

Review: The Rise of International Environmental Politics: A Review of Current Research
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Princen and Matthias Finger; Environmental Diplomacy: Negotiating More Effective
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Review Articles

THE RISE OF INTERNATIONAL ENVIRONMENTAL POLITICS

A Review of Current Research

By MICHAEL ZÜRN*

- Nazli Choucri, ed. *Global Accord: Environmental Challenges and International Responses*. Cambridge: MIT Press, 1993, 410 pp.
- Peter Haas, Robert O. Keohane, and Marc A. Levy, eds. *Institutions for the Earth: Sources of Effective International Environmental Protection*. Cambridge: MIT Press, 1993, 448 pp.
- Thomas Princen and Matthias Finger. *Environmental NGOs in World Politics: Linking the Local and the Global*. London and New York: Routledge, 1994, 262 pp.
- Lawrence E. Susskind. *Environmental Diplomacy: Negotiating More Effective Global Agreements*. Oxford: Oxford University Press, 1994, 224 pp.
- Oran R. Young and Gail Osherenko, eds. *Polar Politics: Creating International Environmental Regimes*. Ithaca, N.Y.: Cornell University Press, 1993, 276 pp.
- Oran R. Young. *International Governance: Protecting the Environment in a Stateless Society*. Ithaca, N.Y.: Cornell University Press, 1994, 221 pp.

INTRODUCTION

THE study of environmental politics, a policy area that originated in the early 1970s, has seen remarkable growth over the last decade, reflecting a rising concern about ecological problems.¹ Import-

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¹ Joseph L. Badacaracoo, Jr., *Loading the Dice: A Five-Country Study of Vinyl Chloride Regulation* (Cambridge: Harvard Business School Press, 1985); Peter Knoepfel and Helmut Weidener, *Luftreinhaltepolitik im internationalen Vergleich*, 6 vols. (Berlin: Sigma, 1985); David Vogel, *National Styles of Regulation: Environmental Policy in Great Britain and the United States* (Ithaca, N.Y.: Cornell University Press, 1986); Ronald Brickman, Sheila Jasanoff, and Thomas Ilgen, *Controlling Chemicals: The Politics of Regulation in Europe and the United States* (Ithaca, N.Y.: Cornell University Press, 1985);

tant comparative studies on environmental policies were undertaken soon after the rise of environmental politics, and the mid-1980s saw the beginnings of significant research on international environmental politics. Today research on international environmental politics has become a veritable growth industry. It is no exaggeration to state that the developments leading to the ozone regime, to the regime for long-range transboundary air pollution in Europe, and to the regime on the politics of global climate change are three of the most carefully analyzed issues in contemporary international politics.

This article seeks to take stock of the field of international environmental politics during a transitional stage. In the 1980s a first generation of studies identified the preeminence of the environment for the analysis of international relations.² These early studies established international environmental policy as a core field that touches on all the major issues in the study of international politics, including peace and war, conflict and cooperation, international institutions, the comparison of foreign policies, and specific policy questions. The second generation of studies broadened both the scope of the issues and the empirical observations in the field. With this more recent work the field in a sense emancipated itself from the political analysis of security and economics. In addition to applying the concepts and questions of these traditional policy areas, the study of environmental politics developed concepts and questions of its own that some consider to be more appropriate to an understanding of the ongoing transformation of international politics. International and transnational institutions, transnational social movements and sovereignty-free actors, epistemic communities, and rational discourses have all received especially careful analysis with respect to international environmental politics. Some go so far as to suggest that "the world environmental domain clearly precedes and causes the formation of generalized national structures that formalize and manage the issues involved."³ Second-generation studies

Adrienne Héritier et al., *Staatlichkeit in Europa: Ein regulativer Wettbewerb: Deutschland, Großbritannien, Frankreich in der Europäischen Union* (Opladen: Leske & Budrich, 1994); James K. Sebenius, *Negotiating the Law of the Sea* (Cambridge: Harvard University Press, 1984); OECD, ed., *Environmental Indicators* (Paris: OECD Publications, 1994).

² A seminal treatment is David A. Kay and Harold K. Jacobson, eds., *Environmental Protection: The International Dimension* (Totowa, N.J.: Allanheld, Osmun, 1983). Oran R. Young, *International Cooperation: Building Regimes for Natural Resources* (Ithaca, N.Y.: Cornell University Press, 1989), put the study of international environmental politics into the context of regime analysis. Lynton Keith Caldwell, *International Environmental Policy: Emergence and Dimensions*, 2d ed. (Durham N.C.: Duke University Press, 1990), offers a broad and very informative descriptive account of environmental politics.

³ See John W. Meyer et al., "A World Environmental Regime, 1870-1990," *International Organization* 51, no. 4 (1997), 638.

typically utilized qualitative designs, comparing a low number of cases in a more or less focused way in order to draw suggestive theoretical conclusions.⁴ With a notable number of large-scale projects in progress,⁵ we can expect in the near future a third generation of studies that will more rigorously and systematically test theoretical notions and hypotheses about international environmental politics.

This review essay focuses on the most important contributions of the second generation by identifying five research themes: (1) holistic perspectives, (2) agenda setting, (3) regime formation, (4) regime effects, and (5) transnational networks. All of these themes are based on a postrealist consensus which holds that international institutions do matter, world politics is much more than intergovernmental politics and includes a wider range of actors than states, and world politics is not only about power and material interests but is also about nonmaterial interests, ideas, knowledge, and discourses. This review essay eval-

⁴ The books reviewed in this article are a selection from a vast literature. Other important recent American contributions include Richard Elliot Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (Cambridge: Harvard University Press, 1991); Edith Brown Weiss, ed., *Environmental Change and International Law: New Challenges and Dimensions* (New York: United Nations University Press, 1992); Andrew Hurrell and Benedict Kingsbury, eds., *The International Politics of the Environment: Actors, Interests and Institutions* (Oxford: Clarendon Press, 1992); Caroline Thomas, *The Environment in International Relations* (London: Chatham House, 1992); Tony Brenton, *The Greening of Machiavelli: The Evolution of International Environmental Politics* (London: Royal Institute of International Affairs, 1994); Ronnie Lipschutz and Ken Conca, eds., *The State and Social Power in Global Environmental Politics* (New York: Irvington, 1993); Ronald B. Mitchell, *Intentional Oil Pollution at Sea: Environmental Policy and Treaty Compliance* (Cambridge: MIT Press, 1994); John Vogler and Mark F. Imber, eds., *The Environment and International Relations* (New York: Routledge, 1996); Miranda A. Schreurs and Elizabeth Economy, eds., *The Internationalization of Environmental Protection* (Cambridge: Cambridge University Press, 1997); Marvin S. Soroos, *The Endangered Atmosphere: Preserving a Global Commons* (Columbia: University of South Carolina Press, 1997).

There is also a body of work about the formation, consequences, and dynamics of international environmental politics that was done in Scandinavia and on the Continent. For some of the more important contributions, see Helmut Breitmeier, *Wie entstehen globale Umweltregime?* (Opladen: Leske & Budrich, 1995); Thomas Gehring, *Dynamic International Regimes: Institutions for International Environmental Governance* (Frankfurt am Main: Peter Lang, 1994); Thomas Gehring and Sebastian Oberthür, eds., *Internationale Umweltregime: Umweltschutz durch Verhandlungen und Verträge* (Opladen: Leske & Budrich, 1997); Thorsten Görrissen, *Grenzüberschreitende Umweltprobleme in der internationalen Politik: Durchsetzung ökologischer Interessen unter den Bedingungen komplexer Interdependenz* (Baden-Baden: Nomos, 1993); Markus Jachtenfuchs, *Ideen und Interessen: Weltbilder als Kategorien der politischen Analyse* (Mannheim: Mannheimer Zentrum für Europäische Sozialforschung, 1993); Martin List, *Umweltschutz in zwei Meeren: Vergleich der internationalen Zusammenarbeit zum Schutz der Meeresumwelt in Nord- und Ostsee* (Munich: Tuduv, 1991); André Nollkamper, *The Legal Regime for Transboundary Water Pollution: Between Discretion and Constraint* (Dordrecht and Boston: Martin Nijhuis, 1993); Volker von Prittwitz, *Das Katastrophenparadox: Elemente einer Theorie der Umweltpolitik* (Opladen: Leske & Budrich, 1990); Udo E. Simonis, *Beyond Growth: Elements of Sustainable Development* (Berlin: Edition Sigma, 1990); Gunnar Sjöstedt, *International Environmental Negotiation* (London: Sage, 1993); Jørgen Wettestad and Steinar Andresen, *The Effectiveness of International Resource Cooperation: Some Preliminary Findings* (Lysaker: Fridtjof Nansen Institute, 1991).

⁵ Oran Young and Konrad von Moltke, "The Consequences of International Environmental Regimes: Report from the Barcelona Workshop," *International Environmental Affairs* 6, no. 4 (1994); the work reports on eleven such large-scale projects.

uates each of the five research themes according to three criteria. First, does the theme raise relevant and interesting questions? Second, does it contribute to answering the questions that drive the research? And third, does the work lead to a theoretical core that is sound enough to generate cumulative research and that influences the analysis of international relations more broadly? Which of these five themes, that is, has the potential to stimulate cumulative research and to provide theoretical concepts that can advance our understanding of international politics in general?

The conclusion is that two of the themes, namely, holistic thinking and agenda setting, at this point do not show the potential for an enduring research program; they are therefore only briefly discussed in Section I. Another of the themes, the study of the formation of environmental regimes, significantly contributes to an ongoing research program but does not constitute one of its own (Section II). The study of the last two themes—regime effectiveness (Section III) and knowledge-based transnational networks (Section IV) has the most potential for producing an enduring research program. The former theme has the potential to demonstrate convincingly *how* regimes matter. In doing so, this strand of research roundly supports the minimal institutionalist claim that regimes do matter. At the same time, it offers strategies for going beyond this purely academic claim and for answering the questions whether design matters and what types of regime design are most effective. In this area of research, the study of international environmental politics has already generated new perspectives that clearly increase our understanding of institutions in international relations and thus nurture the neoinstitutionalist research program. The work on transnational networks cuts across the other four themes in having benefited all of them. However, besides contributing to other research themes, the work on transnational networks also has a focus of its own. It concerns the weight of ideas, the significance of communication along transnational lines, and the capacity of nongovernmental groups to influence outcomes in international politics.

