

**TRANSPARENCY AND EARTH SYSTEM GOVERNANCE**

Ronald B. Mitchell  
Department of Political Science  
University of Oregon  
[rmitchel@uoregon.edu](mailto:rmitchel@uoregon.edu)

Draft, not for citation. Comments welcome.

Monday, November 30, 2009

**Contents**

Introduction ..... 1  
Transparency FOR governance ..... 1  
    A model of influences on behavior ..... 2  
    Two categories of transparency ..... 3  
        First order transparency: increasing the targeted actor’s information ..... 4  
        Second order transparency: increasing the information of actor’s other than the targeted actor ..... 7  
Overdetermination: why transparency often isn’t effective and why it won’t appear effective when it is ..... 9  
Some final considerations ..... 10  
Conclusion ..... 11  
References ..... 13

## **Introduction**

What can transparency contribute to those seeking to improve the effectiveness of earth system governance? This article distinguishes among various policies designed to promote transparency based on the mechanisms by which they influence behavior and, thereby, seeks to identify the conditions under which we might expect them to promote socially desirable behavior and to discourage socially undesirable behavior.

Transparency has “become a pervasive cliché of modern governance” that often receives “uncritical reverence” (Hood 2006, 3). While many have claimed that transparency brings unalloyed benefits to efforts to improve governance, others have countered that “it is not necessarily true that more disclosure makes the agent behave better” (Prat 2006, 91) and that transparency may not improve trustworthiness (O’Neill 2006). Many students and scholars of international relations enjoy a good “fight” as evident in some of the debate between proponents of transparency and those more cautious about its value. A more policy-useful version of this debate can be generated, however, by developing a more nuanced typology of different types of transparency and then attempting to identify the conditions under which each type of transparency is likely to be effective or ineffective. This article attempts to develop such a typology of transparency policies and the condition under which they work.

A first step is to recognize that scholars of governance use “transparency” to refer to two distinct concepts. One segment of the governance literature addresses transparency that is designed to increase government accountability. This has variously been referred to as “downward transparency” or “procedural accountability,” but essentially refers to policies and institutions that seek to promote conditions in which “the ‘ruled’ can observe the conduct, behavior, and/or ‘results’ of their ‘rulers’” (Heald 2006, 27; Auld and Gulbrandsen 2010). In essence, this literature examines open governance structures designed “to permit post-hoc accountability of decisions already made, or to facilitate citizen participation in decision-making” (Florini 2010, ~7). We might call this “transparency OF governance.”

Another segment of the governance literature, however, addresses itself to what has been called “upwards transparency” or “outcome transparency” (Heald 2006, 27; Auld and Gulbrandsen 2010). In these cases, the transparency in question involves a flow of information about regulated or unregulated behaviors that is designed so that “the hierarchical superior/principal can observe the conduct, behavior, and/or ‘results’ of the hierarchical subordinate” (Heald 2006, 27). We might call this behavioral-altering transparency or “transparency FOR governance.”

This formulation of “transparency for governance” focuses our attention too narrowly, however. To be sure, transparency can be and is regularly used as part of efforts by hierarchical superiors and hierarchical subordinates. Yet, transparency can be and regularly is used to influence behavior in non-hierarchical situations. International prior informed consent arrangements, like domestic labeling regulations, seek to ensure that those receiving hazardous wastes, using agricultural fertilizers and pesticides, or accepting sometimes-hazardous products are made aware of the risks attendant with those products. Global environmental assessments provide scientific information about trends in -- and causes and impacts of -- environmental problems and, at least under some circumstances, influence the behavior of the audience for the assessments (Mitchell, Clark, Cash, and Dickson 2006). Nongovernmental organizations (NGOs), both individually and as members of transnational networks, collect and disseminate information about the policies and activities of a particular country’s government in hopes of prompting actions by that country’s citizens, the citizens of other countries, other governments, or international organizations (Keck and Sikkink 1998). In all of these cases, hierarchical peers or hierarchical subordinates are using transparency to influence the behavior of actors who are either their hierarchical peers or their hierarchical superiors.

In light of these considerations, in this article I adopt a broader definition and framing of “transparency FOR governance” as: *the acquisition and dissemination of information with the goal of influencing the behavior of other actors*. The article then seeks to identify the conditions under which we should expect such transparency -- or, more specifically, an effort to generate or increase transparency -- to actually achieve that goal. I create a taxonomy that distinguishes different types of transparency based on the mechanisms by which they work which, in turn, allows the derivation of logical predictions about the conditions under which they will and will not work.

## **Transparency FOR governance**

A range of scholars have increasingly focused on the “transparency turn” in governance from the local to the international level. Scholars discuss the range of efforts to compile and release information “to shape regulatees’ behavior in socially desirable directions” as transparency, “governance by disclosure,” “regulation by revelation,” or various other phrases (Fung, Graham, and Weil 2007; Gupta 2008, 3; Florini 2010, ~6). Scholars contributing to this literature either assume or investigate whether information matters.

Transparency is intellectually interesting because it appears to contradict the often-implicit bias and assumption that the ability to influence behavior depends on either coercion or incentives. With respect to international law, the need for treaties to have “teeth” was traditionally accepted as common wisdom and remains a strong strain in arguments by scholars, practitioners, and advocates. In the international relations literature, Downs, Rocke, and Barsoom have argued that states only make significant behavioral changes in response to treaties that include strong enforcement mechanisms (Downs, Rocke, and Barsoom 1996). Economic thinking has posited and gained credibility for the claim that positive incentives and capacity-building can play important roles in promoting desired behavioral changes (Barrett 2003; Sagar and VanDeveer 2005). To be sure, the successful use of coercion or incentives requires transparency: sanctioners cannot impose sanctions without an informational system that identifies which actors have violated an international agreement and rewarders cannot provide incentives without an informational system that identifies which actors have complied (Mitchell 1993). In both models of behavioral influence, however, the power of transparency depends on the threatened sanctions or promised rewards being deployed in response to the relevant information. In these models, increasing transparency “works” only through the sanctions or rewards that it prompts.

By contrast, research on transparency today has taken up the challenge of understanding whether and when transparency can influence behavior even in the absence of sanctions or rewards. Evidence that collecting and disseminating information, *by itself*, can alter behavior proves interesting for several reasons. Beyond contradicting the intellectual assumption that behavior change requires coercion or incentives, government policy-makers in many countries are attracted to transparency policies because, if transparency works without coercion or incentives, then it represents a policy option that simultaneously avoids infringing on personal freedoms, is more politically palatable than coercive methods, requires the expenditure of less government revenue, and, by focusing on policy impacts, avoids the inefficiencies of command and control systems that focus on outputs or outcomes (Sabatier 2007). In addition, evidence of transparency being effective prompts interest from non-governmental actors who often lack the legal authority to impose sanctions or sufficient economic resources to provide meaningful rewards but often have unique incentives and abilities to gather information that governments and international organizations may be unwilling or unable to collect.

