Summary and Keywords

The study of international cooperation has emerged and evolved over the past few decades as a cornerstone of international relations research. Our strategy for reviewing such a large literature is to focus primarily on the rational choice and game theoretic approaches that instigated it and have subsequently guided its advance. Without these theoretical efforts, the study of international cooperation could not have made nearly as much progress—and it certainly would not have taken the form it does in the 21st century. Through this lens, we can identify major themes in this literature and highlight key challenges for future research.

Keywords: international cooperation, international institutions, international relations, rational choice approach, game theoretic approach, international politics, international cooperation theory

Introduction

The study of international cooperation has emerged and evolved over the past few decades as a cornerstone of international relations research. Our strategy for reviewing such a large literature is to focus primarily on the rational choice and game theoretic approaches that instigated it and have subsequently guided its advance. Without these theoretical efforts, the study of international cooperation could not have made nearly as much progress—and it certainly would not have taken the form it does in the 21st century. Through this lens, we identify major themes in this literature and highlight key challenges for future research.

While we emphasize the contribution of theoretical approaches to the study of international cooperation, this review goes beyond the success of formal models. First, advances in the study of international cooperation have been intertwined with substantive knowledge of international politics. Indeed, a substantial and growing body of work on international cooperation does not directly depend on formal approaches, although this article...
argues that it has been deeply influenced by it. Second, international cooperation theory is a progressive research program that has repeatedly confronted and responded to the limits of its analysis. One of the prime virtues of formal work is that by making its assumptions clear, it helps researchers to identify its limits and thereby facilitates efforts to overcome them. Two examples developed here include the failure of early approaches to address either international institutions or domestic politics, both of which now figure prominently in cooperation theory. Third, the study of international cooperation has also sparked competitive approaches, such as constructivism and agent-based modeling, which have broadened our understanding of international cooperation and provided important challenges for the rational approach. Although these competitors are sometimes presented as antithetical to rational cooperation theory, they are often highly compatible with the rational approach; like Fearon and Wendt (2002) this article thus advocates a pragmatic approach and sees many potential synergies—and even some convergence—between the rational tradition and its competitors. Focus here is on these areas of agreement rather than on engaging in a detailed discussion of the contributions of constructivism both for reasons of space and because Hoffmann (2010) in this compendium already offers an excellent exploration of constructivist approaches. Finally, while international cooperation has always been motivated by empirical puzzles—starting with why states cooperate in anarchy—recent work has integrated theoretical and empirical analyses in a more sophisticated and deeper way. Space limitations prevent us from covering the now extensive empirical literature based around international cooperation theory except for a few select examples.

We begin with the developmental logic of international cooperation theory (ICT), which is not a single theory but a family of closely related models. Rigorous analytical models have significantly sharpened our understanding of international politics. The second section reviews major themes in ICT. We discuss the key assumptions and logics underlying this literature as well as strategies to deal with the empirical and theoretical challenges it confronts, including the need to deal with distributional and domestic issues. The third section reviews how ICT has reinvigorated the study of international institutions both as forms of international cooperation and as constraints on how international cooperation unfolds. While ICT began with the assumption that states are the primary and unitary actors, recent work has modified this foundation by bringing nonstate actors and domestic politics into the study of international institutions. This essay concludes with an assessment of ongoing trends, needs, and possibilities for the ICT research program.

The Developmental Logic of International Cooperation Theory

States have practiced international cooperation since well before Thucydides discussed diplomacy, treaties, and alliances over two thousand years ago. Yet the study of international cooperation is surprisingly young. The concept of cooperation, as we currently understand it, crystallized in the early 1980s (Taylor, 1976; Axelrod, 1981, 1984) as the coor-
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dominated behavior of independent and possibly selfish actors that benefits them all. Indi-
vidual selfishness need not impede cooperation in situations of interdependence where
one individual’s welfare depends on others’ behavior; cooperation requires neither altru-
ism nor government—both of which are often in short supply at the international level.

This definition of international cooperation is general in terms of both actors and issues.
Cooperation occurs not only among individuals but also among collective entities, includ-
ing firms, political parties, ethnic organizations, terrorist groups, and nation-states. Al-
though ICT often defines international cooperation in terms of states, it can also involve
other actors, especially intergovernmental organizations (IGOs) and nongovernmental or-
ganizations (NGOs). These diverse actors cooperate for different objectives across a wide
range of issue areas: IGOs work with states to combat global environmental problems,
firms collude to monopolize markets, NGOs campaign to save the whales, and so on. Fi-
nally, international cooperation is not always a good thing, at least from the perspective
of those excluded or targeted. For example, international sanctions involve cooperation
against target countries (Martin, 1992A; Drezner, 1999), and commodity cartels often
harm consumer states.

Although the phenomenon of international cooperation is broad, the rationalist approach
to international cooperation shares common analytic elements. It usually takes the actors
and their objectives as given to focus on their strategic interactions. Thomas Schelling, a
pioneer of the strategic approach to international cooperation, writes in the preface to

“I hoped to help establish an interdisciplinary field that had then been variously de-
scribed as ‘theory of bargaining,’ ‘theory of conflict,’ or ‘theory of strategy.’ The field that
I hoped would become established has continued to develop, but not explosively, and
without acquiring a name of its own” (Schelling, 1980, pp. v–vi).

The name of that field that Schelling envisions could well be cooperation theory. Through-
out *The Strategy of Conflict* is the simple premise that actors with conflicting goals never-
theless share a common interest that leaves much room for strategic interaction and for
cooperation. This insight led Schelling to view most situations as bargaining situations. If
we think of reaching a mutually beneficial deal as cooperation, then actors’ differences
over which bargain to strike raises distributional issues. The bargaining perspective leads
to a host of related and extremely consequential considerations—including credible com-
mitments, the advantageous use of a bargaining agent, issue linkages, and the effect of
reputation—which have been developed more fully in the subsequent international rela-
tions literature.

discusses conflict and cooperation as two sides of the same coin in international political
economy. This insight is more forcefully elaborated by James Fearon’s (1995) rationalist
explanation of war: because war is costly, even bitter enemies share a mutual interest in
avoiding it. Thus, Fearon explains war as the failure of the parties to cooperate on a peaceful solution.