I. THEMES IN THE STUDY OF INTERNATIONAL ENVIRONMENTAL POLITICS

As Oran Young writes in *International Governance*, modern science owes much of its success “to patterns of thought that encourage the disaggregation of problems into their component parts and reward efforts to tackle individual issues piecemeal” (p. 47). He contrasts this analyti-

cal perspective with holistic or "ecological perspectives, which stress interdependencies and linkages among large clusters of factors." These holistic perspectives (1) constitute an important theme in the study of international environmental politics, one that is also reflected in the volumes under review. However, most of the reviewed works clearly take an analytical perspective. To a large extent, they can be grouped by utilizing the policy cycle, since they focus on different stages of the cycle: agenda setting (2), policy formulation or regime formation (3), and policy implementation and evaluation or regime effects (4).⁶ A final theme in the analytical tradition focuses on the role of specific actors instead of on certain stages in the policy process: on transnational nongovernmental organizations (5).

THE HOLISTIC PERSPECTIVE

The volume edited by Choucri most explicitly takes a holistic perspective and is thus representative of the first of the themes that recur in the literature. The cover text characterizes the book as "the first holistic assault on a complex set of environmental issues." Accordingly, "a major purpose of this book is to develop an integrated conceptual framework linking natural and social systems, thus to reverse the tendency to abstract humanity from nature" (p. 3). To this end, Choucri's introduction provides a scheme for mapping all the contributions to the volume, one that distinguishes different dimensions of the topic on the one hand (intellectual orientations, policy concerns, and institutional responses) and different perspectives on the other (conservative, incrementalist, and transformative). While the map serves to organize some of the ideas, it does not really tie the contributions into a productive whole, since it charts them only in relation to the social system but does not explore the relationship between environmental destruction and politics. Therefore Thomas F. Homer-Dixon's excellent chapter on the question "What will the world environment be like in the next decades if we continue with business as usual?" is not much more than an overture, distinct from all the other contributions.⁷ His conclusions are based on the assumption that in the social sphere there are neither any changes for the better, for instance through technological developments or the greening of international relations, nor any for the worse, for instance a major war with disastrous environmental consequences. These

⁶ For well-developed policy conceptualizations, see Adrienne Windhoff-Héritier, *Policy-Analyse: Eine Einführung* (Frankfurt am Main: Campus, 1987); and Wayne Parsons, *Public Policy: An Introduction to the Theory and Practice of Policy Analysis* (Aldershot: Edward Elgar, 1995).

⁷ Homer-Dixon, "Physical Dimensions of Global Change," 43.

are reasonable assumptions to work with if the aim is to highlight some isolated trends, but it is quite the opposite of Choucrist's call to strive to get at the interaction between social and natural systems.⁸ The Choucrist volume also contains less ambitious forms of holistic thinking that provide important insights.⁹

Other interesting fields of research that are not broadly covered in the reviewed volumes also come out of this holistic tradition. Most prominent among these are ecofeminism,¹⁰ the relationship between underdevelopment, environmental degradation and war,¹¹ sustainable development,¹² and even some of the work about trade and environment.¹³ Overall, however, holistic perspectives have so far failed to provide reliable answers to the issues they have raised. To a large extent this is because a theoretical core that would allow for comparative empirical

⁸ The omission of technological change seems to be the one with the most distorting effects. For an argument that technology can spare the earth, see Jesse H. Ausubel, "Can Technology Spare the Earth?" *Environment* 37, no. 5 (1995).

⁹ The following are the most important examples in the Choucrist volume. Nazli Choucrist and Robert North, "Growth, Development, and Environmental Sustainability: Profiles and Paradox," inquires into the interrelationship between what the authors consider the three "master variables" of development—natural resources, technology, and labor. Hayward R. Alker, Jr., and Peter M. Haas, "The Rise of Global Ecopolitics," considers environmental worldviews; the authors identify the Russian scientist Vladimir Vernadsky, the Braudelian post-Marxist histories of global change, and the neo-Malthusians as the key forerunners of ecocentric views. Francisco R. Sagasti and Michael E. Colby, "Eco-Development Perspectives on Global Change from Developing Countries," write on five paradigms of ecocodevelopment that may transform and restructure future world politics; specifically, they identify the frontier economics paradigm (nature serves humans and is free of charge), the deep ecology paradigm (humans are subservient to nature), the environmental protection paradigm (add-on solutions to specific problems), the resource-management paradigm (value ecology), and the ecocodevelopment paradigm (codevelopment of society and ecology). See also Willett Kempton, James S. Boster, and Jennifer A. Hartley, *Environmental Values in American Culture* (Cambridge: MIT Press, 1995).

¹⁰ Maria Mies and Vandana Shiva, *Ecofeminism* (Halifax, Nova Scotia: Fernwood, 1994); Irene Diamond and Gloria Feman Orenstein, eds., *Reweaving the World: The Emergence of Ecofeminism* (San Francisco: Sierra Club Books, 1990).

¹¹ See the contributions in Sean M. Lynn-Jones and Steven E. Miller, eds., *Global Dangers: Changing Dimensions of International Security* (Cambridge: MIT Press, 1995); Günther Bächler et al., *Umweltzerstörung—Krieg oder Kooperation? Ökologische Konflikte im internationalen System und Möglichkeiten der friedlichen Bearbeitung* (Münster: Lit Verlag, 1993); and Günther Baechler, "Violence through Environmental Discrimination: Causes, Rwanda Arena, and Conflict Model" (Ph.D. diss., University of Bremen, 1997).

¹² See David Pearce and James Warford, *World without End: Economics, Environment, and Sustainable Development* (Oxford: Oxford University Press, 1993). A critical survey can be found in Helmut Breitmeier, "Umweltforschung im Schlepptau der Politiker? Abschied vom Konzept der 'Nachhaltigen Entwicklung' und Aufbruch zu mehr Effektivität in der internationalen Umweltpolitik," in Martina Haedrich and Werner Ruf, eds., *Globale Krisen und europäische Verantwortung: Visionen für das 21. Jahrhundert*, Schriftenreihe der Arbeitsgemeinschaft Friedens- und Konfliktforschung, vol. 23 (Baden-Baden: Nomos, 1996), 132–45.

¹³ See, for example, Annette Baker "Environment and Trade: The NAFTA Case," *Political Science Quarterly* 110, no. 1 (1995); Steve Charnovitz, "GATT and the Environment: Examining the Issues," *International Environmental Affairs* 4 (1992); and Carsten Helm, *Sind Freihandel und Umweltschutz vereinbar? Ökologischer Reformbedarf des GATT/WTO-Regimes* (Berlin: Edition Sigma, 1995). With regard to the EU, see David Vogel, *Trading Up: Consumer and Environmental Regulation in a Global Economy* (Cambridge: Harvard University Press, 1995).

research is simply missing. Consequently, a holistic research program that is fed by thought-provoking preliminary answers and not just by questions is as yet not in sight. The complex interplay between the natural and the social world is still not adequately comprehended and is at this point not a candidate for an enduring research program.

AGENDA SETTING

From an analytical point of view, a first set of questions about international environmental policy concerns agenda setting. How did environmental issues gain a place on the agenda of international politics? Why did some environmental issues rise quickly to the top of the international political agenda while others took much longer? Unfortunately, this field of research has so far remained underdeveloped. To be sure, after 1972, that is, after the Stockholm Intergovernmental Conference (considered by most analysts to be a milestone in relations in international environmental politics), the growth rate of international environmental agreements increased significantly and the content of those agreements changed toward more substantive regulation, a process that even accelerated in the second half of the 1980s.¹⁴ Often, the window of opportunity presented by the end of the cold war, the activities of nongovernmental organizations (NGOs) both on the national and on the international level or, alternatively, by powerful governments pressed by concerned publics under the influence of perceived environmental crises are seen as additional contributions to the current diplomatic profile of environmental issues.¹⁵

Although these are all plausible reasons for the rise of environmental politics, they are mainly the result of ad hoc reasoning. Moreover, they fail to explain why some environmental issues (for example, the climate) made it to the top of the international agenda, while others (for example, the degradation of agricultural land) barely made it at all. In

¹⁴ Peter M. Haas with Jan Sundgren, "Evolving International Environmental Law: Changing Practices of National Sovereignty," in Choucrist, *Global Accord*. The authors evaluate 132 multilateral treaties drawn from UNEP's register of international treaties. More than 50 percent of these treaties were signed after 1972.

¹⁵ See especially the following studies in Haas, Keohane, and Levy, *Institutions for the Earth*: Edward A. Parson, "Protecting the Ozone Layer"; Marc A. Levy, "European Acid Rain: The Power of Tote-Board Diplomacy"; Peter M. Haas, "Protecting the Baltic and North Seas"; and M. J. Peterson, "International Fisheries Management." See also Caroline Thomas (fn. 4), pt. 1; and Peter M. Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (New York: Columbia University Press, 1990). Both argue that the importance of epistemic communities in international environmental policy derives to a large extent from their ability to shape the agenda. For an argument that the current profile is shaped by factors emphasized by the sociology of risks rather than by scientifically defined urgency, see Michael Zürn and Ingo Take, "Weltrisikogesellschaft und öffentliche Wahrnehmung globaler Gefährdungen," *Aus Politik und Zeitgeschichte*, Supplement, 24–25 (1996), 3–12.

general, agenda-setting studies in international environmental politics have so far failed to provide satisfying answers. Although this theme remains an important research topic, certainly no productive research program has yet emerged from it.