### **A model of influences on behavior**

To understand *when* (i.e., under what conditions) transparency fosters the behaviors desired by its proponents requires that we identify *how* and *what types* of information influence behavioral decisions. That, in turn, benefits from identifying the factors *other than* information influence behavioral decision. In short, we need an overarching model of factors that influence the behavioral decisions of individuals and institutions as the foundation on which to model the conditions under which different types of transparency are more or less likely to influence behavior.

To develop such a model, I build on March and Olsen’s distinction, contending that the behavior of individuals, state governments, and international institutions can reflect both a logic of consequences and a logic of appropriateness (March and Olsen 1998). Behaviors can reflect a logic of consequences in which the actor engages in a self-conscious weighing of the costs and benefits of available alternatives in light of the degree to which they further the actor’s goals or objectives. Behaviors can also reflect a logic of appropriateness in which -- sometimes through a significantly less conscious process -- actors are far more influenced by social norms about what is considered appropriate behavior in a particular setting for an actor seeking to create or maintain a particular identity. The international relations literature to date provides compelling evidence that state behavior while often guided by a logic of consequences is also, under some circumstances, better understood as reflecting a logic of appropriateness (Finnemore 1993; Finnemore and Sikkink 1998; Tannenwald 1999). Given that both state and individual behaviors sometimes reflect a logic of consequences, sometimes a logic of appropriateness, and sometimes an interplay between the two, it seems worth identifying a model of behavior that allows for the possibility that transparency can influence behavior through either or both logics.

Taken together, the factors that both logics point to as potential influences on behaviors are:

- The actor’s *goals* or objectives
- The *alternatives* available to the actor for achieving those goals
- The *norms* of the actor, as well as of the community in which they operate, regarding the appropriateness of pursuing certain goals and of using particular alternatives to do so, as well as the influence that those norms have on the actor in question
- The *consequences* or incentives (i.e., benefits, costs, and risks) of engaging in available alternatives, including both the non-manipulated “natural” consequences (costs and benefits) that would arise in the absence of any strategic/responsive behavior by other actors (including responses of “nature” as well as

responses of actors on their underlying incentives) as well as the manipulated costs and benefits that may arise due to the strategic/responsive efforts of actors, whether individually or collectively, to influence the actor in question, and the actor's perceptions regarding the likelihood of both types of costs and of benefits (which may differ markedly from some actuarial estimates of those likelihoods).

- The *information* the actor has about these alternatives, norms, and incentives
- Psychological and bureaucratic *barriers* and biases -- such as a status quo bias, single action bias, mistrust, standard operating procedures, etc. -- that deflect even decisions nominally based in a logic of consequences away from "rational" behavior (see, for example, Allison 1971; Kahneman 2003; Weber 2006; see, for example, Thaler and Sunstein 2008; Swim, Clayton, Doherty, Gifford, Howard, Reser, Stern, and Weber 2009).

Seeing any particular behavior or behaviors as resulting from some interaction among these various factors simultaneously highlights that information plays a role in most behaviors, that what role information plays varies from behavior to behavior, and that, therefore, altering information -- as transparency policies attempt to do -- will alter behaviors in some situations but not others.

Thus, these factors suggests that transparency policies can influence behaviors when they inform actors of alternatives of which they were previously unaware, highlight social norms and how others may view particular goals or means, or clarify the natural or manipulated consequences of engaging in certain behaviors. This list also, however, points to a range of situations in which transparency policies are unlikely to influence behavior. Information about new alternatives to pursue certain goals will not influence those not pursuing those goals. Informing actors about alternatives that are beyond their financial reach will not influence their behavioral choices (on capacity, for example, see Keohane, Haas, and Levy 1993; Sagar and VanDeveer 2005). Actors with strong commitments to pursuing a particular goal are unlikely to be influenced by information highlighting that most other actors are not pursuing that goal and view its pursuit as inappropriate. Clarifying the inherent costs and benefits of particular behaviors will be unlikely to influence actors who value the benefits of particular behaviors -- or discount the costs -- more than those providing the information. In short, under many conditions, new information may influence what actors know but not what they do.

This discussion is not to claim that information cannot influence behavior. It surely can. Yet, transparency is surely not a panacea. Therefore, it becomes a "live" research goal to identify the conditions under which increasing the transparency of particular types of information is likely to alter the targeted behavior.

## **Two categories of transparency**

Various authors have proposed typologies and terminologies to distinguish variants of transparency. Thus, Gupta argues for distinguishing transparency based on who discloses the information, to whom it is disclosed, what information is disclosed, and to what end the information is disclosed (Gupta 2008, 6). Such taxonomies are often intended to allow distinguishing among transparency systems based on how effective they are. Florini argues that the success of a transparency system "depends on what information is provided, in what form, to what audience, and on what options that audience has to induce the discloser to behave differently" (Florini 2010, 18). Heald argues that "for transparency to be effective, there must be receptors capable of processing, digesting, and using the information" (Heald 2006, 35). Fung, Graham, and Weil argue that transparency works best when those receiving information lacked information and when they "could and would change their behavior if they had the appropriate information" in ways that, in turn, influenced the behavior of targeted actors (Florini 2010, 17). My goal in this article is to refine such insights in ways that generate theoretical predictions about when different types of transparency policies should work.

Before proceeding, let us clarify some terminology. Strategies of "transparency for governance," as defined above, involve:

- an "information generator" that acquires and disseminates information,
- a "targeted actor" whose behavior the information generator wants to influence, and
- an "information recipient" who receives the information.

In these terms, strategies of "transparency for governance" are defined as efforts by information generators to provide information to an information recipient in order to influence certain targeted actors.

I propose a classification that distinguishes types of transparency based on the mechanisms by which the information involved might be expected to alter the targeted actor's behavior. The classification consists of an initial distinction between a) transparency that provides information about the world to the targeted actor in hopes of influencing their behavioral choices and b) transparency that provides information about the targeted actor to information recipients other than the targeted actors in hopes of influencing their behavioral choices in ways that, in

turn, will influence the targeted actor's behavioral choices. I refer to the former as "first order transparency" and the latter as "second order transparency."

#### First order transparency: increasing the targeted actor's information

First order transparency involves strategies in which new information is provided directly to a targeted actor with the intention that the information will lead that actor to change their behavior. That is, the information recipient and the targeted actor are one and the same. Much of the transparency literature focuses on "second order transparency," as described below. Yet, first order transparency is common, is effective under certain circumstances, and involves various strategies for influencing behavior that are often overlooked. First order transparency strategies vary in terms of whether targeted actors receive new information about the natural -- i.e., non-manipulated -- consequences of engaging in the alternatives already available to them, about the alternatives actually available to the targeted actor, or about community norms regarding the pursuit of certain goals and the alternatives for pursuing them. The overarching "effectiveness condition" for first order transparency strategies is that the targeted actors are engaging in behaviors that harm their own interests because they lack full and complete information.