Further stimulation for ICT was provided by Charles Kindleberger’s (1973) analysis of the Great Depression, which emphasizes the need for a hegemon to solve global public goods problems. Because a pure public good benefits everyone, and no one can be excluded from it, there is no individual incentive to contribute to the good. Kindleberger built on Mancur Olson’s (1965) analysis of how privileged groups dominated by one actor can overcome the resulting collective action problem. This research spawned a large hegemonic stability theory literature examining whether international leaders work through benevolence (as implied by Kindleberger) or through coercion, which was the only cooperation then countenanced by neorealism. This was challenged by Keohane’s *After Hegemony* argument that institutions could maintain this cooperation even after hegemonic decline, and by Duncan Snidal’s (1985A) analysis that cooperation is possible in the absence of a dominant state. David Lake (1993) provides a further extension regarding how to think about leadership in a hegemonic world, but this literature has unfortunately itself declined despite the continuing importance of understanding U.S. dominance in the international system and a resurgent literature on global public goods (Kaul, Conceicao, Le Goulven, & Mendoza, 2003).

Real world events and intellectual developments also shaped the emergence of ICT. Substantively, although the 1979 Soviet invasion of Afghanistan reinvigorated the Cold War, cooperation and institutionalization had become central to international politics: war among Western states seemed increasingly remote, there had been a dramatic rise of interdependence (Keohane & Nye, 1977), and the Bretton-Woods system had proved to be a fairly stable cooperative arrangement even through the crises of the 1970s. Intellectually, new developments in noncooperative game theory offered a powerful framework for analyzing circumstances where there is no central authority to enforce agreements. Recognizing enduring cooperative arrangements in the real world and equipped with noncooperative game theory, a group of scholars set out to dispel the pessimism of the then-dominant neorealist approach by answering the question of how international cooperation is possible under anarchy.

**Major Themes in the Study of International Cooperation**


Key Assumptions

Before engaging key issues and themes, it is important to be explicit about the major assumptions underlying ICT. First, the international system is anarchic, meaning that there is no central enforcement (Milner, 1991; Powell, 1994). However, ICT avoids the all too common fallacy of equating anarchy with conflict and instead leaves the question of whether and when anarchy results in conflict or cooperation as something to be demonstrated in the theory. Second, ICT began with a focus on states as unitary actors. While nonstate actors and domestic politics undoubtedly matter, they were initially black-boxed in the interest of parsimony. This simplification was advantageous for uncovering a number of fundamental insights but, as discussed later, it obscured how those insights may relate to other actors and domestic mechanisms. Third, ICT assumes that states act according to a more general conception of rationality—meaning only that they are consistent in pursuing their goals. The content of state goals is left open. Perhaps overreacting to realism and drawing too naïvely on the economism of game theory, early ICT focused on selfish, material interests, such as national security and prosperity, even though the approach can equally encompass ideational and other-regarding considerations (Elster, 1984; Ferejohn, 1991), such as human rights and justice. Fourth, ICT takes the preferences of actors as given and explains outcomes in terms of changes in the environment rather than changes in preferences (Lake & Powell, 1999). This is a methodological rather than a substantive assumption driven by the need to avoid empty tautologies through revealed preference. Often criticized as a weakness of the approach, it is actually a strength that increases the falsifiability of its predictions (Snidal, 2002). Furthermore, only preferences over outcomes are taken as given in ICT, whereas preferences over action (viewed in terms of strategies) may evolve (Powell, 1994). This more general rationality assumption means that ICT can incorporate ideas that help to explain the sometimes seemingly irrational behavior of international actors with reference to their psychological and environmental constraints. Indeed, this is an important area of growth that will be discussed in subsequent sections.

Folk Theorem and the Possibility of Cooperation

ICT disproves the realist assertion that cooperation under anarchy is impossible without hegemony. Theorizing around this question relies heavily on a depiction of anarchy as a prisoner’s dilemma game where everyone’s incentive is not to cooperate even though all would gain from mutual cooperation. Using a prisoner’s dilemma (PD) that repeats over time, however, Taylor (1976) overturns this dismal conclusion by showing that the long-term benefit of cooperation—the shadow of the future—creates incentives for rational actors to cooperate in anarchy. Axelrod (1984) provided a parallel evolutionary account of cooperation, which has inspired further related work in agent-based modeling in international politics (Cederman, 1997). The folk theorem generalizes these results to establish the possibility of cooperation in any recurring situation where there are joint gains to be
made from cooperation (e.g., including games such as Chicken and Stag Hunt). But cooperation is not easy. It is never the only equilibrium in a repeated PD game and some of the multiple equilibria do not involve cooperation. Whether cooperation emerges depends on the circumstances and strategic choices of the actors. Much scholarly effort has gone into specifying the conditions under which cooperation is likely and how international regimes and institutions may facilitate cooperation. The volume *Cooperation under Anarchy* (Oye, 1986) provides a framework for systematic exploration of these issues around three factors that influence the likelihood of cooperation: the number of players, the payoff structures, and the iteration of the game. These avenues—particularly the latter two—have become major themes in ICT, which we discuss below.

**Reciprocity and Reputation**

Cooperation is supported in repeated settings because of the possibility of reciprocity: if you cooperate with me, then I will cooperate with you in the future; but if you do not cooperate, then neither will I. If both actors take this position—as in the famous tit-for-tat strategy pairing—then ongoing cooperation is supported against current defection incentives by actors’ interest in maintaining cooperation into the future. This analysis opens up the possibility of cooperation and raises interesting questions regarding the conditions under which strategies of reciprocity promote cooperation. Parallel empirical work (e.g., Goldstein, 1991; Ward & Rajmaira, 1992; Goldstein & Pevehouse, 1997) has shed important light on these conditions.

Reputational considerations provide a related mechanism, which extends a similar logic to actors who do not interact frequently enough for the shadow of the future of their own interaction to support cooperation. Now cooperation is supported not by the limited retaliation from the immediate interaction but by the fact that third parties will be unwilling to cooperate with a defector. Thus, reputation provides a mechanism of diffuse reciprocity (Keohane, 1986), particularly where the number of actors involved makes specific reciprocity difficult.

For reputation to support cooperation, however, defection or cooperation must be observable (Kreps, 1990). If not, cooperation may require an institution that can provide the needed information. Indeed, institutions have been defined as organizational forms that enhance monitoring and information transmission (Greif et al., 1994; Calvert, 1995). In the law merchant system (Milgrom et al., 1990), for example, a trader knows whether his trading partner has been honest or has cheated on a trade. But outsiders cannot readily observe what has transpired in a given bilateral trade unless the law merchant serves as an institutional repository and communicator of information—in which case, the possibility and scope of cooperation are both expanded.

Does reputation actually matter in international politics? Some scholars are suspicious of reputational effects. Mercer (1996) argued that although states may be sensitive about their own reputation, other states may not update the reputation of a state based on its past behavior. Similarly, Downs and Jones (2002) claimed that the actual effects of reputa-
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tion are much weaker than we usually expect because states revise their estimates of other states’ reputation only in limited cases.