REGIME FORMATION

The conditions under which international environmental negotiations are successful and lead to the formation of an international regime have attracted much more scholarly attention. Under what conditions do international environmental regimes arise? How long does the process of regime formation take? Are there regimes with a certain content that form more easily and faster than others? What elements of the negotiation process are conducive to regime formation? What are the lessons for practitioners interested in environmental regime building?¹⁶ I will discuss these questions in Section II.

REGIME CONSEQUENCES

Recently, scholars have increasingly discussed regime consequences and how they affect the political and natural environment. Do international environmental regimes matter? How does an international regime become effective? Are binding obligations better than nonbinding rules? What is the role of compliance and rule enforcement for regime effectiveness? These issues will be discussed in Section III.

TRANSNATIONAL NETWORKS

Finally, the role of transnational networks is analyzed in a number of important contributions. Do nongovernmental organizations (NGOs) play a special role in international environmental politics? Do epistemic communities play a consequential role in the origin and diffusion of ideas and consensual knowledge? Does the need for international cooperation give transnational coalitions more authority than before? These questions will be dealt with in Section IV.

¹⁶ International regimes are *social institutions* consisting of agreed-upon principles, norms, rules, and programs that govern the interactions of actors in specific issue-areas. Defined in this way, regimes are distinct from international law in that they are more rooted in social practice than in general normative principles. International regimes can govern illegal activities (especially informal ones) and rely on a broader set of obligations for rule compliance. However, international regimes and international law are by no means mutually exclusive, and the main difference between the study of international regimes and the study of international law is a result of the different perspectives of different disciplines. For a discussion of an appropriate definition of international regimes, see Marc A. Levy, Oran R. Young, and Michael Zürn, "The Study of International Regimes," *European Journal of International Relations* 1, no. 3 (1995). For a comprehensive review of the literature on regime formation, see Andreas Hasenclever, Peter Mayer, and Volker Rittberger, *Theories of International Regimes* (Cambridge: Cambridge University Press, 1997).

II. REGIME FORMATION

The growth rate of international environmental regulation has increased impressively over the last two decades. While the overall number of international treaties and international organizations more generally grew at a very modest rate, the number of international environmental institutions almost doubled after 1975.¹⁷ This observation raises the questions of why this was so and which conditions are conducive to the emergence of international environmental regimes.

Regime formation has emerged as one of the central concerns of neoinstitutionalism. The study of international environmental regimes first followed this course, successfully appropriating concepts as well as hypotheses used to explain regime formation in the fields of security and economics.¹⁸ Thus, for example, Gail Osherenko, Oran Young, and their colleagues in *Polar Politics* draw upon work on the determinants of success or failure in efforts to form regimes and apply it to their own research on the state of the environment in the Arctic.¹⁹ The factors examined come under four groupings: power-based hypotheses, interest-based hypotheses, knowledge-based hypotheses, and contextual factors. And the results overall are largely consistent with those of empirical studies on regime formation in general. In addition, this study puts forward some additional propositions of general interest.

THE ROLE OF INDIVIDUAL LEADERSHIP

None of the cases studied offers strong support for the proposition that success in regime formation requires the participation of a hegemonic power, as the theory of hegemonic stability assumes.²⁰ Instead, as Young and Osherenko write: "Our examination of leadership not only suggests to us that leadership exercised by individuals is a necessary condition for regime formation, but it also allows us to formulate a

¹⁷ See Haas and Sundgren (fn. 14).

¹⁸ See, for example, Martin List and Volker Rittberger, "Regime Theory and International Environmental Management," in Hurrell and Kingsbury (fn. 4); the authors explain regime formation using a set of factors that was developed "in a larger project on 'International Regimes in East-West Relations.'"

¹⁹ See, in *Polar Politics*, Gail Osherenko and Oran R. Young, "The Formation of International Regimes: Hypotheses and Cases." The cases taken up in the book are North Pacific fur seals (Natalia S. Mirovitskaya, Margaret Clark, and Ronald G. Purver), the Svalbard Archipelago (Singh, Saguirian), polar bears (Fikkan, Osherenko, Arikainen), stratospheric ozone (Peter M. Haas), Arctic haze and transboundary air pollution (Marvin S. Soroos).

²⁰ The theory of hegemonic stability states that a hegemonic power must be existent before successful regime formation can take place. For good discussions, cf. Stephen D. Krasner, "State Power and the Structure of International Trade," *World Politics* 28 (April 1976); and Robert O. Keohane, "The Theory of Hegemonic Stability and Changes in International Economic Regimes, 1967-1977," in Ole R. Holsti, Randolph M. Siverson, and Alexander L. George, eds., *Change in the International System* (Boulder, Colo.: Westview Press, 1980).

more specific hypothesis for further examination, namely that the presence of one or more individuals acting as entrepreneurial leaders is necessary for regime formation to occur."²¹ The hypothesis that leadership on the part of individuals is a necessary condition for regime formation highlights the creative or generative element that is often part of international negotiations.

One objection to this finding points to the design of *Polar Politics*. Essentially, the structured comparison in this study is based on the method of agreement—looking for common causes for common outcomes. While not a bad first step, this method does not enable the investigator to determine the relative importance of the causes. Moreover, without studying a set of causes with different outcomes (method of difference), one may easily identify as necessary conditions that are actually ubiquitous. The question then is whether some kind of leadership arises in any kind of institutional bargaining, regardless of its success or failure at the end of the day. To be sure, Young and Osherenko recognize this problem and use the method of difference to back their findings by incorporating subcases of the larger case studies: "In addition, both the lack of strong and consistent leadership in earlier attempts to form a regime for Svalbard and the absence of leaders to push for a regime to deal with Arctic haze reinforce the case for leadership as a necessary condition for regime formation."²² However, this formulation raises questions about well-defined indicators for leadership that are independent of the outcome of the negotiations. It may be that people all too easily look for heroic leaders only in cases of success. To pursue this line of analysis effectively, it thus seems necessary to define a set of observable criteria that constitutes leadership behavior independent of the outcome. The role of different types of individual leadership may then be assessed comprehensively.

INSTITUTIONAL BARGAINING

Individual leadership is part of the concept of "institutional bargaining," a form of bargaining aimed at consensus on institutional arrangements that are governed by inadequate knowledge about the payoff

²¹ Oran R. Young and Gail Osherenko, "International Regime Formation: Findings, Research Priorities, and Applications," in Osherenko and Young, *Polar Politics*, 235. The concept of individual leadership is more broadly developed theoretically in Oran R. Young, "Political Leadership and Regime Formation: On the Development of Institutions in International Society," *International Organization* 45, no. 3 (1991); he distinguishes entrepreneurial, structural, and intellectual leadership.

²² Osherenko and Young (fn. 19), 233.

structure, the veil of uncertainty, and integrative bargaining.²³ The concept is based on a well-taken critique of a mode of rationalist theorizing that assumes “that (i) the identity of the participants is known at the outset and fixed during the course of negotiations, (ii) the alternatives or strategies available to the parties are fully specified, (iii) the outcome associated with every feasible combination of choices on the part of the participants is known, and (iv) the preference orderings of the parties over the outcomes are identifiable (at least in ordinal terms) and not subject to change.”²⁴ Given these assumptions, this mode of rationalist reasoning suggests that actors will reach beneficial agreements whenever a zone of agreement exists; it thus regards the process of bargaining as unproductive. In contrast, Young emphasizes the problems actors have in reaping joint gains and considers the process of institutional bargaining as the key to understanding when actors are able to reach agreements and when they are not. He abandons the notions that the strategies available to the parties are fully specified, the participants know all conceivable outcomes, and the preference orderings are identifiable and fixed. The alternative model, “institutional bargaining,” suggests that the central prerequisites for regime formation are a thick veil of uncertainty, the existence of solutions that are both salient and acceptable by all participants as equitable, the existence of clear-cut and reliable compliance mechanisms, exogenous shocks or crises, and individual leadership. This mode of thought therefore casts doubt on the constellation of interests conceptualized by game theory (payoff structure or situation structure) as a determinant of regime formation. The case studies in the Young and Osherenko volume clearly support this argument.

The concept of institutional bargaining is a constructive attempt to build on the rational choice perspective without losing touch with the complexity of the real world. While many game-theoretic analyses relate to important features of regime formation, there is no denying that behavior in the real world only loosely matches game-theoretic solution concepts. For rational choice theory to predict specific outcomes, equilibrium concepts (that is, those outcomes that are stable if completely norm free and if self-interested actors interact) need to constrain behavior. In institution building, however, the analytic problem is often

²³ An excellent chapter on the theoretical notion of institutional bargaining can be found in Young, *Institutional Bargaining*, 81–116.

²⁴ *Ibid.*, 93.

to explain why and how states move away from an equilibrium—to which end it makes sense to focus on negotiations and the role of information. Consequently, a useful approach would take solution concepts from rational choice theory, not as unqualified predictions of what will happen, but rather as indicators of a situation that may be transformed through negotiations. Such an approach may then be informed by both deductive reasoning and empirical observations.²⁵ Against this background, the question is posed whether Young simultaneously goes too far and not far enough in “softening” the rational choice approach. I will offer four more specific arguments to clarify this point.