#### *Consequence transparency: Improving information about the "natural" consequences of certain behaviors*

If actors lack complete and accurate information about the consequences of engaging in the behaviors available to them, they may engage in behaviors that they would not engage in if they were omniscient. Imperfect information can lead actors to behave in ways that run counter to their own interests. Put differently, actors pursuing their self-interests may engage in behaviors that they themselves would consider suboptimal if they had full information. In such cases, actors may be easily convinced to alter their behaviors by simply improving their knowledge of the natural, non-manipulated, consequences of their behavior.

At the domestic level, warning labels on tobacco products and alcohol exemplify government efforts to ensure that targeted actors (consumers) be provided with full information about the consequences of consuming these products. Campaigns to publicize the hazards of illegal drug use or higher accident rates among those who drive while intoxicated or while texting provide other examples. Such policies seek to reduce the use of products that -- independent of their social costs -- have immediate and direct costs for those engaging in them. A point worth noting here, since it will be called into question below, is that these strategies provide information to the users of tobacco, alcohol, illegal drugs, and cellphones with the *ultimate goal* of influencing their behavior, *not* as the first step in a two-step process that is ultimately seeking to influence the behaviors of the producers of tobacco, alcohol, illegal drugs, and cellphones. That is, the information recipient is the targeted actor in these cases. As developed below, transparency strategies in which the information recipient is not the targeted actor have quite different features.

In the realm of global environmental governance, global environmental assessments often are undertaken in the belief that they can play such a role. They can alter behaviors even without international agreement on a treaty or convention if they identify sufficiently large impacts that particular human activities have *on those countries engaged in them*. Scientists, on their own initiative as well as at the request of governments and international institutions, regularly undertake major efforts to understand particular environmental problems (Mitchell et al. 2006). Even if the assessments themselves focus on the *collective* costs of certain environmentally-harmful activities, those who disseminate assessment results often highlight the "private costs" that those who engage in environmentally-harmful activities inflict on themselves. Four European countries -- Austria, Finland, Switzerland, and the Netherlands -- that initially thought acidification was not a problem began reducing their emissions of acid precipitants once these countries "became aware of the extent of damage their countries suffered" (Levy 1993, 121). New knowledge generated through international collaborative research on acid rain's effects led these countries to engage in "self-interested reductions that happened to be mutually beneficial" (Levy 1993). This form of transparency has the particularly attractive trait of converting a Tragedy of the Commons into a "harmony" game -- new information leads states that initially see the optimal strategy to be *continuing* environmentally-damaging activities regardless of what other states do come to see the optimal strategy to be *reducing* environmentally-damaging activities regardless of what other states do.

Most prior informed consent rules, e.g., the Rotterdam Convention, seek to ensure that information recipients can make better informed decisions about the risks and benefits of particular behaviors and, thereby, make choices that better meet their interests. On their face, such rules are not designed to reduce the activity in question but, instead, are designed to ensure that states have the information they need to act in their own best interests. As developed below, there are similar but distinct second order transparency strategies in which providing actors with better information for their own decision-making is an instrumental means of influencing the behavior of other actors, perhaps including those who initially provide the information.

Defining this transparency strategy in quite delimited terms allows the derivation of specific conditions under which it should alter (or fail to alter) the behaviors of the targeted actors. First, providing new information of the natural consequences of some activity will only induce changes in behavior if that new information is shown to harm the interests -- or run counter to the values -- *of the information recipient*. Equally important, the new information must demonstrate that these harms are large enough to make some alternative behavior more attractive, in a cost-benefit sense. Second, for the information to wield influence, the information recipient must view the information as credible. The information recipient must consider the information to come from a credible source, i.e., one that has the expertise to know the consequences of certain behavior and the trustworthiness and integrity to report that knowledge accurately. Third, because the information recipient and the targeted actor are the same, the success of such strategies does not depend on the capacity of other actors to manipulate the interests and incentives of the targeted actor. The incentives of the targeted actor are not being manipulated by others to induce them to change their behavior; it is assumed that the “natural” consequences alone, once known, will be sufficient to induce such a change.

*Alternatives transparency: Improving information about available alternatives*

Another important - but often unremarked- influence on behaviors is the range of alternatives from which actors are selecting. Actors may engage in environmentally-harmful behaviors if they believe that no environmentally-benign alternatives exist, that such alternatives are excessively costly, that such alternatives involve excessively stark tradeoffs vis-à-vis their other objectives, or that such alternatives violate deeply-held norms. In these instances, transparency strategies that makes actors aware of available alternatives of which they were previously unaware or provides new information about known alternatives that alters perceived costs and benefits may make it easier and more attractive to adopt environmentally-benign alternatives.

Many technology transfer programs involve transfers of material resources that increase the alternatives available to the recipients; others, however, depend only on making recipients aware of new ways of deploying the resources they already have available. Environmental training programs often provide knowledge with no concomitant material resources, to help recipients alter their behaviors in ways that achieve environmental goals that were -- but previously were not considered to be -- achievable. Beyond such policy diffusion efforts, the UN and other actors often create “information exchange forums” that are intended to make all participants aware of the policy and technological innovations of other members more quickly. Such programs work when actors share a commitment to achieving a particular objective but differ in their knowledge about alternative means of achieving it or about ways to implement alternatives that reduce costs or increase benefits. Such “information exchange forums” may also make actors aware of alternatives that achieve certain objectives by means that fit within the normative constraints of the actors involved. Thus, an information exchange forum about reducing acid rain or greenhouse gas emissions or wetlands preservation may make member states aware that others are using different techniques to achieve these ends but may also make them aware of ways to deploy the techniques they are already using more cheaply, more effectively, or in ways that skirt normative constraints.

One subset of such approaches involves the provision of information that highlights policies that overcome or circumvent the psychological and bureaucratic barriers that lead actors to engage in behaviors that they themselves consider suboptimal. Bureaucratic dynamics in all countries mean that policies and behaviors often reflect decisions made in response to a prior context different from the present context and that a decision made today would therefore differ. Information about the alternative approaches of other governments to a similar problem can prompt the re-evaluation of policies that may lead to adoption of those alternative approaches or of wholly new alternatives identified during that re-evaluation. Given the habitual and “don’t revisit decisions unless needed” dynamics of bureaucracies, information may sometimes work simply by prompting a re-evaluation rather than by providing a better alternative. Likewise, information may help governments realize that institutional structures that logically *should* produce equivalent outcomes may fail to do so because of cognitive biases. Thus, Thaler and Sunstein have popularized the notion that rules which allow people to “opt in” to a socially desirable behavior produce far less of that behavior than those that allow people to “opt out” of those behaviors (2008). That insight is one which can lead to the “discovery” of a broader spectrum of alternatives, e.g., that public energy utilities can promote far more energy conservation through programs that require households to opt out of the program rather than to opt in to it.