Others believe that reputation does matter. Sartori (2005) stressed the importance of reputation for effective diplomacy. Consistent with earlier works in ICT, Sartori argued that states strive to establish reputations for honesty in diplomacy, which enhance their ability to resolve future disputes using diplomacy rather than force. Also supporting earlier insights from ICT, Tomz (2007) provided empirical evidence that governments repay foreign debt to maintain a reputation for being reliable, which allows them future access to foreign capital.

Whether reputation matters to states also has become a major theme in international law scholarship. Many international lawyers claim that reputation is a primary mechanism enforcing states’ compliance with international law (e.g., Guzman, 2007). Others are more critical of the reputational effect and suggest that some unpacking of the idea of reputation—whose reputation, and reputation for what?—is necessary for the concept to be useful (Brewster, 2008).

An important mechanism by which reputation effects cooperative outcomes is through trust—ultimately the salience of reputation comes down to whether an actor can be trusted to reciprocate cooperation. Consequently, recent research has focused on the specific role of trust and mistrust in promoting or undermining cooperation. Kydd (2005) models its role in historical cases of interstate cooperation and emphasizes that even where states distrust each other, cooperation can be achieved by states using costly signals of their trustworthiness. By contrast, Acharya and Ramsay (2013) showed that in certain cases even minor misperceptions between actors can undermine cooperation and the role of communication in resolving this problem may be limited. Rathbun (2011) challenged accounts that model trust merely as information about others’ interests by defining trust as an ideological belief about the trustworthiness of others in general—thought of in this way, institutions may play a more minor role in facilitating some kinds of cooperation as trust can stimulate diffuse reciprocity in their absence. Adding to the variety of approaches, trust has been defined elsewhere as a willingness to take risks on the behavior of others (Hoffmann, 2002). This literature suggests a number of potentially fruitful directions of research—including the need to operationalize trust more concretely.

If, indeed, reputation and trustworthiness (sometimes) matter, how can states enhance their reputation? The previously mentioned works primarily stress the importance of consistent international behavior on the part of states. Other works point to domestic politics as a source of credibility. Pioneered by Fearon (1994), scholars have specified how domestic “audience costs” can enhance a country’s credibility (Schultz, 1998; Smith, 1998). In recent developments of this literature, Kertzer and Brutger (2016) outlined two separate logics by which audience costs operate: domestic audiences punish leaders either for inconsistency or belligerency. Other work has sought to specify more precisely the role of costly signals play in building trust. Todd Hall and Yarhi Milo (2012) asked how state leaders evaluate the sincerity of their counterparts and show that leaders do not simply
look at commitments in terms of costly signals but also rely on their personal impressions of one another.

**Different Strategic Settings**

Different payoff structures represent different strategic settings, where the likelihood of cooperation varies (Oye, 1986). Snidal (1985B) argued against too singular a focus on two-player PD and for greater attention to other strategic settings and to other key dimensions of cooperation problems, including the number of strategies available, the number of iterations of the game, the number of players, and the distribution of power among them. To demonstrate that different cooperation problems have very different properties, Snidal shows that PD and coordination situations lead to divergent implications for the institutionalization, stability, and adaptability of regimes and for the role of hegemony in the international system. Similarly, Stein (1983) contrasted dilemmas of common interests, such as the PD game, and dilemmas of common aversions, such as the battle of the sexes game. Although both situations may demand international regimes, regimes perform different functions with different dilemmas. More specifically, regimes that address different problems may have different informational requirements (Snidal, 1985B).

Regimes dealing with coordination problems only need to provide information on actors’ preferences since states have no incentive to deviate from the coordinated equilibrium. However, regimes dealing with the PD type of problem need to provide, in addition to information on preferences, information on players’ behavior because states have incentives to cheat. These ideas about different payoff structures and their implications for international institutions are further developed by Martin (1992B, 1993).

While coordination regimes are relatively easier to maintain, they are not necessarily easy to establish. Krasner (1991) demonstrated that coordination problems can be hard to resolve: even when states agree on the efficiency gains of avoiding the undesirable outcome, distributional considerations lead them to disagree on the preferred outcome. Krasner argues that the outcome will be determined by relative power capabilities: if the powerful benefit from the status quo without an international regime, then no regime emerges. Morrow (1994) showed that distributional problems are particularly difficult to solve when actors have private information about their preferred solutions. Although the actors all may be better off if they share their private information, their distributional concerns prevent them from sharing said information.

Fearon (1998) criticized the ICT tendency to characterize different empirical problems by different strategic settings. Instead, Fearon argued that international cooperation has a common sequential structure that begins with negotiation (as in a coordination game) and follows with enforcement of the agreement (as in a PD game). This approach highlights the difficulty of achieving cooperation in the first place and brings together the issues of distribution and enforcement. It also parallels the lesson of the folk theorem that any cooperation problem is likely to have multiple equilibria—that is, many possible outcomes each of which entail different levels of efficiency gains and different distribution.
Thus, efficiency and distribution problems—and therefore enforcement of and coordina-
tion in selecting equilibria—are always joined in problems of cooperation.

Once we understand international cooperation in a sequential manner, we realize that for-
ward-looking rational actors will condition their behavior in the first bargaining stage on
what they anticipate in the second enforcement stage. If a long shadow of the future
means that an agreement is likely to be enforced in the second stage, then states will bar-
gain particularly hard in the first stage. As a result, as Fearon showed, the shadow of the
future may make cooperation harder in the bargaining stage, countering the long-stand-
ing conclusion from ICT that focuses only on the enforcement stage. Koremenos (2001)
showed, however, that this problem can be attenuated, and cooperation restored, if the
duration of agreements can be renegotiated in the second stage.

The Largely Illusory Problem of Relative Gains

Building on Waltz (1979), Grieco (1988) argued that states do not seek absolute gains (as
ICT presumes) but pursue relative gains defined as maximizing their advantage over oth-
ers. The underlying logic is based on the zero-sum game—where what one gains the other
must lose—so that even if there are absolute cooperative gains among actors, there are
no relative gains. This position was widely endorsed by realists as critically undermining
the ICT project. However, Snidal (1991) exploited the fundamental flaw in the relative
gains logic that zero-sum games only apply to two-actor worlds; with more than two ac-
tors, there are cooperative incentives for every pair of actors to cooperate in order to
achieve relative gains over the other actors. As the overall number of actors becomes
moderately large, these cooperative incentives dominate so that cooperation is not signifi-
cantly impeded by relative gains considerations. Powell (1991) took an alternative tack of
denying that relative gains seeking makes sense and, instead, reworked the relative gains
logic into a concern that current gains may enable your opponent to threaten your securi-
ty in the future. Whichever approach one takes, the concern over relative gains provides
at most a minor modification to ICT and does not undermine it in any significant way. The
relative gains debate also provides a good example in which the precision of mathemati-
cal theory clarifies and shows the limits of verbal theory.