THE CONSTELLATION OF INTERESTS

Without a doubt, not all actors in all negotiations have from the outset a complete picture of the constellation of interests such that they know all their opponents’ preferences and behavioral options. Nevertheless, when actors sit down at the negotiation table, they have at least a rough idea about whom they are about to negotiate with, what they want to achieve, and what they can and cannot do. This is a case of “institutional bargaining or choice,” a type of international interaction that involves formalized communication, conscious efforts on all sides to procure information, an acknowledgment of interdependence, and often a timetable of a decade or more.²⁶ The argument here is that even with incomplete knowledge about available strategies and conceivable outcomes at the beginning of the bargaining process, preferences may nonetheless be predetermined by the interest profile of the participating states and may develop during negotiations. Thus, in many cases it is possible to identify the constellation of interests that shapes the bargaining.²⁷

Insofar as one can identify such material, it should be part of the explanation, for two reasons. First, to a considerable extent different

²⁵ Such an approach is pursued in Michael Zürn, *Interessen und Institutionen in der internationalen Politik: Eine Grundlegung des situationsstrukturellen Ansatzes* (Opladen: Leske & Budrich, 1992). See also Bernhard Zangl, “Politik auf zwei Ebenen: Hypothesen zur Bildung internationaler Regime,” *Zeitschrift für Internationale Beziehungen* 1, no. 2 (1994).

²⁶ Young himself argues in another context: “It may well be that the independent force of ideas is greater during the prenegotiation stage than it is during the negotiation stage of regime formation. . . . In hard bargaining over the specific provisions of a convention or a treaty, however, ideas are more likely to be exploited for political advantage than to play an independent role in guiding the process” (*International Governance*, 98).

²⁷ In line with this observation, Fritz W. Scharpf, *Koordination durch Verhandlungssysteme: Analytische Konzepte und institutionelle Lösungen am Beispiel der Zusammenarbeit zwischen zwei Bundesländern*, MPIFG Discussion Paper, 91/4 (Cologne, 1991), 9. Scharpf states in an analysis of negotiations between the Länder in the FRG that “in general, participants as well as researchers are capable of reconstructing [the constellation of interests] with high reliability.”

constellations of interests influence the likelihood of success. In particular, those that create a high number of second-order problems (such as the verification of rule compliance or the sanctioning of noncompliance) are not very conducive to regime formation. Second, the constellation of interests at least partly determines the role of other factors, especially those emphasized by Young in his theory of "institutional bargaining." For instance, "clear-cut and reliable compliance mechanisms" do not necessarily increase "the probability of success in institutional bargaining" if the underlying constellation of interests resembles a coordination game and the incentives to cheat are low once an agreement is achieved, but they do if it resembles a dilemma game that allows for free riding. In contrast, salient solutions are more important in coordination games than in the Prisoners' Dilemma. I conclude that it is essential to take account of the underlying constellation of interests, even if the assumptions of the rational choice approach are overly rigid and should be avoided.

THE ROLE OF UNCERTAINTY

A central element in the concept of institutional bargaining is the veil of uncertainty. "The thicker the veil of uncertainty, the easier it will be for parties to approach the problem under consideration as an integrative exercise"²⁸ and the more likely a cooperative outcome will be. The assumption is that uncertainty makes fixed preferences impossible and thus facilitates integrative bargaining. However, many scholars—especially those representing the more policy-oriented community—think of uncertainty as a means for blocking interests and doing mischief.

These mutually contradictory positions suggest that the role of uncertainty needs to be explored in a much more conditional way. First, the role of uncertainty is obviously dependent upon whether or not the decision makers involved are risk averse.²⁹ Therefore the role of uncertainty in institutional bargaining may depend upon the different cultural backgrounds and personal characteristics of the participating decision makers. Moreover, instead of conceiving of a general veil of uncertainty clouding the whole process of institutional bargaining, it is necessary to distinguish between uncertainties regarding the cost and benefits of a cooperative outcome (consequences of a regime) and un-

²⁸ Osherenko and Young (fn. 19), 13.

²⁹ See Bruce Bueno de Mesquita, "Theories of International Conflict: An Analysis and an Appraisal," in Ted Robert Gurr, ed., *Handbook of Political Conflict: Theory and Research* (New York: Free Press, 1980). Bueno de Mesquita resolved the debate whether bipolar international systems are more stable than multipolar international systems by demonstrating that the answer depends on how willing the decision makers are to take risks.

certainties with regard to the risks associated with a noncooperative outcome (consequences of the absence of a regime). It follows that a thick veil of uncertainty over the distribution of costs (and benefits) implied in the cooperative outcome may, in line with Young's thinking, be helpful in finding a cooperative solution. However, a high degree of uncertainty about the costs of a failure to reach an agreement seems to be a hindrance. For instance, most of the justification of the Bush administration's resistance in taking costly measures to reduce carbon dioxide outputs was based on this type of uncertainty. To make full use of the concept of uncertainty, it seems advisable to distinguish different dimensions of uncertainty and different contexts in which uncertainty arises and then to test the ensuing conditional hypotheses.

DISTRIBUTION OF JOINT BENEFITS

A similar point can be made with regard to the hypothesis that "the articulation of institutional options that all participants can accept as equitable is necessary for institutional bargaining to succeed."³⁰ This hypothesis is mainly induced from the empirical observation that the joint benefits of interstate cooperation are usually distributed fairly equally. However, quite different explanatory concepts and hypotheses may explain exactly the same observation: the outcome is compatible simultaneously with a realist explanation that emphasizes the relative gains orientation of the actors involved³¹ and with the constructivist hypothesis that *ceteris paribus* in a communicative context social actors prefer just outcomes to unjust ones.³² It therefore seems necessary to carry out studies in which outcome observations are accompanied by process observations: did the negotiations include tough bargaining about the distribution of cooperative benefits or were they based on an early normative understanding that any agreement reached has to be a fair one?

INSTITUTIONAL BARGAINING

Institutional bargaining is a model that significantly loosens the informational requirements of the rational choice approach, but it is still built on the notion of interest-driven behavior. The approach leaves no room for an element of "arguing," that is, speech acts that argue on the basis of "rightness," instead of "bargaining," that is, speech acts that

³⁰ Osherenko and Young (fn. 19), 14.

³¹ For a discussion of relative gains, see Joseph M. Grieco, *Cooperation among Nations: Europe, America, and Non-Tariff Barriers to Trade* (Ithaca, N.Y.: Cornell University Press, 1990).

³² Zürn (fn. 25), 155.

make threats and promises.³³ To be sure, there are good reasons for believing that most arguing in institutional bargaining is actually strategic arguing; that is, arguments about impartial, general interests are used in support of particular interests. The question remains, however, whether egoistic actors get involved in arguing in the first place and whether impartiality is not prior to its strategic abuse. In this respect it may easily be the case that Young, while going very far in reducing the informational requirements of rational choice theory, did not go far enough in that he did not include an element of arguing in his approach. What may be needed is not a theory of institutional bargaining but a theory of *institutional negotiation*, which includes both bargaining and arguing.

In sum, as Osherenko and Young write in the introduction of *Polar Politics*:

The approach of this project diverges significantly from a series of well-known utilitarian arguments stressing factors such as the number of participants, the character of the payoff structure, and the role of recurrent interactions or the "shadow of the future" as determinants of success or failure in bargaining relating to regime formation. These arguments are not without merit in some contexts, but we find them inadequate to explain or predict the formation of international regimes.³⁴

It seems to me that an integrative approach that connects the "well-known utilitarian arguments" with the factors emphasized in the concept of institutional bargaining could be very useful for prioritizing the underlying constellation of interests, as well as those important variables like the veil of uncertainty. Moreover, it may be necessary to go beyond utilitarian theory to account for equity and similar considerations. This approach essentially supports Young and Osherenko's recommendation for the development of a multivariate (interactive) model that includes both substitution effects, that is, different paths along which institutional bargaining can move toward success, and interaction effects.

Recalling the questions regarding regime formation raised in Section I, it can be stated that we do know much more in this respect than we did two decades ago. We know a number of conditions that are favor-

³³ For this distinction, see Jon Elster, "Arguing and Bargaining in Two Constituent Assemblies," Storrs Lecture (New Haven: Yale Law School, 1991); and Thomas Gehring, "Regieren im internationalen System: Verhandlungen, Normen und internationale Regime," *Politische Vierteljahresschrift* 36, no. 2 (1995). Essentially, bargaining represents the mode of behavior as captured by rational choice theory, while arguing is informed by Habermas's notion of "communicative action." See also Harald Müller, "Internationale Beziehungen als kommunikatives Handeln: Zur Kritik der utilitaristischen Handlungstheorien," *Zeitschrift für Internationale Beziehungen* 1, no. 1 (1994).

³⁴ Osherenko and Young (fn. 19), 12.

able to regime formation, we know that the process of regime formation can easily take a decade or even more, and we know what kind of bargaining processes and strategies are conducive to regime formation. The work reviewed here has contributed significantly to the research program on the conditions under which institutionalized cooperation can take place in international politics. However, the study of international environmental politics has benefited from the existence of a broader research program, rather than created one of its own.

III. REGIME EFFECTS

Regime analysis developed in an intellectual environment strongly influenced by Waltzian neorealism and thus was first shaped by the most fundamental issue: Do regimes matter? In the meantime, the evidence accumulated by various case studies should have settled the matter.³⁵ But even if these studies have convincingly shown that regimes often do make a difference in one way or another, they are still no substitute for systematic research on regime effects. And research on environmental regimes has, in fact, generated a dramatic increase in interest in these questions.³⁶

The study of regime effects has a number of aspects. A first important distinction is the one between regime effectiveness and broader regime consequences. Regimes are usually established to manage a problem specific to a given issue-area. Although regime effectiveness is still an ambiguous concept, it refers mainly to those intended and issue-area-specific outcomes of the regime. In contrast, regime consequences refer mainly to the more general impacts of the regime, whether intended or unintended, issue-area specific or general. Thus, not only can regimes affect the behavior of those whose behavior is regulated, but they may also affect the distribution of capacities, the cognition of different factors, and even the values and interests of participants and nonparticipants. Moreover, different types of targets can be affected: regimes may influence governments, societal groups (even individuals),

³⁵ For this issue, see, among others, Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984); Haas (fn. 15); Volker Rittberger and Michael Zürn, "Towards Regulated Anarchy in East-West Relations," in Volker Rittberger, ed., *International Regimes in East-West Politics* (London and New York: Pinter, 1990); Harald Müller, "The Internalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes," in Volker Rittberger, ed., with Peter Mayer, *Regime Theory and International Relations* (Oxford: Oxford University Press, 1993); and Helmut Breitmeier and Klaus Dieter Wolf, "Analysing Regime Consequences: Conceptual Outlines and Environmental Explorations," in Rittberger with Mayer.