We can specify the conditions under which we should expect this second group of “transparency for governance” strategies to influence targeted actors’ behaviors. First, only actors already committed to achieving an environmental goal will change their behavior when provided with information about alternatives previously unknown to them. Such strategies only work among those who engage in environmentally-harmful behaviors because they are unaware that there are ways to engage in environmentally-benign behaviors. Second, targeted

actors must have the necessary resources and capacities to engage in those behaviors of which they become newly aware. Information recipients will be influenced by these strategies if they have the needed resources to adopt the new behavior and have not done so only because they are not aware of it. Third, providing new information about alternatives will work only if those alternatives do not require behaviors that are -- for normative, political, or other reasons -- "off the table." Even among environmentally-committed countries, new information about cap and trade systems will be unlikely to alter the policies of those with non-market economies; new information about environmental taxes will be unlikely to alter the policies of those with strong political resistance to higher tax levels; new information about ways to reduce consumption will be unlikely to alter the policies of those with strong traditions of preferring consumption to saving; and new information about ways to reduce population growth will be unlikely to alter the policies of those with strong normative commitments regarding reproduction.

#### *Norm transparency: Improving information about norms*

The dominant paradigm in international relations scholarship assumes state behavior reflects rational comparisons of the costs and benefits of available alternatives through what has come to be known as a logic of consequences. Yet, increasing empirical evidence has demonstrated that state behavior also reflects the influence of norms about what goals it is appropriate for states to pursue and the means it is appropriate for states to use in pursuing them, i.e., a logic of appropriateness (March and Olsen 1998). Given this, information that clarifies what other states consider to be appropriate or inappropriate may lead states to re-evaluate the tradeoffs between environmental protection and other goals and what behaviors to adopt in pursuit of certain goals.

International treaties and conventions, and the negotiations that lead up to their signing, are important means by which states make their existing normative perceptions explicit *to* others and, in the process, become more aware of the normative perceptions *of* others. State preferences are not always fixed before negotiations start and immutable after they start but, rather, in many instances what states prefer may well depend on what other states prefer and what states think is appropriate or inappropriate may depend on what others consider as appropriate or inappropriate (Zürn 1997; Risse 2000). Especially on issues that have received little prior international attention, states may be quite unaware of the views of other states about the perceptions other states have on an issue. And ongoing international negotiations, over time, can provide forums for dynamic discussions about what is appropriate or inappropriate.

For example, the annual meetings of the International Whaling Commission provided a forum in which a shift occurred from an initial phase during which the collective perspective saw whaling as an economic activity with no explicit moral aspect to the current phase in which those who maintain that perspective must at least recognize that many other states and non-state actors view whaling as an inherently immoral activity (Mitchell 1998a). Such transfers of information about norms are not conducted exclusively by states. Thus, one way to interpret the Brundtland Commission report is as an essentially normative statement that economic development that ignores environmental protection was inappropriate (World Commission on Environment and Development 1987). The Commission's report did not argue that sustainable development is merely an interesting new means of development but that it is a *morally superior - and even morally imperative* - means of development.

Under what conditions will communications and exchanges that clarify the normative perspectives of others influence behavior? First, norm transparency seems likely to be most influential when it is causing behavioral changes "at the margin." That is, whether norm transparency involves perceptions that certain goals or that certain means are inappropriate, it is unlikely that the targeted actor receiving the information has chosen particular behaviors in the absence of any knowledge about such perceptions. Both individuals and states are quite sensitive to the normative perceptions of others, even when they disregard the behavioral implications that flow from them (Chayes and Chayes 1995). Thus, behaviors usually reflect a relatively accurate sense of collective norms, even though those norms are often inchoate and implicit. Behavioral choices have usually already taken normative constraints and dictates into account -- the revelation that others view that choice as inappropriate rarely comes as a surprise. Given that actors, therefore, tend to engage in behaviors already aware that doing so runs counter to social norms, they are likely to alter those behaviors only if new information clarifies that social norms are quite different from what the actor previously believed.

Second, norm transparency is most likely to influence actors who are already committed to other norms with which the norm in question resonates (Carpenter 2007). Most societies have stronger normative commitments to future generations of humans than to present or future generations of non-human species. Thus, the Brundtland Commission report assuredly would have had less influence had it framed sustainable development as development that "meets the needs of humans without compromising the ability of other species to meet their needs" than by framing it, as it did, as development that "meets the needs of the present without compromising the ability of future [human] generations to meet their own needs" (World Commission on Environment and Development 1987, 8).

Third, norm transparency is most likely to influence those who consider the norms being highlighted as those of actors with similar identities or identities to which the targeted actor aspires. At least some of the time, state behavior reflects an assessment of “what is the ‘right’ thing to do in this situation for someone like me” (Finnemore 1993; Finnemore and Sikkink 1998). Norm transparency, whether involving international agreements, negotiations, or other forms of communication, by transforming what was previously an undifferentiated spectrum of behaviors into dichotomous categories of “good” and “bad” behavior, i.e., into what is right or what is expected (Checkel 2001; Checkel 2005; Zürn and Checkel 2005). Even if the consequences for choosing “bad” behaviors are unspecified, simply placing behaviors in these socially-important categories may influence some actors some of the time. Under certain circumstances, especially when institutional procedures foster it, communications about how others behave in similar cases can prompt decisions in which the actor involved pays little attention to quite tangible costs. For example, judges and lawyers in states with strong rule-of-law traditions tend to ‘import’ international environmental law into domestic legal decisions with little consideration of the economic impacts of such rulings (see, for example, Koh 1997; Alter 1998; Raustiala and Slaughter 2002). Thus, norm transparency may involve merely the communication of how “similar others” have behaved in the same context, without any explicit and conscious communication that the broader “community” perceives this as appropriate.

#### Second order transparency: increasing the information of actor’s other than the targeted actor

Second order transparency involves strategies in which new information is provided to an information recipient other than the targeted actor with the intention that the information will alter the information recipient’s behavior in ways that, in turn, alter incentives the targeted actor has to engage in the socially undesirable behavior. As already noted, much of the transparency literature has focused on such “second order transparency,” “regulation by revelation,” or “governance by disclosure” (Gupta 2008, 3; Florini 2010, ~5). The overarching “effectiveness condition” for second order transparency strategies is that information recipients will alter their behavior in response to the new information and that, when they do, it will have sufficient influence on the targeted actors’ behaviors to get the latter to alter their behavior.