Next, this article will discuss two more significant limitations to international coopera-
tion: one is the large-n problem; the other comes from domestic politics.

The Large-n Problem

Large numbers of actors have contrary implications for cooperation. On one hand, insofar
as public goods are involved, larger numbers expand the possibilities for collective gains.
On the other hand, large numbers of actors are harder to organize in collective action,
and the possibilities for free riding proliferate. The net outcome of these factors depends
on key contextual factors, such as whether actors can differentiate their behavior across
other actors and how good their information is. If actors can perfectly discriminate their
actions, then the large-n situation can be broken effectively down into bilateral arrange-
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ments and readily supported by the folk theorem logic. But if actors cannot discriminate, then cooperators cannot retaliate against noncooperators without hurting other cooperators. Cooperation can now be sustained only by extreme strategy combinations such as “everyone cooperates or else no one will cooperate again,” which are highly unstable in the face of accidents, misperception, misinformation, and renegotiation. Similarly, even if discrimination is possible, its effectiveness depends on having good information about everyone’s actions, which is difficult in large-\(n\) situations. That is why Oye (1986) proposed reducing the number of participants to promote cooperation.

This problem of large \(n\) has received fresh attention in discussions about the trade-off between breadth and depth in multilateralism (Downs, Rocke, & Barsoom, 1998; Gilligan, 2004). Here, a large number of participants in multilateral institutions lead to shallow cooperation because the level of commitments countries make is often determined by the least common denominator. In the rational institutional design volume (Koremenos, Lipson, & Snidal, 2001), a large number of participants may intensify the difficulty with monitoring and enforcement, but it may sometimes mitigate distributional problems by generating additional ways to balance costs and benefits across actors.

**Domestic Politics**

Another factor affecting international cooperation is domestic politics. As discussed, an initial assumption in ICT was that states are unitary actors with domestic politics in a black box. Of course, everyone knows that domestic politics is not irrelevant, and qualitative work on international cooperation often invokes domestic politics. But the early formal work had no way to handle the problem: why sacrifice parsimony for no obvious gain? The implicit hope was that, although domestic politics is relevant, it would not undermine any fundamental findings in ICT.

This situation changed with Robert Putnam’s (1988) two-level games metaphor, which provides an analytical framework to bring domestic politics into the study of international relations. Domestic politics not only complicates international cooperation but also may make cooperation more difficult. In Putnam’s work, legislative constraints can block potential agreement between heads of states. Furthermore, incomplete information regarding domestic veto players may cause negotiation failure or, if agreement is reached, create subsequent difficulties for compliance. Many studies investigate the conditions under which domestic politics facilitates or hinders international cooperation (Mayer, 1992; Evans et al., 1993; Iida, 1993; Schoppa, 1993; Mo, 1994, 1995; Milner, 1997; Milner & Rosendorff, 1997; Pahre, 1997; Tarar, 2001).

Another strand of literature, energized by the democratic peace literature, is more upbeat regarding the impact of domestic politics on international cooperation. Mansfield, Milner, and Rosendorff (2000) claimed that domestic politics—specifically legislative constraints—enable democracies to better cooperate with each other. Their particular explanation is problematic since, once their game theoretic model is correctly solved, legislative constraints no longer enhance democracies to cooperate with each other in trade lib-
eralization (Dai, 2002B). If anything, rather than making democracies dyadically cooperative, legislative constraints give a democracy a monadic bargaining advantage in international trade negotiations (Dai, 2006A).

The broader question remains: do various aspects of democratic institutions positively affect diverse dimensions of international cooperation? As the literature expands, for every paper that says yes another says no. For instance, on the question of whether democracies better fulfill their international commitments, there are positive answers on a broad range of issues including security (Gaubatz, 1996; Morrow, 2007), trade (Mansfield, Miller, & Rosendorff, 2002), investment (Jensen, 2003; Schultz & Weingast, 2003), the environment (Raustiala & Victor, 1998; Neumayer, 2002), and the credibility of commitments in general (Leeds, 1999; Martin, 2000; Lipson, 2003; Svolik, 2006). On the other hand, there are many negative answers regarding the effect of democratic institutions on compliance with international commitments. Gartzke and Gleditsch (2004) argued that democracies are less likely to fulfill security commitments to allies. Busch and Reinhardt (2002) found democracies less likely to comply with General Agreement on Tariffs and Trade (GATT) rulings. Simmons (2000) demonstrated that due to popular pressure, democracies are less likely to comply with Article VIII of the International Monetary Fund (IMF). Weiss and Jacobson (1998), as well as Bättig and Bernauer (2009), found that democracies are not always better able to comply with international environmental agreements. Thus, the right question to ask is not whether but under what conditions democratic institutions positively influence states’ compliance (Dai, 2006B).

Indeed, scholars are increasingly mindful of the dual effects of domestic politics on international cooperation. Dai (2005) modeled states’ compliance with international agreements in terms of domestic interest competition. Channeled through political institutions, domestic constituency is a significant determinant of both the desirable and the not so desirable in compliance behavior. Clearly, international agreements have domestic distributional effects, which may undermine international cooperation. But, under the right circumstances, these domestic distributional effects may also give rise to international cooperation. Indeed, a series of authors (Goldstein, 1996; Oatley & Nabors, 1998; Gruber, 2000; Moravcsik, 2000; Brewster, 2004) document the domestic sources of international agreements in terms of the benefits that they provide certain groups. Mertha and Pahre (2005) examined cases where difficulties in domestic implementation of international agreements may paradoxically make cooperation easier. In their account, common knowledge of the inability of China to enforce intellectual property rights agreements may have led China to agree to these agreements in the first place. Here, domestic politics has opposite effects on international cooperation at the negotiation stage than in the implementation stage, much as the shadow of the future has opposite effects on international cooperation at the bargaining and enforcement stages.