³⁶ See Young and von Moltke (fn. 5). A very important early contribution is Arild Underdal, "The Study of Regime Effectiveness," *Cooperation and Conflict* 27, no. 3 (1992).

TABLE 1
DEPENDENT VARIABLES FOR THE STUDY OF REGIME CONSEQUENCES

<i>Target Dimension</i>	<i>Government</i>	<i>Society/ Domestic Politics</i>	<i>Issue-Area</i>
Behavior	implementation of regime rules; compliance with inconvenient commitments	groups supporting regime rules; rule compliance by new governments	problem solving; resilience against external changes
Capabilities	resources at government's disposal	domestic distribution of resources	resources at disposal for the international endeavor
Cognitions	cause-effect relationship regarding issues; intentions ascribed to other actors	cause-effect relationship regarding issues; intentions ascribed to other actors	cause-effect relationship regarding issues; mutual trust
Values and interests	preference ordering	domestic interests	situation structure
Constitution	domestic political structure	loyalties	integration/process of civilization

and also complete issue-areas. Although the study of regime effects has so far focused mainly on effectiveness,³⁷ the regime consequences that can plausibly be studied are numerous. See Table 1 for numerous dependent variables for the study of regime consequences.³⁸ The question to be probed, then, is when these consequences are likely to occur.

DOES INSTITUTIONAL DESIGN MATTER?

Another important distinction is the one between effects that are common to all regimes and those that occur only with certain types of regimes.³⁹ As the work by Haas, Keohane, and Levy demonstrates, it is certainly highly relevant to study generic effects of regimes. Starting from the premise that actors are rational (though not necessarily well informed) decision makers pursuing reasonably well-defined interests, these authors ask what kind of contribution international institutions make to the improvement of the environment. By constructing "causal pathways, supported with empirical evidence,"⁴⁰ they show that interna-

³⁷ Haas (fn. 15); Mitchell (fn. 4).

³⁸ Some examples of the broader consequences of international institutions are discussed in Levy, Young, and Zürn (fn. 16).

³⁹ See Breitmeier and Wolf (fn. 35).

⁴⁰ Keohane, Haas, and Levy, "The Effectiveness of International Environmental Institutions," in Haas, Keohane, and Levy, *Institutions for the Earth*, 19.

tional environmental regimes change behavior for the better by boosting what they call the "three C's": accordingly, international environmental regimes increase governmental *concern* through normative pronouncements, they enhance the *contractual* environment by reducing transaction costs and providing monitoring and verification mechanisms, and they heighten national *capacity* through technical assistance and aid.⁴¹ Yet other contributions suggest that in the long run more policy-relevant conclusions may be drawn from studying the effects of specific institutional features.⁴² In a contribution to the volume edited by Choucri, for instance, David G. Victor, Abram Chayes, and Eugene B. Skolnikoff review international environmental regimes that are considered successful and come up with a list of features that characterize these successful regimes.⁴³ On the processual side, the authors consider to be important the institutionalized coordination of research and periodic assessments of the relevant discipline, the existence of an ongoing forum for addressing issues, the systematic collection, review, and dissemination of data, and the institutionalized reporting, review, and assessment of national policies. With regard to substantive commitments, they recommend a system of mandated but amenable targets, the transfer of funds, national pledges for reductions and reviews, a system of tradable permits, a system of taxes or emissions fees, and a technology based on a best-efforts approach.

In his book *Environmental Diplomacy*, Lawrence A. Susskind takes a similar approach, but starts out by identifying the weaknesses of the existing environmental treaty-making system. He begins by pointing out that the given legal structure, based on the Vienna Convention on the Law of Treaties, is inadequate for overcoming the difficulties in building international environmental agreements. Particularly problematic are the lack of specifications regarding the initiation of institution building, the voting procedures, and the text procedures. Second, he points to fundamental flaws in the convention-protocol approach.⁴⁴ Because, as he sees it, this approach is too time-consuming, it rein-

⁴¹ Levy, Keohane, and Haas, "Improving the Effectiveness of International Environmental Institutions," in Haas, Keohane, and Levy, *Institutions for the Earth*.

⁴² See Thomas Bernauer, "The Effect of International Environmental Institutions: How We Might Learn More," *International Organization* 49, no. 2 (1995).

⁴³ Victor, Chayes, and Skolnikoff, "Pragmatic Approaches to Regime Building for Complex International Problems."

⁴⁴ Most of the current international environmental regimes began with a broad framework convention that stated general goals and some procedures fostering cooperation, especially regarding pertinent knowledge production. Over time, the conventions were then supplemented by substantial protocols that spelled out specific targets for emissions reduction. In this sense, the convention-protocol approach is the legal basis of most environmental regimes. See, for example, Gehring (fn. 4),

forces the tendency to stick to modest targets as the lowest-common-denominator approach, while neglecting available scientific and technical information, favoring the powerful states, encouraging countries to misrepresent their interests, not solving free-rider problems, and failing to respond to the need for effective monitoring and enforcement. In sum, he identifies four procedural shortcomings that account for most of the failures of global environmental protection. He then summarizes these criticisms by pointing to four issues that need to be addressed if environmental diplomacy is to be improved. These issues are (1) representation procedures, (2) the improper balance of scientific and political considerations, (3) the use of linkages, and (4) effective monitoring and enforcement arrangements.

Against the background of this critique, Susskind recommends a three-stage process centered around the notion of negotiating different protocols with clearly defined trigger mechanisms. "Instead of settling for a broad framework convention without targets or deadlines, the parties to a treaty negotiation could spell out—at the time a framework is debated—contingent actions that would come into force if certain events occurred or thresholds were passed. . . . If nothing else, the lowest-common-denominator approach to treaty-making could be avoided" (pp. 80–81). Susskind sees three major advantages to this approach. First, the all-or-nothing type of negotiations would be avoided; second, it would facilitate issue linkage; and third, it would allow a collaborative learning process.

Victor, Chayes, and Skolnikoff present their suggestions as a "pragmatic approach to regime-building for complex international problems." Susskind's perspective is similar: "This book provides what I hope will be viewed as a framework for understanding the current way we negotiate global environmental treaties and a guide that offers practical advice on how we can do better" (p. 8). These authors do not enter into the academic discourse on whether regimes matter. They take this as given. Their suggestions therefore are based on the practical notion that outcomes can best be improved by reforming policies so as to find the design most conducive to goal attainment and to framing proper goals.

There are, however, problems with such a pragmatic approach, primarily because it is unclear how they know that these proposals will

who studied the international regime on long-range transboundary air pollution and the regime for the protection of the ozone layer, both clear examples of the convention-protocol approach. Gehring, however, evaluates this approach very positively, succinctly labeling these regimes "dynamic international regimes."

lead to better regimes.⁴⁵ Although most of the suggestions put forward are based on very reasonable arguments, they still lack the support of stringent empirical evidence. Of course, social science research that proposes new and innovative institutional designs is by definition not able to prove the superiority of the proposed design by comparing it with the existing one. However, the question is whether, for example, the superiority of a three-stage process with multiple protocols over the convention-protocol approach is really demonstrated as persuasively as possible. Many of the deficits of international environmental regimes that Susskind convincingly identifies are all too easily attributed to the convention-protocol approach. He uses the Earth Summit as an illustration of the shortcomings of this approach, thus citing a case that so far has not yet reached its second state, that is, the formulation of substantive protocols. It therefore comes as no surprise that in this case the substantial commitments are as yet unsatisfactory. Moreover, many of the problems discussed for the convention-protocol approach are not systematically used as criteria for evaluating Susskind's three-stage, multiple-protocol process. Why, for example, is the three-stage process better than the convention-protocol approach with respect to problems such as discouraging countries from misrepresenting their interests or solving free-rider problems? Nor does Susskind discuss conceivable weaknesses of the three-stage process that would seem to derive from the criteria that he at least implicitly uses. For instance, would not the complexity and the transaction costs of negotiating multiple protocols be prohibitively high? How could the participating states agree on what trigger mechanisms should be activated and when?

To conclude, the literature on institutional designs has already produced a number of notable reform proposals. Unfortunately, however, the proposals are still not backed by research designs that permit causal inferences.⁴⁶ It seems that research on appropriate institutional design would benefit greatly if it built on some of the general insights and discussions about strategies and techniques for assessing regime effectiveness. The next generation on international environmental politics needs to tackle these issues.⁴⁷

⁴⁵ The following criticisms are exemplified in Susskind's book, which is in a sense more ambitious than the consciously and carefully circumscribed proposals by Victor, Chayes, and Skolnikoff.

⁴⁶ For an excellent discussion of these issues, see also Jørgen Wettestad, *Nuts and Bolts for Environmental Negotiators: Institutional Design and the Effectiveness of International Environmental Regimes—A Conceptual Framework* (Lysaker: Fridtjof Nansen Institute, 1994).

⁴⁷ See now Olav Schram Stokke and Davor Vidas, eds., *Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System* (Cambridge: Cambridge University Press, 1996); and Robert O. Keohane and Marc A. Levy, eds., *Institutions for Environmental Aid: Pitfalls and Promise* (Cambridge: MIT Press, 1996).