#### *Transaction transparency: Improving the information that users have regarding what producers are doing*

Much literature has focused on the attractive notion that we may be able to reduce various socially undesirable activities through transparency and, thereby, avoid governments dictating the socially optimal level of certain activities and regulating those engaged in them. To implement command and control policies, governments must define a socially optimal level of an output from some activity (e.g., emissions) and also identify rules about how those who continue to engage in it must achieve that level. To implement the incentive-based policies that are often seen as a superior alternative to command and control policies, governments still must identify the socially optimal level of an output from some activity but can leave it up to those engaged in it to determine how to reduce to that level. The attractiveness of transparency strategies is, in no small part, that they remove the need for government to even identify the socially optimal level of an output from the activity. In short, transparency offers the promise of allowing “the marketplace” to determine both the socially optimal level of outputs from certain activities and the best way to achieve them. Such strategies, therefore, are particularly attractive as “first steps” during early stages of the development of environmental protection norms in a new arena, stages during which it is often impossible to get political agreement on what levels of protection to require.

The domestic eco-labeling programs and international prior informed consent rules described above are nominally designed only to ensure that actors have more complete and accurate information so that they can pursue their own self-interest unencumbered by “imperfect information.” In many cases, however, proponents of such programs both believe and desire that changes in the behaviors of the information recipients, in turn, will influence the incentives and thereby the behaviors of the targeted actors engaged in the environmentally-harmful activity. Indeed, the logic of such programs is “premised on the belief that disclosing information about processes and practices of sustainable resource use will empower consumers to take decisions, without specifying what these decisions should be” but with the assumption that those decisions will be different in ways that lead to more environmentally-favorable behaviors (Gupta 2008, 3).

Transaction transparency assumes that economic producers that engage in environmentally-harmful activities impose a negative externality on users of their products of which those users are unaware. Providing new information to users allows them to alter or discontinue their use of the product which, in turn, should lead producers to alter their production practices to become more environmentally-friendly. Not surprisingly, then, the effectiveness of this form of transparency depends on three conditions being met. First, “there must be receptors capable of processing, digesting, and using the information” (Heald 2006, 35). That is, the information recipients must be able to understand the information provided and they must have the incentives, capacities, and alternatives to alter or

discontinue their use of the product in response. Second, enough information recipients must alter or discontinue their use of the product such that the producer feels the need to alter their production practices in response. That is, changes in the behavior of information recipients must constitute potent threats to the interests of the producers of the product. Third, the targeted actors, i.e., the producers, must have the incentives and capacities to engage in the socially desirable behavior that is the ultimate goal of the transparency policy.

*Enforcement transparency: Improving the information that enforcers have about regulated actors*

Another transparency strategy involves improving the effectiveness of existing enforcement procedures. Transparency policies need not operate independent of regulatory structures but can be designed to improve the enforcement of existing regimes. In some cases, international institutions that already have enforcement mechanisms in place can enhance the credibility of sanction threats by improving monitoring and surveillance so that detection of violations becomes more likely. For example, states have established eight regional port state control regimes that aggregate ship inspection reports from member states so that those same member states can identify ships entering their ports that have not been inspected recently or have been inspected recently but exhibited violations of various maritime pollution and other conventions (Kasoulides 1993; Plaza 1997). This strategy for increasing transparency regarding ships engaged in international trade makes port state threats to punish violations of international maritime law more credible. Likewise, member states of the Convention on International Trade in Endangered Species (CITES) have made consistent efforts to enhance the CITES monitoring system to make it more likely that illegal trade will be identified (Reeve 2002).

Efforts to enhance the monitoring of existing treaties are not limited to states. NGOs regularly take it upon themselves to provide information about treaty violations to treaty secretariats. In some cases, NGOs undertake such efforts at the request of treaty secretariats; at other times, they do so uninvited. In both cases, however, their actions increase the likelihood of identifying actors that are not acting in ways consistent with the spirit or the letter of international law and, thereby, make it more likely those actors will be sanctioned. Both states and NGOs can also take more “facilitative” approaches to encouraging regime-consistent behavior, e.g., by providing specific green awards for positive behavior or publishing “white lists” of states that are meeting or exceeding regime requirements.

One cannot assume, however, that increasing the information available to enforcers necessarily leads to greater enforcement. In most contexts in international relations, sanctioning is infrequent (Chayes and Chayes 1993). Incentives for sanctioning are often weak because sanctioning a state for violations in one issue area can prove costly to the sanctioning state in terms of the web of other interdependencies it may have with the state to be sanctioned. Domestic export interests may make it politically costly to use economic embargoes as sanctioning tools. The costs of available sanctions often cannot be focused exclusively on the violating state and may harm the interests of “innocent” states. And sanctions often exhibit Tragedy of the Commons dynamics in which all states prefer that sanctions be imposed but all prefer to avoid incurring the costs to themselves of imposing them (Axelrod and Keohane 1986). For these and other reasons, improving transparency about violations of international regulations may not influence the likelihood that sanctions are imposed and therefore may not reduce the socially undesirable behavior.

That said, enforcement transparency is likely to foster more of the behaviors the regime seeks to promote if enforcer states have exogenous incentives to enforce the terms of the agreement or there are institutional norms and processes that have established a habit of enforcement. Enforcement transparency will be most effective when information recipients perceive the information being provided as credible, as when governments provide the information (as in the port state control case) or when NGOs succeed in developing a reputation for providing unbiased and accurate information.

*Reciprocal transparency: Improving the information that those involved in a Tragedy of the Commons have about each others' behaviors*

Distinct from the asymmetric dynamics involved in the transaction transparency and enforcement transparency just discussed are the symmetric dynamics among actors engaged in Tragedies of the Commons. In such situations, actors cannot be neatly distinguished as either perpetrators of externalities or victims of them. Instead, the nature of a Tragedy of the Commons is such that all those involved engage in behaviors that impose an externality on others and are victims of the reciprocal and mutual externality from the same behavior of those others. Increasing transparency in such contexts alters behavior through quite different mechanisms than those of transaction or enforcement transparency. In Tragedies of the Commons, information about how others are behaving can influence behavior through several mechanisms: it can reassure those inclined to cooperate but concerned about defection by others, it can make the threat of retaliatory noncompliance more credible to those inclined to defect, and it can reinforce the norm of cooperation by demonstrating to all involved the degree to which others are

cooperating. All three mechanisms operate more effectively in the presence of more, and more accurate, information.

In Tragedy of the Commons settings, transparency can help stabilize the otherwise-unstable equilibrium of cooperation. Information about how others are behaving underlies the iteration and reciprocity that is necessary if all actors in a Tragedy of the Commons have the strong incentives to defect that rational choice theory posits (Hardin 1968; Axelrod 1984). But information is also important even when those involved are predisposed to cooperate so long as others do. In such cases, knowing that others are cooperating can reinforce the predisposition to cooperate and, thereby, foster a virtuous circle of cooperation. And information that reveals that most actors are cooperating can demonstrate to all actors that both a behavioral norm and an expectation of cooperation exists, with that norm placing additional pressures on all actors either to continue or to commence cooperation.