As scholars look into a larger and broader set of domestic elements, the effects they discover on international cooperation are accordingly increasingly varied. Vreeland (2008), asking why dictators who practice torture accede to international law prohibiting torture, argued that domestic power sharing arrangements matter. Lupu (2015) found that more
legislative veto players allow greater effects of international human rights treaties. Mattes and Rodríguez (2014) suggested that single-party and military regimes are relatively advantaged over personalist systems because the former share some institutional characteristics of democracies that are important for sustaining cooperation (such as accountability, limited flexibility, and greater transparency). Going beyond this focus purely on states, other scholars have considered the influence of non-legislative domestic institutions. Powell and Staton (2009) evaluated how the effectiveness of domestic courts influences states in choosing to ratify and comply with human rights conventions—finding that ratification is more likely when judicial institutions are effective. Lupu (2013), examining the varying effects of domestic courts in enforcing international human rights agreements, argued that domestic courts’ enforcement power is conditional on the information environment. Others further unpack domestic interests. For example, Chaudoin (2014) argued that governments’ decision of when to resort to the WTO enforcement mechanisms depends on the strength of pro-compliance audiences.

**International Institutions**

Although ICT began with the question of whether international actors can cooperate without a central sovereign, it has ultimately laid the foundation for the study of central arrangements in the form of international institutions. ICT, regime theory, and the study of international institutions are so intertwined that scholars use the single term “neoliberal institutionalism” to refer to all three. Here we review how ICT contributes to defining and explaining international institutions.

**Definitions**

Krasner (1982) defined international regimes as “principles, norms, rules, and decision making procedures around which actors’ expectations converge in a given issue-area.” This definition has the great virtue of being very encompassing and of not equating regimes with centralized authority—which, of course, is lacking in anarchy. It is also completely vague. But this is its beauty: regime research could proceed without getting hung up on definitional arguments before the phenomenon itself was better understood. Yet such vagueness was ultimately limiting. As ICT developed, it has moved to the somewhat more precise language of international institutions.

This shift connected regime theory to the broader rationalist understanding of institutions as key components of equilibria. Institutions can be seen as including both the formal rules of the game being played as well as the informal common beliefs, expectations, and norms that guide the behavior of the actors within those rules. As in New Institutionalism, the definition of institutions has broadened over time. While North (1990) distinguished between institutions as rules of the game and organizations as groups of individuals that operate within the framework of institutions, Greif (2006) defined institutions in a more encompassing manner as a system of social factors that include rules, beliefs, norms, as well as organizations. Empirically, ICT has focused on formal international
agreements and organizations because they are clearly observable, although their operations may still be hard to pin down. Agreements can be seen as the construction of new rules, and formal IGOs can be introduced as institutional actors with capabilities and goals that also need to be analyzed. Unfortunately, and to its own detriment, ICT has had less to say about the development of informal rules and norms, something constructivists have been much better at and that poses a useful challenge for rationalist approaches.

This analytic definition of international institutions as (components of) equilibria has several important advantages. First, it highlights the duality that institutions are both exogenous and endogenous, a central issue in the New Institutionalism (Shepsle & Weingast, 1984, 1987; North, 1990; Greif, 1994; Calvert, 1995). That is, the study of international institutions is about both (a) how existing international institutions shape and constrain action; as well as (b) how international institutions originate. This raises important (although still only partially answered) questions about institutional change and how and when, for example, endogenous informal rules become exogenous formalized rules. Second, it opens up questions about the choice of institutions in terms of selection among multiple equilibria, about the maintenance of an established cooperative institutional equilibrium against outside shocks, and about the transition from one equilibrium to another more cooperative one. Third, this definition is useful in understanding how rules and organizations are closely linked so that it can be difficult to disentangle their effects (Haas, Keohane, & Levy, 1993), and in facilitating the important effort to bring formal international organizations—which had been left out of the theoretical development over the past several decades—back into institutional theories.

If institutions are equilibria, however, why do we need real institutions as opposed to strictly decentralized action? Do international institutions matter in the sense of having independent effects in constraining states’ behavior? Realists such as the author of Mearsheimer (1995) claim that because international regimes are the products of states and thus derivative of state power, they are epiphenomenal. In a similar vein, realist international lawyers argue that customary international law is epiphenomenal and reflects only incentives of states (Goldsmith & Posner, 2005).

Partly responding to such challenges, recent studies take the duality of international institutions much more seriously (Keohane & Martin, 1995). They address the specific ways in which international institutions constrain state behavior by unpacking the various components and roles of international institutions and by recognizing that international organizations are not merely sites of, but rather agents in, international cooperation (Abbott & Snidal, 1998). Thus, the institutional agenda becomes one of examining how institutional rules and institutional actors change state behavior. Ironically, as a result of a turn toward new but messy cooperation problems such as climate change, recent work has moved away from institutions to the more imprecise terminology of regime complexes. Keohane and Victor (2011), for example, looked at the system of overlapping regimes related to climate governance and pointed to their benefits over a single comprehensive regime due to greater capacity of adaptation.
The next section discusses major works that extend ICT directly into the analysis of international institutions. Whereas prior work on international organizations was largely descriptive, issue specific, and ultimately moribund, a major contribution of ICT is to pose general theoretical questions about international institutions that transcend individual issue areas.

What Do International Institutions Do?

If ICT has shown that cooperation is possible and can emerge spontaneously, both the theory and the record of international politics demonstrate that cooperation is difficult to initiate and fragile once created. By identifying the prerequisites for cooperation, however, ICT thereby also identifies what is missing from or obstructing cooperation where it does not arise. Rational actors can then use institutions, or design new ones, to overcome these obstacles and promote international cooperation.

Consider the use of institutions to create issue linkage. In a repeated game, actors can cooperate with one another if the shadow of the future is long enough but that requires a minimum density of interactions that actors may not share on a given issue. International institutions can therefore promote cooperation by linking different issues together to create a situation similar to a repeated game (McGinnis, 1986; Lohmann, 1997). Institutions can also increase the benefits of cooperation by orchestrating mutually advantageous trades across issues. Sebenius (1983) showed that adding issues can yield joint gains that create or enhance a zone of possible agreement. For example, environmental issues, which are more important to postindustrial states, are often linked to issues of development to secure the participation of developing countries. In her study of international sanctions, Lisa Martin (1992A; see also Drezner, 1999) highlights the importance of international institutions in promoting issue linkages by providing a framework for side payments among sanctioning states. Likewise, Davis (2004) found that issue linkage through international institutions counteracts domestic obstacles to agricultural liberalization by broadening the negotiation stakes. Finally, linkage can be either direct as through specific punishment on one issue of bad behavior on another or indirect as when states stake their reputations (as discussed in the section on Reciprocity and Reputation above).