STRATEGIES FOR STUDYING GENERAL REGIME EFFECTIVENESS

Institutional effectiveness occurs when the quality of the environment is improved because of the institution.⁴⁸ One prerequisite for drawing causal inferences about institutional effectiveness is a clear understanding of the outcome that needs to be explained. As Young points out in *International Governance*: "Effectiveness, it is clear, figures in this line of inquiry mainly as the dependent variable, that is, the phenomenon we seek to account for or to explain. . . . Yet the more we bear down on the specification of effectiveness as the dependent variable, the clearer it becomes that we are dealing with a suite of related variables" (p. 142).⁴⁹

Susskind suggests in *Environmental Diplomacy* that "it would be a mistake to measure success in terms of anything less than tangible environmental improvements" (p. 12). From a normative point of view, this seems to be an almost uncontested assertion. Nevertheless, some analysts (not only international lawyers) prefer a legal definition as a starting point, for reasons of operational clarity; they hold that the measure of success is the degree to which conflicts can be regulated by the rule of law and the extent to which contractual obligations are met. And for political scientists, in most instances a political definition seems most appropriate (containing Young's idea of behavioral, process, and constitutive effectiveness). As Keohane, Haas, and Levy concisely state: "Truly effective international environmental institutions would improve the quality of the global environment. Much of this activity, however, is relatively new, and . . . on none of the issues . . . do we yet have good data about changes in environmental quality as a result of international institutional action. So we must focus on observable political effects of institutions rather than directly on environmental impact."⁵⁰ Thus there is a need to establish causal links between those observable outcomes and regimes. Essentially, I see three basic strategies for establishing causal links: using counterfactuals, tracing causal mechanisms, and using comparisons.

⁴⁸ Keohane, Haas, Levy (fn. 40), 7.

⁴⁹ He goes on to distinguish six different meanings of effectiveness: (1) problem solving, that is, the extent to which the regime contributes to solving the problem that it was created to deal with; (2) goal attainment, that is, the degree to which a regime's stated or unstated goals are attained; (3) behavioral effectiveness, that is, the extent to which the regime alters the behavior of actors; (4) process effectiveness, that is, the extent to which the regime alters rules; (5) constitutive effectiveness, that is, the extent to which it gives rise to new social practices; and (6) evaluative effectiveness, that is, the extent to which it fulfills evaluative criteria.

⁵⁰ Keohane, Haas, and Levy (fn. 40), 7.

USING COUNTERFACTUALS

The first strategy builds on the use of counterfactuals. While changes in the issue-area occurring after regime formation are easy to observe, there are numerous other variables independent of the regime that could also account for them. Therefore, the real measure of a given regime's effectiveness involves a comparison with what would have happened had the regime never existed. A research strategy using counterfactuals in this narrow sense⁵¹ is especially helpful for making causal claims if the number of independent variables is higher than the number of comparable cases.⁵² This predicament applies to most studies on regime effectiveness. In the absence of sound hypotheses that can be tested, regime effectiveness therefore has to be assessed on a case-by-case basis. For example, Jørgen Wettestad and Steinar Andresen explicitly measure "the degree of improvement in relation to the hypothetical state of affairs that would have occurred had no international cooperation been initiated in the field in question."⁵³ While the results of these studies are highly illuminating, the use of counterfactuals is not without limitations.

Jon Elster maintains that using counterfactuals is legitimate only if the existing theories are neither too good nor too bad.⁵⁴ If a theory of regime effectiveness consists of a set of independent variables including a clear understanding of the relationship between them, the construction of an alternative scenario, that is, changing one independent factor without changing the others, could be deemed illegitimate in light of the applied theory. If there is no solid understanding of the politics in the issue-area, then the construction of an alternative scenario is nothing more than pure speculation. The more general point is that counterfactuals utilize *existing theories about phenomena other than regime*

⁵¹ It has recently been argued that almost all research designs in the social sciences at one point or another build on counterfactuals. See Thomas Biersteker, "Constructing Historical Counterfactuals to Assess the Consequences of International Regimes: The Global Debt Regime and the Course of the Debt Crisis of the 1980s," in Rittberger with Mayer (fn. 35), 324. Indeed, counterfactual assumptions about the comparability of cases are sometimes made in order to set up a comparative design. Although such a procedure may contain counterfactuals at the point of determining the set of cases to be compared, I consider this research strategy as *comparative*, because the *causality* is determined according to the logic of comparison. Here I want to refer to a distinct *counterfactual method* that uses counterfactuals in a specific way. Counterfactuals in this narrow sense have a different meaning: (causal) effectiveness of a specific regime is assessed in a given case by (implicitly or explicitly) constructing a scenario which excludes the regime and then compares the real-world outcome with the outcome of the scenario.

⁵² James D. Fearon, "Counterfactuals and Hypothesis Testing in Political Science," *World Politics* 43 (January 1991), 156.

⁵³ Wettestad and Andresen (fn. 4), 2.

⁵⁴ Elster, *Logic and Society: Contradictions and Possible Worlds* (New York: Wiley, 1981), chap. 6.

effectiveness in order to make statements about regime effectiveness in a given issue-area. The theory employed tells us about the normal development of the issue-area (without institutional intervention) and thus differs from one issue-area to another. Therefore, the counterfactual procedure might be capable of accounting for simple consequences of specific regimes in single cases if we have a solid understanding of the political processes in which the regime intervenes. It follows that assessing regime effectiveness by using counterfactuals is highly problematic in very complex cases such as climate change. At the same time, counterfactuals can be very productive for assessing the effects of a regime in a simpler issue-area. Ron Mitchell, for example, very convincingly demonstrates that the regime controlling intentional oil pollution from ships succeeded by improving the contractual environment.⁵⁵

TRACING CAUSAL MECHANISMS

A second strategy for studying regime effectiveness may be called tracing causal mechanisms. The contributions to the volume edited by Keohane, Haas, and Levy emphasize tracing causal pathways that link institutional characteristics with behavioral outcomes. The strategy is to identify the mechanisms through which a regime is expected to be effective and to observe whether or not these mechanisms are working. It is not a counterfactual judgment but a determination of causality on the basis of a concrete observation of processes (instead of outcomes). The seven case studies in the volume are based on a three-step analysis: "First, the authors portray specific environmental problems, their causes and possible solutions within an issue area. . . . Second, [they] identify and describe efforts to respond to these problems, focusing on agenda setting, international policy formulation, and national policy development. . . . Finally, the authors assess the precise role that international institutions had in contributing to the outcomes described in step two."⁵⁶

To be sure, the authors argue that the "key to this assessment [of institutional effectiveness] is an exercise in hypothetical counterfactual analysis."⁵⁷ In most of the case studies, however, the assessment of institutional effectiveness is different from counterfactual analysis in the narrow sense. On the basis of a theoretical understanding of the working of international institutions, the authors identify conceivable mech-

⁵⁵ Mitchell, "Intentional Oil Pollution of the Oceans," in Haas, Keohane, and Levy, *Institutions for the Earth*; and idem (fn. 4).

⁵⁶ Keohane, Haas, Levy (fn. 40), 10.

⁵⁷ Ibid.

anisms of institutional effects and then gather information to check whether these mechanisms were working or not. In some of the case studies, counterfactual arguments are used as part of the demonstration that a certain mechanism worked. With this method, the causality is determined on the basis of process tracing and not according to the logic of counterfactual analysis.

The innovative use of this method is certainly an enormous contribution to the study of institutional effectiveness. The reader, however, still wonders whether the method could not be made more systematic. When reading the case studies, it is not apparent what kind of descriptive evidence qualifies as an indication for the presence of a given causal mechanism. For instance, it is argued that international institutions served as magnifiers of public pressure by fostering competition among governments to be more proenvironment in four cases: the Baltic and the North Sea regime,⁵⁸ successive ozone talks after 1987,⁵⁹ and acid rain "tote-board diplomacy."⁶⁰ This in turn is taken as an indication of increasing governmental concern. The problem, however, is that a statement like "international institutions served as magnifiers of public pressure" is hardly descriptive. Rather, it already contains a causal statement and thus is not a suitable descriptive indication.

The fundamental idea of process tracing is to assess causality by recording each element of the causal chain. Take, for example, the notion of increasing governmental concern. In order to assess institutional effectiveness in this regard, it seems first necessary to spell out observable institutional *activities* such as "disseminating scientific knowledge"⁶¹ that are related to this causal mechanism. Second, it should be checked whether the information affected the reasoning of the national decision makers in the way determined by the causal mechanism. Third, there must be a policy outcome on the national or societal level that is in line with the respective scientific knowledge. Only if all successive steps are demonstrated by pointing to descriptive evidence—activity of the international regime = output 1; governmental response to output 1 = outcome 1; change of national policy compatible with content of institutional activity on the international level = output 2⁶²—should one speak of institutional effectiveness through the causal mechanism "increasing governmental concern." While the contribu-

⁵⁸ Haas (fn. 15).

⁵⁹ Parson (fn. 15).

⁶⁰ Levy (fn. 15).

⁶¹ Levy, Keohane, Haas (fn. 41), 406.

⁶² If the interest is "improved state of the environment" instead of "behavioral change of political units," it is necessary to add a fourth step, that is, "improved quality of the environment = outcome 2."

tions in the volume edited by Haas, Keohane, and Levy take a huge step in the right direction, it seems that there is room for further improvement of the method.

USING COMPARISONS

Although the research strategy of tracing causal mechanisms is most helpful when it is applied to more than just one case study, its logic is also different from comparative designs. A comparison is a quasi-statistical approach that ought to solve the "ratio of number of variables to cases" problem that is inherent in qualitative case-study research. It uses the notion of correlation in order to test hypotheses, thus relieving single-case studies of the task of making causal claims.⁶³ In comparative designs, outcome variables that do not already imply causal statements are correlated with observable independent variables. Again, "regime effectiveness" can therefore not be the dependent variable in comparative designs, since it already implies a causal statement. Nor can "(any) change after regime formation" be a dependent variable, since it is completely case specific and therefore does not allow comparisons. In contrast, "reduction of emissions," for instance, depicts a variable that can be assessed descriptively and is also nonidiosyncratic. It follows that improving our knowledge about regime effectiveness requires the *development of descriptive dependent variables* that allow focused comparison. The lack of clearly defined and somehow measurable variables (that do not already require causal statements such as regime effectiveness) is certainly part of the difficulty in developing and testing hypotheses about regime consequences as opposed to regime formation in comparative designs.

