion, we must show that the typology fits—more or less—the historical experience with key regimes. The monetary regime, between 1945 and 1958, conforms to our “forecasting” type; it became a “targeting” arrangement during the period 1959-1971, with the acceptance of convertibility, fixed exchange rates subject to central authorization, pre-arranged liquidity and support measures, and continuous monitoring of economic trends and national monetary policies. After 1973, however, the remaining responsibilities of the IMF became more a “standardizing/scheduling” arrangement; channeling of action is now confined to economic measures imposed by the IMF on governments wishing to avail themselves of the emergency lending facilities.

There is no comprehensive regime for the oceans, only separate arrangements for the various activities on and under the water. These arrangements are summarized in Figure 5. The purpose of the Law of the Sea Conference was to bring all these diffuse global and regional, centralized and decentralized, private and public arrangements within the purview of a single norm—treating the ocean as the common heritage of mankind—and within a set of rules that would channel action in the future so as to conform to that norm. It is easy to see why the purpose could not be achieved.

Similar questions arise with respect to the transfer of technology for industrialization. Globally, the only binding arrangement in existence is the law dealing with industrial and intellectual property, patents, and trademarks. It covers just over half of the U.N. membership and “protects” only about 10 percent of technology actually transferred by placing restrictions on licensees and purchasers of patents. Still, the work of the World Industrial Property Organization amounts to a “targeting” regime for those who accept it. Regional arrangements, however, are much more elaborate. In the Andean Common Market, they cover the siting of new plants, ownership equity, the protection of national entrepreneurs as opposed to foreign investors, the type of technological innovations to be encouraged, taxation, and the repatriation of earnings. Less sweeping regimes are under consideration in South-east Asia and the Caribbean. The regional norm is technological self-determination so as to overcome dependency. Whether this norm is to become universal depends on the outcome of negotiations now being conducted in the United Nations over various codes of conduct and a

FIGURE 5

MULTILATERAL ARRANGEMENTS FOR OCEAN-RELATED ACTIVITIES

<i>Activity</i>	<i>Organizations/Mandate</i>	<i>Regime</i>
Fishing	FAO: technical assistance Regional commissions: quotas, conservation, research	No global regime; rules made nationally and bilaterally
Shipping	IMCO: safety, pollution Private liner conferences: commercial access Physical access to territorial waters and straits	Forecasting; action foreclosed only if conventions are ratified and implemented nationally Targeting No regime; determined by general international law and national action
Mining	No organization	No regime; determined by general international law and national action
Oceanographic Research	IOC: technical assistance, coordination UNEP/WMO/IMCO: monitoring environmental conditions, research	Pooling/aiding Standardizing/scheduling
Warfare	UN: limitations on certain weapons	No regime; action foreclosed only on basis of national policy

number of complex information systems. A global regime would have to have the same "targeting" characteristics as the Andean regime in order to be effective. But what if the emerging global regime is merely of the "standardizing/scheduling" variety, while various more elaborate regional regimes coexist with it? Can the same norm be served by conflicting rules and procedures? The answer is far from obvious.

HOW TO CHOOSE REGIMES

In choosing among the possibilities, a decision maker must weigh a number of factors. What is his cognitive stance? What is the stance of the opposing coalition? How should evolving knowledge be incorporated into his political strategy or ideology? What is the norm? Should the regime “freeze” norms, rules, and procedures in line with such a strategy, or should there be enough flexibility to allow for the evolution of one type of regime into another without the kind of institutional breakdown that occurred in the monetary field?

These questions can be combined in one overarching concern: what is the appropriate membership for a regime? The choice is between centralization and decentralization. One can think in terms of a uniform and global regime, with procedures placed under the guardianship of a single organization, as opposed to the coexistence of several regionally diverse regimes, with a diffuse set of rules binding different types of states to different obligations, and a congeries of overlapping organizations. Moreover, diverse regional regimes can also coexist within global arrangements. Everything still depends on the norm selected and the cognitive stance associated with it.

The committed rationalist must opt for a planning regime: he depends on increasingly consensual knowledge—obtained by way of pooling, standardizing, and allocating informational resources—to attain his social and economic goals. Targeting, forecasting, and planning presuppose the success of increasing and managing knowledge. The skeptic, though depending on whatever knowledge is currently at hand, wants to attain his complexly linked social goals without waiting for an increased consensus on knowledge. His choice would then be a standardizing-scheduling regime. The pragmatist will swing back and forth between the forecasting and targeting regimes, attempting at first to choose as the rationalist would, but compelled to fall back on the less powerful regimes if he is unable to arrive at a satisfactory method of connecting the issues calling for collaboration. For the eclectic, only a pooling-aiding regime is appropriate.

In terms of the more familiar organizational dynamics, we must conclude that the rationalist will seek institutional solutions that are centralized in a single organization integrating all activities thought germane to the issue-area. His desire for institutional coherence suggests no other solution. Skeptics and pragmatists, however, are compelled to sacrifice institutional coherence to less precise arrangements. Skeptics may well prefer to forgo the creation of formal organizations

altogether, as may eclectics. When confronted with the possibility that a no-organization regime will fail to attain the objectives suggested by its norm, the skeptic and the pragmatist will agree to hit-or-miss institutional tinkering that may take a multi-organizational and multi-level format. They therefore face the practical problem of how to achieve coherence among the programs and norms of the multiple organizations that they will spawn.

Even if all our hypotheses were shown to be correct, and if all the typologies found universal acceptance, we would not be able to predict which regime would be chosen. But we *are* able to advise the policy maker which regime he ought *not* to select, by excluding possibilities and limiting choice.

It makes no sense to design a regime that forecloses action if it does not also provide for increasing knowledge. Nor does it make sense to increase knowledge in the absence of appropriate basic information. There is no point in negotiating global regimes when regional norms are more highly developed and in mutual opposition. It is self-defeating to attempt issue-linkages that fly in the face of competing visions of connectedness, until the futility of the prevailing visions is recognized. We should not rely on learning when the subject matter under discussion favors unlearning.

Proposals that fail to recognize these strictures may be found on many agendas. Prominent among the suggestions for a new international monetary regime are formulas for multi-tiered arrangements that create different rights and obligations for different types of states, such as the Bretton Woods rules for the rich, and less stringent compensatory rules for the poorest. Deep-sea mining is to be organized so as to balance the technological advances of the rich by subsidizing the overall economic demands of the poor. Collective self-reliance among the poor is to govern their trade and investment policies; stringent codes of conduct negotiated by the U.N. are to bind the multinational firms of the rich and force them to transfer technology on terms defined by the poor. But what if the poor disagree among themselves as to whether self-reliance, export-led industrialization, subsidies from the rich, or import-substitution should define the catching-up process? Then lack of an agreed norm *among* themselves prevents the choice of a single regime that is optimal *for* them, without answering the questions about optimal global regimes that also require the agreement of the rich.

The best service to be expected from an ideal-typical discussion of regimes is to make people pause and think.