Simulating a repeated game, however, is not sufficient to induce cooperation. In order to make future benefits contingent on current cooperation, current behavior must be observable. International institutions thus strengthen cooperation by enhancing transparency (Mitchell, 1994A). Simply agreeing on a rule regarding what constitutes cooperation can be an important first step in getting states to change their behavior to the prescribed cooperative actions and in provoking and justifying retaliation against noncompliance (and therefore ensuring compliance in the first place). International institutions also provide compliance information in diverse ways. For example, the International Atomic Energy Agency carries out both routine and special nuclear inspections; in contrast, human rights treaty organizations rarely go beyond collecting governmental self-reports. Dai (2002A) argued that the choice of monitoring arrangements is determined by states’ in-
terests to protect victims of noncompliance as well as the availability of noncompliance victims as low-cost monitors. In other cases, formal IGOs play an important role by adjudicating state actions, as when the World Trade Organization (WTO) Dispute Settlement Mechanism (DSM) determines whether trade rules have been violated. However, the DSM has no direct enforcement capacity and relies on authorizing decentralized enforcement by WTO members. This preserves the spirit of anarchy in the sense of no centralized enforcement even as it introduces a more nuanced view of how centralized international institutions that lack enforcement capacity can nevertheless play an important role in facilitating and orchestrating compliance with international rules.

Design Features of International Institutions

Because international institutions can enhance cooperation through mechanisms such as promoting issue linkage or providing necessary information, states therefore create institutions to solve their collective action problems. But institutions vary tremendously in form and a lot of work in ICT has focused on explaining this variation. In an influential early contribution Ostrom (1990) examined the nature of cooperation problems created by common pool resources (finite resources that require protection against over-utilization) to illustrate how these have been resolved in various settings through different types of voluntary organization. This work has influenced a number of theoretical developments in ICT, particularly in relation to design, and Keohane and Ostrom (1995) address these contributions explicitly. Along these lines it has been shown that institutional solutions can be formal or informal (Lipson, 1991; Stone, 2013; Vabulas & Snidal, 2013), or soft or hard (Abbott & Snidal, 2000) depending upon the precise nature of the cooperation problem. For example, states codify some mutual understandings into treaty law, while leaving other understandings in the realm of customary international law. Koremenos et al. (2001) investigated the diverse design features of formalized international institutions, including their membership rules, the scope of issues covered, the centralization of tasks, rules for controlling the institution, and the flexibility of arrangements. They explain these variations as deliberate institutional designs that enable states to ameliorate cooperation problems in diverse areas from trade to air regulation to transboundary environmental issues. The design choice for an issue depends on its characteristics, including the prospects for efficiency gains, distributional problems, the number and heterogeneity of states involved, and uncertainty about the state of the world, other actors, or behavior. Sharing the general logic that states construct international institutions to advance their goals, Smith (2000) explained the variation of governing structures in regional trade pacts, while Dai (2002A) explained the variation of monitoring arrangements in treaty regimes.

In more recent developments of this design agenda, Thompson (2010) looked at the extent to which flexible institutions result from uncertainty and concluded that even though uncertainty plays a role, distributional concerns and the relative bargaining power of states are also important. Stone (2011), meanwhile distinguishes between formal and informal power in international institutions suggesting that powerful states provide weaker states with more formal control in order to enhance the legitimacy of the institution,
while weaker states accept the informal influence of the more powerful states. Related to these more theoretical developments, a great deal of empirical work has emerged in the early 21st century that focuses upon the design of international trade agreements and investment treaties. Allee and Peinhardt, (2014), for example, account for variation in the design of bilateral investment treaties in terms of the bargaining power and preferences of capital-exporting states. Elsewhere, Dür, Baccini, and Elsig (2014) measured agreement depth, while Kucik and Reinhardt (2008) considered the flexibility and rigidity dimension of trade agreement design. Finally, Stone, Slantchev, and London (2008) elucidated the trade-off between breadth and depth as a function of hegemony.

These works build on ICT to explain variation in institutional arrangements as rational designs by states using international institutions to advance their interests. They also extend ICT through their emphasis on the broad range of additional factors that affect strategic settings, including domestic complexities and state power. Crucially, the design approach takes a first step toward explaining institutional origins and change by moving beyond the somewhat empty functionalist language that is sometimes erroneously equated with the rationalist approach to focus on the intentional sources of institutions.

As a result, the design approach has recently broadened from considering the causes of design choices to also explore their consequences. A focus here has been on investigating empirically the consequences of certain design choices with respect to trade agreements, particularly in terms of depth and rigidity (Johns, 2014). Elsewhere, Cooley and Spruyt (2009) addressed the downstream implications of agreement flexibility for states engaging in sovereign transfers through the lens of an incomplete contracting framework. Pelc (2009) evaluated the welfare effects of agreement flexibility at the WTO.

**Effects of International Institutions**

Regardless of why states design and create them, what effects do international institutions have? Do international institutions help states resolve their collective action problems by promoting compliance with agreements? Studies on compliance, in particular, specify causal mechanisms by which international institutions induce states to comply with international agreements.

Do states comply and why? Different answers hold different implications for understanding international institutions. The managerial school (Chayes & Chayes, 1993) differs from the mainstream rationalist literature in emphasizing capacity building and rule interpretation over changing incentives as the primary role of international institutions; it is generally optimistic about the effectiveness of international institutions. In contrast, the enforcement school (Downs et al., 1996) stressed the need for enforcement and coercive sanctions, as it found these sanctions lacking and is correspondingly pessimistic. Despite the protracted debate between the managerial and enforcement schools, a more realistic assessment is Tallberg’s (2002) finding that a combination of coercive and problem-solving strategies has induced state compliance with European Union directives. This
reminds us that the rationalist ICT program can be usefully supplemented by related understandings of international cooperation.

There is a vast empirical literature on compliance and the effects of international institutions spanning many issue areas. An illustrative example is Oran Young and others’ investigations of the effectiveness of international environmental regimes (e.g., Mitchell, 1994A; Young, 1994, 1997, 1999; Bernauer, 1995; Schreurs & Economy, 1997; Helm & Sprinz, 2000; Underdal & Hanf, 2000; Hovi, Sprinz, & Underdal, 2003; Underdal & Young, 2004). Even in international security, formerly the exclusive preserve of realist anarchy, scholars increasingly address how institutional features of alliances, ceasefire agreements, or laws of war shape military cooperation (Leeds, Long, & Mitchell, 2000; Fortna, 2003; Leeds, 2003; Leeds & Savun, 2007; Morrow, 2007; see also the earlier discussion linking domestic regimes to compliance with international commitments). These examples illustrate the penetrating impact of ICT on the entire international relations discipline.