In spite of these difficulties, comparative designs are a necessary complement to other methods of assessing regime effectiveness and consequences. Two requirements for progress in this area of research are therefore obvious. First, a careful separation of different regime effects is necessary, since a central difficulty for the study of regime effectiveness is the myriad of conceivable effects a regime may have. Second, the method of empirical comparisons depends on the availability of a sizable number of cases for which comparable data are available. For this purpose, focused comparisons as pursued in the volumes by Young and Osherenko and by Haas, Keohane, and Levy are of special importance.

⁶³ See Arend Lijphardt, "The Comparable Cases Strategy in Comparative Research," *Comparative Political Studies* 8, no. 2 (1975). While in small-sample comparative designs it is necessary to control for other explanatory factors in order to highlight the effect of those that are tested (quasi experiments), large-sample comparisons supposedly control for distorting effects by a high number of cases.

Taken together, the literature on regime consequences takes a highly innovative route to gain insights about the effectiveness of international regimes in general and the effects of specific institutional features in particular. In doing so, it tackles a number of questions that are of great value for both the practitioner and the international relations theorist. Although the answers to these questions are still at best preliminary, this work certainly carries the potential for an enduring research program. Moreover, it seems that the study of environmental politics is ahead of similar research in other issue areas.

IV. TRANSNATIONAL NETWORKS

Transnational networks can be understood as encompassing at least two different varieties of nongovernmental associations that act transnationally. On the one hand, scholars identify epistemic communities as those transnational groups that are bound together by a shared set of causal *and* principled beliefs, including shared notions of validity. This notion of transnational networks emphasizes the cognitive aspects of international politics.⁶⁴ On the other hand, there are international nongovernmental organizations (INGOs) that “serve underserved or neglected populations, to expand the freedom of or to empower people, to engage in advocacy for social change, and to provide services.”⁶⁵ This notion of transnational networks emphasizes the struggle for public goods that some of the INGOs are indeed involved in. To be sure, it is no big news that politics is to some extent shaped by social movements whose features differ from those of traditional interest groups.⁶⁶ It is also no big news that transnational relations defined as “contacts, coalitions, and interactions across state boundaries that are not controlled by the central foreign policy organs of governments”⁶⁷ play a role in world politics. The combination of those two features—transnational and

⁶⁴ Peter M. Haas, “Introduction: Epistemic Communities and International Policy,” *International Organization* 46, no. 1 (1992). See also Thomas Risse-Kappen, “Structures of Governance and Transnational Relations: What We Have Learned?” in Thomas Risse-Kappen, ed., *Bringing Transnational Relations Back In: Non-State Actors, Domestic Structures and International Institutions* (New York: Cambridge University Press, 1995).

⁶⁵ See, for instance, Leon Gordenker and Thomas P. Weiss, “Pluralizing Global Governance: Analytical Approaches and Dimensions,” in Gordenker and Weiss, eds., *NGOs, the UN, and Global Governance* (Boulder, Colo., and London: Westview Press, 1996), 19. They also introduce a list of further distinctions among transnational networks.

⁶⁶ For a discussion of social movement theory, see Matthias Finger, “NGOs and Transformation: Beyond Social Movement Theory,” in Princen and Finger.

⁶⁷ Joseph S. Nye and Robert O. Keohane, “Transnational Relations and World Politics: An Introduction,” in Keohane and Nye, eds., *Transnational Relations in World Politics* (Cambridge: Harvard University Press, 1972), xi.

public goods—raises a number of important issues, however. Social movements may no longer be “prisoners of the state.”⁶⁸

TRANSNATIONAL NETWORKS AND WORLD CIVIL SOCIETY

The first and possibly most fundamental question concerns the character of these transnational networks. Are they an expression of an emerging world society?⁶⁹ The answer by Princen and Finger and their collaborators in their book about INGOs is to a large extent affirmative.⁷⁰ For them INGOs are the logical response of civil society to the globalization of economics and the internationalization of politics. Matthias Finger in particular regards “third system theory” as appropriate for grasping INGOs. Accordingly,

citizens mobilize to participate in the political process, which has been “shifted upward” from the domestic to the global (UN) level. The fact that the unit of reference is now some sort of global political system should have changed the terms of reference of the theory: at this global level, activism is not so much about participation and influencing existing structures and decision-making processes but about creating and inventing them.⁷¹

Along the same lines, Paul Wapner argues that INGOs not only influence states “but also . . . affect the behavior of larger collectivities throughout the world.”⁷²

In general, these characterizations of transnational networks as fore-runners of a world civil society are relevant and conceptually quite challenging. So far, however, they are mainly speculative. The relationship between civil society and transnational networks especially is not entirely clear. Are transnational networks cause, consequence, or indication of world civil society? If transnational networks with public goals referring to the world as a whole are seen as a central indicator for an

⁶⁸ Sydney Tarrow, *Power in Movement: Social Movements, Collective Action and Politics* (Cambridge: Cambridge University Press), 197.

⁶⁹ For a good discussion of the concept of world society, see Forschungsgruppe Weltgesellschaft, “Weltgesellschaft: Identifizierung eines ‘Phantoms,’” *Politische Vierteljahresschrift* 37, no. 1 (1996).

⁷⁰ See also Dietrich Thränhardt, “Globale Probleme, globale Normen, neue globale Akteure,” *Politische Vierteljahresschrift* 33, no. 2 (1992); and Reinhard Kößler and Henning Melber, *Chancen internationaler Zivilgesellschaft* (Frankfurt am Main: Suhrkamp, 1993).

⁷¹ Finger (fn. 66), 59.

⁷² Wapner, “Politics beyond the State: Environmental Activism and World Civic Politics,” *World Politics* 47 (April 1995), 320. A similar hypothesis has been put forward with respect to epistemic communities. “The greater the extent to which epistemic communities are mobilized and are able to gain influence in their respective nation-states, the greater is the likelihood that these nation-states will in turn exert power on behalf of the values and practices promoted by the epistemic community and will thus help in their international institutionalization.” See Emanuel Adler and Peter M. Haas, “Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program,” *International Organization* 46, no. 1 (1992), 372.

emerging world civil society, then solid studies about the inner workings of transnational networks seem most important. It is not sufficient to argue that transnational networks stand for the right policies and are the right guys. Studies about internal decision making, about discourses within and among transnational networks, and about the attitudes and motivations of the members of those groups could tell us more about the notion of a world civil society.⁷³

TRANSNATIONAL NETWORKS AND INTERNATIONAL GOVERNANCE

A second set of contributions focuses on the role of transnational networks in international governance, a matter clearly distinct from the world civil society issue. INGOs may be seen at the same time as elements of a world civil society and as completely powerless in the international policy-making system. However, earlier accounts clearly and unanimously supported the notion of a growing influence of transnational networks.⁷⁴ These findings are supported by Princen and Finger, who see the ability of INGOs to link local demands with global negotiations and the world of scientists (epistemic communities) with the world of politics.⁷⁵ In doing so, "environmental NGOs gain influence by building assets that, in the environmental realm, states, intergovernmental organizations, and profit-making organizations are hard pressed to match."⁷⁶ Overall, the consensus of most studies on transnational networks seems to be that in international environmental politics INGOs and epistemic communities have a significant influence on international governance by shaping the agenda, by playing a role in the negotiation process, and by improving implementation.

However, some of the reviewed studies also contain critical remarks on the role of epistemic communities. Susskind suggests that "a review

⁷³ See Paul Kevin Wapner, *Environmental Activism and World Civic Politics* (Albany: State University of New York Press, 1996); and Elmar Altvater et al., eds., *Vernetzt und verstrickt: Nicht-Regierungsorganisationen als gesellschaftliche Produktivkraft* (Münster: Westfälisches Dampfboot, 1997).

⁷⁴ See, for example, Kevin Stairs and Peter Taylor, "Non-Governmental Organizations and Legal Protection of the Oceans: A Case Study," in Hurrell and Kingsbury (fn. 4). This essay provides an excellent descriptive account of Greenpeace's role in the legal protection of the oceans at two points of the policy cycle. In the process of policy formulation, NGOs provided translators for non-English speakers from proenvironmental states, and they also provided them with scientific advice. In the process of policy implementation, the NGOs helped with monitoring; their only viable compliance force was to put offending states to shame. For similar findings, see Kenneth Piddington, "The Role of the World Bank," in Hurrell and Kingsbury (fn. 4); Barbara J. Bramble and Gareth Porter, "Non-Governmental Organizations and the Making of U.S. International Environmental Policy," in Hurrell and Kingsbury (fn. 4). See also Thomas (fn. 4), 290; and the contributions to Peter Willetts, ed., *"The Conscience of the World": The Influence of NGOs in the UN System* (London: Hurst and Company, 1996).

⁷⁵ Thomas Princen, Matthias Finger, and Jack P. Manno, "Translational Linkages," in Princen and Finger.