These mechanisms identify when we should expect transparency strategies to foster the resolution of Tragedy of the Commons problems. First, improved information about the behaviors of all relevant actors will contribute more to resolving such problems if all actors are strongly averse to reversion to the non-cooperative status quo and believe that others will take actions designed to sanction non-cooperation without causing a downward spiral of retaliatory noncompliance. If the aversion to the non-cooperative status quo is weak, however, transparency will have weaker influences on behavior. Second, the contribution that more information makes to resolving a Tragedy of the Commons depends on the balance between those predisposed to cooperate and those predisposed to defect. Among those involved in a Tragedy of the Commons that are inclined to cooperate, the knowledge that most others are currently cooperating can reassure them and foster a positive spiral of cooperation; information that most others are not doing so, however, can inhibit initiation of such a spiral. Among those inclined to defect from cooperation if they can get away with it, information that most actors are cooperating may prompt them to believe that they can defect without prompting collective reversion to the non-cooperative status quo; and information that most actors are defecting will reinforce their predisposition to defect and will hasten reversion to that status quo. Third, whether more information about how relevant actors are behaving fosters development of a norm of cooperation depends on whether the information reveals that most actors are cooperating or that most are defecting. If most actors are cooperating, then defection will be perceived as less socially appropriate, thereby leading yet more actors to cooperate. But if most actors are defecting, then information publicizing that will reinforce the perception that it is “okay” to defect, thereby leading more actors to do so. In short, information will reinforce movement in the current “direction,” so that transparency will foster cooperation if that is the dominant behavior but will foster defection if it is the dominant behavior.

### **Overdetermination: why transparency often isn’t effective and why it won’t appear effective when it is**

In important ways, transparency may be best thought of as a “weak” cause of behavioral improvement. It tends to influence behavior only under “favorable” conditions. Transparency’s influence depends on other necessary conditions already being in place (Goertz, Hak, and Dul 2008). Even if transparency would significantly influence behavior under such conditions, there are strong reasons to expect it to lack such influence when those conditions are absent. This has implications both for when policy-makers should adopt transparency policies and for how scholars should conduct and interpret the results of research on transparency.

Socially undesirable behaviors tend to be overdetermined: actors often engage in such behaviors for reasons that are mutually reinforcing. Both theory and logic lead us to expect the effect of transparency to be contingent on the values of other variables. This is certainly likely to be true for environmental governance. Lack of information may be only one reason that an actor or group of actors engage in socially undesirable behaviors. In such cases, it is necessarily true that improving transparency will not lead the actor involved to change their behavior, because the improved transparency eliminates only one of the reasons for that behavior. Put differently, under a wide variety of circumstances, transparency strategies may improve the information and knowledge of the information recipient but not alter their behavior because the lack of information is not the only reason for that behavior. For example, we expect that providing information about the environmental impacts of certain behaviors will alter the behaviors of environmentally-concerned individuals but not of environmentally-unconcerned individuals.

Thus, imagine some undesirable behavior that an actor engages in because they are relatively wealthy, because the behavior is relatively cheap to engage in, because they are less concerned about environmental protection than about the personal goal they further by that behavior, and because they do not recognize the environmental impact of their behaviors. So, for example, consider the air travel of international environmental scholars to professional conferences. In such a case, strategies that influence any of the four “causes” may be insufficient to lead these scholars to reduce or stop their air travel. They may change their air travel patterns only after all four causes of those patterns have been altered.

In necessary and sufficient terminology, environmentally-protective behaviors have numerous necessary conditions but few sufficient ones. By contrast, environmentally-destructive behaviors have numerous sufficient conditions but few necessary ones. The very nature of the behaviors involved make environmental degradation likely under a range of circumstances while making environmental protection unlikely except in more limited and specific sets of circumstances.

The recognition that socially suboptimal behaviors are often overdetermined has implications for both research and policy. On the research side, it implies caution in interpreting empirical results. If a behavior is overdetermined, then transparency policies that would generate socially more optimal behaviors if an informational deficit were the *sole* obstacle to such behavior will be ineffective when other obstacles to such behavior also exist. Effective strategies will appear effective only when an informational deficit is the *sole* -- or last remaining -- cause of the socially suboptimal behavior. To the extent that the empirical world is dominated by overdetermined cases, most transparency strategies will appear ineffective most of the time. In such contexts, the effect of transparency will only be apparent if other determinants of the undesirable behavior have already been redressed.

On the policy side, the influence of overdetermination has two implications. First, and in line with the claim just made, transparency will prompt direct and immediate improvements in behavior only if prior policies have addressed the other forces causing actors to engage in the undesirable behavior. This means that proponents of transparency policies should not expect immediate results and should take care not to “oversell” transparency -- for quite predictable reasons, such policies will not produce immediate and significant results unless complementary policies have already been adopted. That, in turn, is unlikely since transparency strategies tend to prompt less political resistance and, hence, are likely to be adopted earlier rather than later. Second, and relatedly, recognizing overdetermination highlights that transparency will be ineffective in resolving environmental problems unless other policies have already addressed those other causes. Third, however, this should not be taken to suggest that transparency policies should not be adopted. Since transparency policies may generate the least political resistance and may have some effects, it may make most sense to adopt them early while publicizing that do not constitute a complete solution to the problem but are a “first step” that will “set the stage” for the problem’s resolution once complementary “pieces of the puzzle” have been adopted. Although the influence of transparency depends on other causes of a problem being addressed, it is equally the case that remedying other causes of the problem may fail to alter behavior unless transparency policies are in place. Transparency may be as crucial to the success of other policies as other policies are crucial to the success of transparency.

### **Some final considerations**

The foregoing discussion has distinguished among six types of transparency in an effort to identify conditions under which we should expect them to be effective. A few words seem in order on some further considerations, however, as follows.

First, the foregoing discussion holds an implicit assumption that policy-makers may choose transparency because they are effective at influencing behavior. Yet, perhaps the most attractive political feature of transparency policies is not their effectiveness but the weakness of political opposition to them. They tend to be adopted when more direct regulatory policies are too politically challenging to get agreement on. Thus, these policies are likely to be adopted either early on in the norm development of a particular environmental problem or in response to environmental problems that are highly contested politically. This implies that researchers must start by assuming a selection bias or endogeneity problem in the use of transparency policies which will influence how evidence of effectiveness can be analyzed -- one cannot assume that otherwise-similar situations that lack transparency policies are truly otherwise-similar since the situations in which transparency policies are adopted are likely to be less politically challenging.

Second, attention should be paid to the determinants of the provision of transparency policy (Mitchell 1998b). Whether transparency policies are adopted depends on various factors that influence both the demand for transparency and the supply of it. Notably, the supply of transparency depends on the capacity of various actors to gather information as well as the ability of those about whom information is gathered to prevent its being gathered. Equally important, it depends on the incentives of actors with the capacity to gather information to actually do so. In many cases, the gathering of information may be severely limited by both capacity and incentive problems.