While no brief review can do justice to the voluminous insights generated in the large empirical literature, it is clear that empirical studies provide much of the basis for the continuing effort to specify causal mechanisms for institutional effects. Increasingly, scholars examine international institutions in a broader range of strategic settings. Simmons (2000) argued that international institutions raise the cost of noncompliance and thereby enable complying governments to send signals to the market. Kelley (2004) compared two mechanisms by which international institutions influence states’ behavior and finds that membership conditionality is more effective than socialization-based efforts. Highlighting domestic dynamics, Dai (2007) argued that international institutions influence national policies through empowering domestic constituencies. Chapman (2007) and Fang (2008) modeled how international institutions provide informational clues to domestic audiences and thereby alter domestic politics. Simmons (2009) found that human rights treaties constrain states because they help mobilize domestic stakeholders.

Works on indirect effects of international institutions are closely related to the literature on domestic politics and international cooperation discussed above. Works reviewed in the section on DOMESTIC POLITICS, including Vreeland (2008), Powell and Staton (2009), Lupu (2013, 2015), and Chaudoin (2014) among others, all speak to the domestic conditions that may facilitate or prohibit the effects of international institutions. This line of research continues to uncover previously underspecified channels of influence.

Distribution and Domestic Sources of International Institutions

ICT has been criticized, with some justification, for paying insufficient attention to distribution and power (Wendt, 2001). Its original problematic of cooperation under anarchy implicitly treated the achievement of order through international regimes as a public good that benefited all (Kindleberger, 1973). While Keohane (1984), for instance, recognized the distributive issues at stake, the literature emphasized efficiency explanation for international regimes in promoting cooperation. Despite attention to coordination problems,
bargaining, relative gains, and distributional issues in design as noted above, distributional issues and conflicts have not been sufficiently prominent. This benign view of cooperation in turn deemphasizes the importance of power. But of course, institutions are often tools of redistribution, and Knight (1992) argues that distributional effects of social institutions are central to understanding their development and change.

To correct the insufficient attention paid to power and distribution by early ICT then, more recent work has refocused on these issues (albeit without drawing the same overly pessimistic conclusions of neorealism), Gruber (2000), for example, contends that power asymmetries, rather than undermining cooperation entirely, can mean that some international cooperative arrangements work to the disadvantage of some participants: where powerful states have the ability to go it alone, weaker states must choose the lesser evil between being left out of an international institution or joining it, even when both options leave them worse off compared to the status quo. In a similar vein, Oatley and Nabors (1998) explained the 1987 Basle Accord on banking regulations as a case of a powerful state using international agreements for redistributive purposes. In particular, the United States redefined the choice set to transfer income from Japanese commercial banks and compensate American commercial banks for the costs of domestic regulation. While many other works view the powerful as a driving force behind international institutions (e.g., Ikenberry, 2001), Gruber (2000) and Oatley and Nabors (1998) drive home the point that international institutions are sometimes used by the powerful as tools of redistribution. In their view, international institutions are not just bargains that reward participants unequally but may actually diminish the welfare of some. Abbott and Snidal (2000) offered a more benign but still distributive view that weaker states accept unfair deals in return for the stability and protection provided by international law. In more recent work along these lines, Sampson (2016) showed how institutional design can be shaped by relative power dynamics, with powerful, rising states in particular able to take advantage of the development of initially limited institutions over time in order to shift distributional outcomes in their favor. While these works bring power considerations into ICT, they differ sharply from standard realist perspectives in emphasizing the continuing importance of cooperation even when it leads to asymmetric distributions, as well as the centrality of institutions in shaping the impact of power.

These works extend ICT by viewing international redistribution as another key driver of international institutions but also by pointing to domestic sources for international redistribution. Downs and Rocke (1995) examined how domestic uncertainty shapes the design of international trade institutions. Goldstein (1996) found that the Free Trade Agreement between the United States and Canada helped to strengthen the executive in controlling a bureaucracy with protectionist preferences. Moravcsik (2000) argued that newly democratic states joined the European human rights regime to stabilize their domestic political status quo against nondemocratic threats. More generally, Brewster (2004) suggested that the demand for international institutions may indirectly come from providing certain domestic interest groups with policy advantages.
Institutional Change

Adding to the broadening of the design agenda but also closely related to issues of distribution, recent research considers the mechanisms and processes by which institutions evolve. Historical institutionalists in particular have provided an important qualification to the rational design agenda by pointing to the timing and sequence of events as central to shaping institutional outcomes (Fioretos, 2011, 2016). While this can be seen as a challenge, ICT may actually benefit from internalizing some of these critiques. As illustration Jupille, Mattli, and Snidal (2013) combine standard rationalist theory with historical institutionalist accounts through the bounded rationality assumption and offer a theoretical framework to explain why and how institutions emerge, evolve, and persist. In coming at this problem from a more traditional rationalist approach Morse and Keohane (2014) pointed to the ways in which institutional creation is driven by competition between existing multilateral institutions. Finally, another strand of this literature points to the reasons why institutions may be changed or created because existing institutions are no longer be considered fit for purpose, perhaps because they fulfill different objectives to those initially intended by their designers. This work is discussed in more detail in the next section on INSTITUTIONS AS INDEPENDENT ACTORS.

Institutions as Independent Actors

While continuing to demonstrate the central role of institutions in facilitating cooperation among states, attention has turned to the role of institutions as independent actors. In addition to continued exploration of the principle agent problem that arises from delegation of powers to institutions from states (Elsig, 2011), new research points to the ability of institutions to undermine states through a different mechanism: orchestration of sub-state actors. Abbott, Genschel, Snidal, and Zangl (2015) showed how international organizations are able to leverage their limited resources to increase their autonomy from states.

Elsewhere the growing regulation literature also emphasizes the sometimes negative effects of independent institutional action; for example Büthe and Mattli (2011) highlighted the trend toward delegation of international regulatory authority to private-sector organizations and pointed to the political nature of global rule making. Elsewhere Barnett and Finnemore (1999) argued that the power to make rules from which institutions derive independent power can also make them unresponsive and ineffective at the tasks for which they were originally designed. In a similar vein Guzman (2013) pointed to the problematic aspects of institutional autonomy that he terms the “Frankenstein Problem” by which states lose control of the institutions that they create: this, he suggests, partially explains why there are so many IOs and why they vary so widely in scope. Green and Colgan (2013) found that to avoid this problem states tend to delegate functions to institutions with lower sovereignty costs, such as implementation and monitoring, but rarely delegate rule making and enforcement.

In contrast to these approaches Drezner (2014) emphasizes the positive aspects of independent institutional action with reference to the crucial role of international institutions
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in mitigating the effects of the financial crisis. Helfer and Voeten (2014) meanwhile used the European Court of Human Rights’ role in promoting LGBT rights as an illustration of the active role that institutions can play in driving policy change in states. Adopting a similar approach Fang and Stone (2012) modeled the ways in which international organizations independently exert influence on policymaking elites. The difference in emphasis between those that highlight the negative and positive aspects of institutional independence suggests that exploration of the more normative aspects of international cooperation is an area which might present fruitful opportunities for further research.