⁷⁶ Thomas Princen, "NGOs: Creating a Niche in Environmental Diplomacy," in Princen and Finger, 36.

of most of the international treaties negotiated since the 1972 Stockholm conference shows that scientific evidence has played a surprisingly small role in issue definition, fact-finding, bargaining, and regime strengthening" (p. 62). He presents two reasons for this observation. First, the high degree of complexity, uncertainty, and disagreement in environmental politics creates situations in which decision makers feel they are competent enough and do not need to turn to experts. This is a somewhat surprising reason, given that epistemic community theorists argue that transnational networks are especially important in situations of uncertainty. Second, the existence of "adversary science" undermines the trust in the arguments of the epistemic community. According to Susskind's observations, epistemic communities do not usually agree on measures and cannot compete for political support with decision makers. This statement boils down to a negation of the very idea that there are epistemic communities (defined by shared beliefs) that push regime formation and implementation. According to Susskind, "The much-vaunted epistemic community is a result rather than a motor of environmental negotiations" (p. 74). Young in *International Governance* is less harsh in his critique of the literature on epistemic communities. While he welcomes the attention that these arguments draw to the role of ideas, he identifies three weaknesses (pp. 96–97). Studies on epistemic communities lack a clear notion of the bargaining process through which international regimes are usually formed. Furthermore the reciprocal influence of those with material power and those with scientific knowledge is, according to Young, misrepresented in favor of an overstatement of the role of ideas. This raises the question whether analysts of epistemic communities do have an appropriate understanding of the politics of science. As the great work of Robert Merton, for example, has demonstrated, even in those countries in which the principle of "freedom of science" is accepted, states and political decision makers clearly have an influence on the formation of epistemic communities by controlling the funding institutions. Therefore, political decision makers and epistemic communities can be expected to influence each other. It is a two-way relationship.⁷⁷ Against this background, Young correctly identifies a "constant danger of falling into the trap of *post hoc* reasoning, finding evidence of consensual knowledge in cases of success in regime formation and failing to locate epistemic communities in cases of failure" (p. 94). Most of these critical

⁷⁷ See Merton, *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1973); and see also Karen T. Litfin, *Ozone Discourse: Science and Politics in Global Environmental Cooperation* (New York: Columbia University Press, 1994).

remarks also apply to INGOs. Although there is a lot of good evidence about the role of transnational networks in international governance, more rigid research strategies are needed to determine their influence more reliably and precisely.

Analyzing the role of transnational networks in international governance involves similar problems to those of the study of regime consequences. Therefore, the interpretative accounts of the role of INGOs in international environmental politics need to be supplemented by studies using the research designs discussed earlier to attain more reliable statements about causal connections. *Counterfactuals*, for example, may be constructed on the basis of a theoretical framework about interstate cooperation (for example, rational choice models of cooperation that explicitly do not assign a role to transnational networks). The difference between the outcome expected by this theory and the real outcome would be a valid assessment of the impact of the NGOs.

Likewise, the strategy of *tracing causal mechanisms* appears to be a promising approach if carried out carefully. In this case, the observable activities of transnational networks (output 1) are a good starting point. For instance, with respect to the Antarctic Environmental Protocol, Margaret L. Clark lists all the INGOs and their activities in some detail.⁷⁸ In a second step, it needs to be shown that these activities were responded to, for instance, in international negotiations (outcome 1), and finally led to regime provisions compatible with the content of network activities (output 2). The mechanisms through which these connections work have again to be identified on the basis of theoretical and empirical reasoning. Such a specified focus on how influence is actually exerted also makes it clear that it might be necessary to distinguish different stages in the international policy cycle: agenda setting and institutional bargaining, as well as implementation and evaluation. It then can be asked, for each separate stage, through which activities and at which level transnational actors may have an impact. Although students of international environmental politics tend primarily to observe institutional bargaining and the revision of its outcomes, there are very good reasons for believing that the impact of transnational networks is most important in the stages of agenda setting, implementation, and evaluation.⁷⁹

⁷⁸ Clark, "The Antarctic Environmental Protocol: NGOs in the Protection of Antarctica," in Princen and Finger.

⁷⁹ Susskind (chap. 6) provides some very helpful starting points for dealing with the issue of implementation and compliance. See also Jesse H. Ausubel and David G. Victor, "Verification of International Environmental Agreements," *Annual Review of Energy and the Environment* 17 (1992); and Abram Chayes and Antonia Handler Chayes, "On Compliance," *International Organization* 47, no. 2 (1993).

At the end of the day the role of transnational networks in international governance also has to be demonstrated in *comparative* designs on the basis of theory-guided hypotheses. It follows that the development of descriptive dependent variables that are theoretically sound, clearly defined, and somehow measurable is of the utmost importance in this area, too. Most of the variables and concepts currently discussed need to be developed more rigidly: a priori operationalizations of the existence of epistemic communities and INGOs, a clear-cut conceptualization of the resources at their disposal, and their different activities as well as conceptualizations of the opportunity structure (features of the issue-area) in which they act.⁸⁰ It clearly makes sense to compare successful transnational networks with unsuccessful ones and to check whether influence is a result of the type of transnational network, or of its activities, or of the resources at the network's disposal. Against such a background, it seems especially promising to compare issue-areas in which transnational networks have a significant impact on regime evolution with those in which their role is limited, as, for example, in the development of the World Trade Organization or the Nonproliferation Treaty.

A research strategy that can complement all these three approaches has been aptly demonstrated by Gerard Peet,⁸¹ who in 1991 very straightforwardly distributed a questionnaire to government officials at the Marine Environment Protection Committee (MEPC) and at the London Dumping Convention (LDC). Accordingly, the relative influence of INGOs was higher in the case of LDC. In agreement with other studies on the role of transnational networks, Peet finds that this influence was dependent upon the quality of information and the amount of INGOs' activities. This excellent study highlights my general conclusion. Although analysts of transnational networks ask the right questions and come up with plausible findings, they need to strengthen their work with more rigid, intersubjectively intelligible research strategies if they are going to convince skeptics.

TRANSNATIONAL NETWORKS AND POLITICAL LEGITIMACY

Finally, there are a number of prescriptive and normative reflections on the importance of INGOs for the legitimacy of decisions in international institutions. Accordingly, INGOs may improve decisions by providing

⁸⁰ These variables are emphasized by resource mobilization theory, which is considered to be a promising approach for analyzing transnational networks. See Finger (fn. 66), 53–54.

⁸¹ Peet, "The Role of (Environmental) Non-Governmental Organizations at the Marine Environment Protection Committee (MEPC) of the International Maritime Organization (IMO), and the London Dumping Convention (LDC)," *Ocean and Coastal Management* 22 (1994).

science with a platform in negotiations and they may improve the legitimacy of decisions by representing societal interests and balancing the special interests of mostly economic groups.⁸² However, the concept of legitimacy used in these arguments is not crystal clear. Given that INGOs like Greenpeace seem to have a very positive reputation worldwide but lack internal democratic control and often challenge freely elected governments, it seems necessary to delve more deeply into the issue of legitimacy of a transnational society that exists parallel to the traditional society of states. Especially if transnational networks have privileged access to information, resources, and decision making, it is not enough to emphasize the possible positive aspects of INGOs in international policy-making. Even if transnational networks do indeed represent public interests in an emerging world society, it is at the same time clear that they need to be socially controlled. This is not to deny the legitimizing potential of NGOs, but it is a reminder that they obviously hardly fit into current normative theories of interstate politics. Findings on a positivistically defined legitimacy of NGOs, confronted with traditional normative notions of legitimacy in international politics, could be a valid starting point for an interesting normative debate.

While most of the findings of research on transnational networks are still contested and certainly need further differentiation,⁸³ this strand of analysis clearly has the potential to be an enduring research program, especially since it is safe to assume that issue-areas other than environmental politics will also increasingly witness the rise of transnational relations.⁸⁴ Without a doubt, the research on transnational networks raises some of today's most interesting questions in international relations. Moreover, this research has already offered answers that deserve to be taken seriously. However, the work on transnational networks does not yet have a sound theoretical basis for precise empirical testing.

V. CONCLUSIONS

Of the five research themes in the field of international environmental politics studied in the reviewed volumes, two make relevant criticisms

⁸² See Princen and Finger. See also Susskind, 46–53; and Kevin Stairs and Peter Taylor, "Non-Governmental Organizations and the Legal Protection of the Oceans: A Case Study," in Hurrell and Kingsbury (fn. 4), 134–36.

⁸³ For an argument that the pressure of transnational networks in the global warming case may at this point lead to merely symbolic and essentially counterproductive commitments, see David G. Victor and Julian E. Salt, "Keeping the Climate Treaty Relevant," *Nature* 373 (January 26, 1995), 280–82.

⁸⁴ See, for example, the studies in Risse-Kappen (fn. 64); and idem, *Cooperation among Democracies: Norms, Transnational Relations, and the European Impact on U.S. Foreign Policy* (Princeton: Princeton University Press, 1995).

and raise intriguing questions but have failed to provide satisfactory answers. Neither *holistic thinking* nor *agenda setting* offers the potential for an enduring research program. In contrast, research on the *formation of international environmental regimes* has contributed significantly to our understanding of the topic of international cooperation in general. But this work is embedded in preexisting efforts and has not provided the stimulus for a new research program. A driving force for new avenues in the analysis of international relations is the research on *regime effectiveness* and on *transnational networks*. Although at the moment we know less about regime consequences and the role of transnational networks in international environmental politics than about regime formation, the former two have recently produced research questions and strategies that seem to be promising.

Another conclusion points to the need to incorporate more sophisticated research strategies into current efforts in order to realize their full potential. On the one hand, research on international environmental politics has produced a number of high-quality case studies, some in the context of structured and focused comparisons and some as single case studies. The virtue of such work is that it provides detailed accounts of environmental politics. Yet many of my critical remarks point to the need for generating comparative designs in order to be able to generalize findings. It is necessary to back up findings empirically in comparative designs. A systematic compilation of the rich information already provided in many studies is a prerequisite for tackling some of the most urgent issues. It also seems obvious that these comparisons cannot be limited to environmental politics. For many of the open issues, it is necessary to compare environmental cases with nonenvironmental cases. This is particularly true of questions about effective institutional designs and the role of transnational networks. On the other hand, research on both regime effects and the role of transnational networks aims at explaining the consequences of given activities and institutions. For this kind of research, comparative designs must be complemented by process tracing, since there are countless conceivable consequences, whether intended or unintended. The notion of causal mechanisms seems to be an extremely innovative and promising approach; but it needs to be further developed to achieve its full potential.