Third, it is worth noting that the effectiveness of transparency policies may be limited not merely for the overdetermination reasons noted above but also because of what might be called “value heterogeneity.” Any of the transparency strategies noted above will tend to work only for some part of a targeted population. In most cases, the population of targeted actors will consist of some working under a logic of consequences, some working under a logic of appropriateness, and some working under both. Especially in the case of first order transparency, transparency policies will only influence that subset of actors who share the value perspective of the information

providers. Equally important, the transparency policy will need to provide information about a “salient” indicator, i.e., information that the targeted actor considers important in their decision-making. Not surprisingly, providing a targeted actor with information about an indicator that they are not concerned about will not influence their behavior. Likewise, in second order transparency, the information needs to get to an audience of information recipients who are concerned about the undesirable behavior of the targeted actors and whose opinion the target actors, in turn, care about.

Fourth, a particularly attractive feature of transparency as a tool of global environmental governance is that almost any actor can adopt transparency policies. Governments, international organizations, NGOs, multinational corporations, and, in the age of the Internet, even individuals often can collect and disseminate information without requiring significant approval or the approval of other actors. Forest certification programs were developed “after prolonged efforts within intergovernmental forums and NGO networks to push for changes in global forest governance” (Auld and Gulbrandsen 2010, 9). Amnesty International and Transparency International have collected and published reports on human rights abuses and corruption, respectively, despite the fact that most governments would, at least initially, have preferred such reports not be published.

Finally, the transformative value of transparency policies deserves note. “Disclosure can be just a small step within an existing system, but it can also help to transform that system” (Florini 2008, 15).

## **Conclusion**

Transparency has become an increasingly important element of governance at all levels of society, including the global level. Here, I have examined “transparency for governance,” i.e., efforts to increase information to lead some set of actors to adopt more socially desirable behaviors. I have excluded from my focus the related but distinguishable concept of “transparency of governance” or accountability, i.e., efforts to increase the information that those who are governed have about those who govern them (Heald 2006, 27), since that intellectual challenge has been taken up by numerous other scholars.

Transparency for governance can be categorized as falling into two groups, each consisting of three primary transparency strategies. The overarching grouping divides between first order and second order transparency. First order transparency strategies involve efforts to provide new information directly to those actors whose behavior the strategies seek to influence, with the goal and hope that the new information will lead that actor to adopt more socially desirable behaviors. Second order transparency strategies, by contrast, involve efforts to provide new information to an information recipient other than the targeted actor with the goal and hope of influencing the information recipient’s behavior and thereby, in turn, leading the targeted actor to engage in more socially desirable behavior.

First order transparency strategies include consequence transparency, alternative transparency, and norm transparency. These strategies, respectively, provide actors with new information about the consequences of the behavior they are engaged in and the behavioral alternatives, about alternatives that they might otherwise have been unaware of, or about the normative perceptions of others about the behaviors available to the actor. Whether these strategies lead to the desired changes in behavior depends on whether other influences on the targeted actors’ behavior make that behavior relatively open to re-evaluation or relatively closed to re-evaluation. That is, the information must align relatively well with the actor’s existing decision framework, nudging them toward slightly different behaviors rather than coercing them into major behavioral shifts.

Second order transparency strategies include transaction transparency, enforcement transparency, and reciprocal transparency. In all three of these strategies, the process by which new information influences the targeted actor is by first influencing the information recipient. By providing a consumer with information about a product or its producer, an enforcer with information about the behaviors of those they are seeking to regulate, or actors engaged in a Tragedy of the Commons with information about what others engaged in that Tragedy of the Commons are doing, such strategies seek to use changes in the behavior of information recipients to manipulate the incentives that the targeted actors have to engage in socially undesirable behavior. The effectiveness of these strategies at altering the behaviors of targeted actors depends far more on whether the information recipients have both the capacity and incentives to respond to the new information in ways that pose credible and potent threats (or credible and attractive promises) to the interests of the targeted actors. In short, second order transparency strategies depends on situations in which those receiving information have some degree of power over those engaged in the socially undesirable behavior.

The influence of both types of transparency is limited by the fact that information tends to be a “weak cause” of behaviors rather than a “strong cause.” That is, new information tends to influence behavior only when it is the “last missing piece” of the regulatory puzzle. Especially in the environmental realm, many environmentally-harmful behaviors appear to be overdetermined -- they arise not merely because of incomplete and inaccurate

information but, simultaneously and equally, because of the weakness of environmental protection relative to other norms, the strength of countervailing economic incentives, the lack of less environmentally-harmful alternatives, and the presence of both psychological and bureaucratic barriers to rational decision-making. For many environmental problems, all these forces simultaneously press actors to adopt environmentally-harmful behaviors such that altering only the information available is likely to have little if any immediate and observable influence on behavior.

Under such circumstances of overdetermination, it proves challenging both to evaluate the real effects of transparency and to advise policy-makers when, what type, and how to implement effective transparency strategies and what they should expect when they do. Policies that merely increase the flow of accurate information have the attractive political feature that they are rhetorically difficult to oppose. Therefore, transparency policies are likely to remain important political tools for policy-makers in global governance both for the environment and other issue areas. Therefore, it is important for the research community to distinguish among transparency strategies based on the causal mechanisms by which they work, to generate testable hypotheses about the conditions under which they will work, and then to evaluate rigorously which strategies under which conditions can deliver on all the promise that transparency seems to offer.