The Future of ICT as a Progressive Research Tradition

It is difficult to end our discussion because ICT is a continuing and evolving research program; any synopsis will be quickly out of date. Instead of a conclusion, this article points toward several ongoing trends, needs, and possibilities for the ICT research program.

First, while the easy gains of theoretical progress through adapting results from game theory have largely been harvested (though they are surely not yet exhausted), there are several other stimuli for further theoretical progress. Some stimuli are internal to the ICT research program and involve pursuing its theoretical logic into more detailed analyses of specific cooperation issues. Important examples highlighted above include ongoing work incorporating domestic politics into ICT, examining the role of IOs as independent agents, and exploring the design features of specific international institutions in detail. Other stimuli are external as alternative approaches, especially constructivism, emphasize different aspects of international cooperation (and its failures) for which rational approaches do not yet provide a satisfactory explanation. These different stimuli often come together in raising questions regarding institutional change and creation, which have largely eluded all perspectives to date. While there are natural tensions between different approaches, there are also complementarities including, above all, a common concern to better understand international cooperation.

An important external stimulus increasingly comes from work in psychology on the nature and limits of decision making; in ICT this has led to work that has focused on developing or qualifying the rationality assumption traditionally associated with cooperation theory. Much of this work has centered on identifying the consequences of actor’s psychological limitations by modeling seemingly irrational behaviors as “errors” or “deviations” (Carlsnaes, Risse, & Simmons, 2013). In a number of areas this has led to employment of bounded rationality to explain counterintuitive outcomes, Skovgaard Poulsen for example (2013) uses bounded rationality to explain why states adopt investment treaties despite the high sovereignty costs that they incur for doing so. Elsewhere this research has taken a different tack by identifying fundamental biological constraints on actor decision making. Kuo, Toft, and Johnson (2015) returned to the study of bargaining games through evolutionary game theory, arguing that territorial conflicts in international relations follow a strategic logic but one defined by the cost-benefit calculations.
that prevailed in humans’ evolutionary past. There has also been promising work on testing these psychological biases through experimentation (Kertzer & McGraw, 2012) though questions relating to the external validity of these results persist.

Another important direction for research in this vein has been to consider how to model the effects of emotion on the behavior of international actors. Though this work challenges ICT’s emphasis on the rational actor model, related research is making it increasingly clear that emotion and rationality are related in practice. Consequently, there exist opportunities for new developments to be explored within ICT without discarding the methodologically useful assumption of consistent preferences. McDermott (2004) proposes a model of decision making that incorporates the notion of “emotional rationality” by arguing that emotional processing is an inherent part of rationality itself—emotion facilitates quick and accurate decision making. In applying these ideas to the field of international cooperation more specifically, Hall (2011) considered the role of anger in diplomacy and suggests that anger makes certain issues sensitive and volatile—and thus outside the realm of standard bargaining interactions. Elsewhere Mercer (2010) argued that a belief in another’s commitment to cooperation depends on actor’s interpretation of evidence and actor’s assessment of risk—both of which rely on emotion. Relating these insights to conflict Ross (2013) argued that institutions tasked with reducing violence cannot afford to assume that emotions are an obstacle rather than resource for conflict resolution. Mercer (2014) broadened analysis of emotions to groups and contended that group-level emotion is powerful, pervasive, and irreducible to individuals. People do not merely associate with groups (or states); they can become those groups through shared culture, interaction, contagion, and common group interest.

In addition to these theoretical developments, there continues to be extensive empirical scholarship dedicated to both testing and refining the ICT program. This work is likely to provide continuing grist for advancing ICT. While there have been complaints that this style of work tends to shy away from the big questions (in the context of international political economy, see Weaver, 2009), that danger can be overcome by keeping the research program tightly connected to the big questions that originally motivated ICT and that continue to be important problems both theoretically and in the world.

A great deal of new empirical research has begun to move away from questions of centralization and to return to analyzing forms of decentralized cooperation (albeit in ways that often also incorporate institutions) through network analysis. This research has tended to focus on issues such as the relationships between particular governance institutions or the influence of network neighbors on state behavior. It emphasizes positionality—an actor’s location within particular networks and relates structures to outcomes by measuring the specific structural properties of networks. It also introduces the idea of network power (Hafner-Burton, Kahler, & Montgomery, 2009). Questions addressed by network research include how the position of an actor in a particular network influences its behavior compared to its geographical location (Zhukov & Stewart, 2013) or how particular networks facilitate the exercise of power in international institutions (Merand, Hofmann, & Irontelle, 2011). In a return to questions of design, Kinne (2013) showed how bilateral
agreements constitute an evolving network of cooperative ties and that these networks define the strategic environment in which states bargain.

Such work suggests that ICT has important policy implications for how we can promote international cooperation through better policies and by designing better institutions—as well as for general issues of international and global governance. Of course, there is a need to avoid the hubris of assuming that the simple models and theories of ICT can solve the world’s problems. Because its results are at a fairly abstract and general level, ICT does not offer immediate solutions to specific problems. But it does provide important insights—including broad guidelines for how to approach solutions to cooperation problems—that can be usefully conveyed to the policy community. We now know much more about the possibilities of cooperation and about the associated institutional needs; it is irresponsible not to make such knowledge more widely available. In doing so, ICT must continue overcoming its statist heritage (states as actors) by recognizing the greater complexities of, and possibilities for, international governance raised by the inclusion of other actors. ICT has already taken important steps in this direction by incorporating domestic politics to a greater degree and by recognizing the agency of international organizations; it has more work to do in incorporating NGOs and private actors such as firms that play an increasing role in private-public partnerships at the global level. This will engage ICT with a host of new regulatory issues that are emerging at the international level precisely because the (domestic) state is no longer able to manage transnational issues alone (Mattli & Woods, 2009).

Finally, ICT needs to be connected to the normative issues that have always been important but usually unspoken in its development. Although it is possible to study topics such as cooperation and institutional design from a mainly positive perspective—for example, without evaluating the ends being pursued by actors—in fact, much of our research is implicitly motivated by a concern to make things better (Reus-Smit & Snidal, 2008). Especially if ICT is to be used for policy purposes, it must be married to careful consideration of what should be the goals of cooperation (see Diehl et al., 2003 on the interaction of normative and operating systems in international law). Similarly, for an analysis of topics such as distribution and power to have any real bite, we must evaluate the distributive effects and the ends to which power is being used. Thus, while ICT has been successful as a positive theory, it can be even more successful and much richer by expanding its normative side.

**References**


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