## References

- Allison, Graham T. 1971. *Essence of Decision: Explaining the Cuban Missile Crisis*. Boston: Little, Brown.
- Alter, Karen J. 1998. "Who Are the "Masters of the Treaty?" European Governments and the European Court of Justice." *International Organization* 52 (1): 121-147.
- Auld, Graeme, and Lars H. Gulbrandsen. 2010. "To Inform or Empower? Transparency in Non-State Certification of Forestry and Fisheries." *Global Environmental Politics* forthcoming.
- Axelrod, Robert. 1984. *The Evolution of Cooperation*. New York: Basic Books.
- Axelrod, Robert, and Robert O. Keohane. 1986. "Achieving Cooperation under Anarchy: Strategies and Institutions." In *Cooperation under Anarchy*, ed. Kenneth Oye. Princeton: Princeton University Press. 226-254.
- Barrett, Scott. 2003. *Environment and Statecraft: The Strategy of Environmental Treaty-Making*. Oxford: Oxford University Press.
- Carpenter, R. Charli. 2007. "Setting the Advocacy Agenda: Theorizing Issue Emergence and Nonemergence in Transnational Advocacy Networks." *International Studies Quarterly* 51 (1): 99-120.
- Chayes, Abram, and Antonia Handler Chayes. 1993. "On Compliance." *International Organization* 47 (2): 175-205.
- Chayes, Abram, and Antonia Handler Chayes. 1995. *The New Sovereignty: Compliance with International Regulatory Agreements*. Cambridge, MA: Harvard University Press.
- Checkel, Jeffrey T. 2001. "Why Comply? Social Learning and European Identity Change." *International Organization* 55 (3): 553-588.
- Checkel, Jeffrey T. 2005. "International Institutions and Socialization in Europe: Introduction and Framework." *International Organization* 59 (4): 801-826.
- Downs, George W., David M. Roake, and Peter N. Barsoom. 1996. "Is the Good News About Compliance Good News About Cooperation?" *International Organization* 50 (3): 379-406.
- Finnemore, Martha. 1993. "International Organizations as Teachers of Norms: The United Nations Educational, Scientific, and Cultural Organization and Science Policy." *International Organization* 47 (4): 565-597.
- Finnemore, Martha, and Kathryn Sikkink. 1998. "International Norm Dynamics and Political Change." *International Organization* 52 (4): 887-917.
- Florini, Ann M. 2008. "Making Transparency Work." *Global Environmental Politics* 8 (2): 14-16.
- Florini, Ann M. 2010. "Transparency in a Global Context." *Global Environmental Politics* forthcoming.
- Fung, Archon, Mary Graham, and David Weil. 2007. *Full Disclosure: The Perils and Promise of Transparency*. New York: Cambridge University Press.
- Goertz, Gary, Tony Hak, and Jan Dul. 2008. "Ceilings and Floors: Theoretical and Statistical Considerations When the Goal Is to Draw Boundaries of Data, Not Lines through the Middle." Paper presented at the American Political Science Association Annual Meeting, Boston.
- Gupta, Aarti. 2008. "Transparency under Scrutiny: Information Disclosure in Global Environmental Governance." *Global Environmental Politics* 8 (2): 1-7.
- Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science* 162 (3859): 1243-1248.
- Heald, David. 2006. "Varieties of Transparency." In *Transparency: The Key to Better Governance?* eds. Christopher Hood and David Heald. Oxford: Oxford University Press. 25-43.
- Hood, Christopher. 2006. "Transparency in Historical Perspective." In *Transparency: The Key to Better Governance?* eds. Christopher Hood and David Heald. Oxford: Oxford University Press. 3-23.
- Kahneman, D. 2003. "Maps of Bounded Rationality: A Perspective on Intuitive Judgment and Choice." In *Les Prix Nobel: The Nobel Prizes 2002*, ed. T. Frangmyr. Stockholm: The Nobel Foundation. 449-489.
- Kasoulides, George C. 1993. *Port State Control and Jurisdiction: Evolution of the Port State Regime*. Dordrecht; Boston: M. Nijhoff.
- Keck, Margaret E., and Kathryn Sikkink. 1998. *Activists Beyond Borders: Advocacy Networks in International Politics*. Ithaca, NY: Cornell University Press.
- Keohane, Robert O., Peter M. Haas, and Marc A. Levy. 1993. "The Effectiveness of International Environmental Institutions." In *Institutions for the Earth: Sources of Effective International Environmental Protection*, eds. Robert O. Keohane, Peter M. Haas and Marc A. Levy. Cambridge, MA: MIT Press. 3-26.
- Koh, Harold. 1997. "Why Do Nations Obey International Law?" *Yale Law Journal* 106 (8): 2598-2659.

- Levy, Marc A. 1993. "European Acid Rain: The Power of Tote-Board Diplomacy." In *Institutions for the Earth: Sources of Effective International Environmental Protection*, eds. Peter Haas, Robert O. Keohane and Marc Levy. Cambridge, MA: MIT Press. 75-132.
- March, James, and Johan Olsen. 1998. "The Institutional Dynamics of International Political Orders." *International Organization* 52 (4): 943-970.
- Mitchell, Ronald B. 1993. "Compliance Theory: A Synthesis." *Review of European Community and International Environmental Law* 2 (4): 327-334.
- Mitchell, Ronald B. 1998a. "Discourse and Sovereignty: Interests, Science, and Morality in the Regulation of Whaling." *Global Governance* 4 (3): 275-293.
- Mitchell, Ronald B. 1998b. "Sources of Transparency: Information Systems in International Regimes." *International Studies Quarterly* 42 (1): 109-130.
- Mitchell, Ronald B., William C. Clark, David W. Cash, and Nancy Dickson, eds. 2006. *Global Environmental Assessments: Information and Influence*. Cambridge, MA: MIT Press.
- O'Neill, Onora. 2006. "Transparency and the Ethics of Communication." In *Transparency: The Key to Better Governance?* eds. Christopher Hood and David Heald. Oxford: Oxford University Press. 75-90.
- Plaza, Fernando. 1997. "Port State Control: An Update." *IMO News* 1997 (4): 30-34.
- Prat, Andrea. 2006. "The More Closely We Are Watched, the Better We Behave?" In *Transparency: The Key to Better Governance?* eds. Christopher Hood and David Heald. Oxford: Oxford University Press. 91-103.
- Raustiala, Kal, and Anne-Marie Slaughter. 2002. "International Law, International Relations and Compliance." In *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse and Beth Simmons. Thousand Oaks, CA: Sage Publications. 538-558.
- Reeve, Rosalind. 2002. *Policing International Trade in Endangered Species: The Cites Treaty and Compliance*. London: Royal Institute of International Affairs and Earthscan.
- Risse, Thomas. 2000. "'Let's Argue': Communicative Action in World Politics." *International Organization* 54 (1): 1-39.
- Sabatier, Paul A. 2007. *Theories of the Policy Process (2nd Ed.)*. Boulder: Westview.
- Sagar, Ambuj D., and Stacy D. VanDeveer. 2005. "Capacity Development for the Environment: Broadening the Focus." *Global Environmental Politics* 5 (3): 14-22.
- Swim, Janet, Susan Clayton, Thomas Doherty, Robert Gifford, George Howard, Joseph Reser, Paul Stern, and Elke Weber. 2009. *Psychology and Global Climate Change: Addressing a Multi-Faceted Phenomenon and Set of Challenges (a Report by the American Psychological Association's Task Force on the Interface between Psychology and Global Climate Change)*. Washington, DC: American Psychological Association.
- Tannenwald, Nina. 1999. "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use." *International Organization* 53 (3): 433-468.
- Thaler, Richard H., and Cass R. Sunstein. 2008. *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New Haven: Yale University Press.
- Weber, Elke U. 2006. "Experience-Based and Description-Based Perceptions of Long-Term Risk: Why Global Warming Does Not Scare Us (yet)." *Climatic Change* 77: 103-120.
- World Commission on Environment and Development. 1987. *Our Common Future*. New York: Oxford University Press.
- Zürn, Michael. 1997. "Assessing State Preferences and Explaining Institutional Choice. The Case of Intra-German Trade." *International Studies Quarterly* 41 (2): 295-320.
- Zürn, Michael, and Jeffrey T. Checkel. 2005. "Getting Socialized to Build Bridges: Constructivism and Rationalism, Europe and the Nation-State." *International Organization* 59 (4): 1045-1079.