

AN ITERATIVE PERSPECTIVE ON TREATIES: A SYNTHESIS OF INTERNATIONAL RELATIONS THEORY AND INTERNATIONAL LAW

John K. Setear

Copyright © 1996 by the President and Fellows of Harvard College; John K. Setear

Like sixteenth-century Protestants, the practitioners of law and economics have gone from heretics to Defenders of the Faith in a remarkably short time. The economic analysis of law has transformed a veritable host of legal subjects: torts, contracts, anti-trust law, civil procedure, property, corporations, securities, and, increasingly, even health and environmental regulation. Thus far, however, the icons of international law have remained largely undisturbed by microeconomic analysis. Indeed, international legal scholarship remains in serene isolation even from internationally oriented theories of political science—despite the fact that the international legal system, lacking a centralized enforcement body with reliable coercive authority, must depend upon politics for its efficacy far more than does any body of domestic legal rules.¹ This

Acting Professor of Law, UCLA School of Law. Support for this research was provided by the Yale Project on Civil Liability, the UCLA Center for International Relations, the UCLA Academic Senate, and the Ford Foundation. Kenneth Abbott, Peter Arenella, Kimberle Crenshaw, Julian Eule, Carole Goldberg-Ambrose, Gerald Lopez, Andrew Moravcsik, Gary Schwartz, Anne-Marie Slaughter, Clyde Spillenger, Phillip Trimble, Jon Varat, John Wiley, and Stephen Yeazell provided extremely useful input on an earlier draft. William Aceves and Juliann Allison provided invaluable research assistance.

¹ The disconnection between international legal scholarship and the realities of international relations has led to criticism of international law from within. See Phillip R. Trimble, *International Law, World Order, and Critical Legal Studies*, 42 STANFORD L. REV. 811, 813 (1990) (arguing that the positivist rule-based approach to international legal scholarship "was clearly incomplete, and against the background of a war-torn, disorderly world it veered off into an unrealistic idealism"); David Kennedy, *A New Stream of International Law Scholarship*, 7 WIS. INT'L L.J. 1, 3 (1988) (criticizing twentieth-century scholarly output in international law as bound in "European doctrinal formalism"). See generally Robert Bork, *The Limits of "International Law"*, NAT'L INTEREST, Winter 1989/90, at 3 (criticizing international law as not really law at all); DANIEL PATRICK MOYNIHAN, ON THE LAW OF NATIONS 172-77 (1990) (discussing criticism of international law by others, though himself adopting a favorable view of the potential of legal and moral frameworks in international relations).

The best summary of the trends and counter-trends in the relationship between international relations (IR) theory and

Article takes a step towards remedying the dual isolation of international legal scholarship from economic theory and from theories of international politics by applying one particular theory of international relations (IR) to the law of treaties, and by arguing that this application has greater predictive and evaluative power than views of the law of treaties previously advanced by international legal scholars.

The IR theory of Institutionalism, earlier known as "Regime theory," already combines an economic mode of analysis with international politics.² In this Article, I use Institutional theory-in particular aspects of that theory concerned with the notion of "iteration"-to illuminate international law, especially treaties. By way of introduction, I summarize in Part I the work of others who have attempted to integrate Institutionalism and international law, and I note the ways in which this piece differs from this previous work. In Part II of the Article, I describe the "law of treaties," which is the set of procedural and substantive rules generally governing the formation and interpretation of treaties. I discuss two theoretical justifications-one focused on consent and the other on legitimacy-that international lawyers have advanced for the law of treaties. Each justification, however, has significant flaws in terms of its intellectual coherence. Parts III, IV, and V of the Article therefore pursue and develop an additional explanation and justification for the law of treaties-the iterative perspective-which holds that the law of treaties, as well as the provisions of particular treaties, should encourage repeated interactions among nations and the adoption of certain strategies tending to lead to international cooperation. Part III of the Article describes Institutional theory, especially the role played by the concept of "iteration." In Part IV, I derive from Institutional theory an "iterative perspective" on treaties. Because this iterative perspective accurately predicts crucial aspects of the law of treaties and is sharply focused on a clear central concept, such a perspective offers important advantages over the consent- and legitimacy-oriented perspectives on the law of treaties discussed in Part II. Part V contends that the iterative perspective correctly predicts important aspects of treaties *beyond* the general, procedural aspects governed by the law of treaties, and provides extensive evidence of provisions in the texts of a wide variety of particular treaties predicted only by the iterative perspective.

international legal scholarship is by Anne-Marie Slaughter, whose earlier work appears under the last name of "Burley." Anne-Marie Slaughter Burley, *International Law and International Relations Theory: A Dual Agenda*, 87 AM. J. INT'L L. 205, 207-20 (1993); See also Kenneth W. Abbott, *Modern International Relations Theory: A Prospectus for International Lawyers*, 14 YALE J. INT'L L. 335, 337-38 (1989) (discussing "estrangement" between international law and IR). I discuss various aspects of these pieces in more detail below. See *infra* part I.A.

² Institutionalists draw upon the work of economists and game theorists (chiefly concerning problems of collective action and the Prisoner's Dilemma) to emphasize the conditionality of international cooperation and the role that international institutions may play in allowing such cooperation to develop. I discuss the assumptions and assertions of Institutionalism at greater length below. See *infra* part III.

Through its various explorations and analyses, this Article makes a number of significant contributions to the literatures of international law and of international relations. Most generally, in attempting to blend IR theory with international law, the piece adds another voice to the small if growing chorus of those seeking to integrate international law with theories of international politics. More specifically, the piece is the first attempt to understand a whole range of international legal behavior-treaties-from an Institutionalism perspective. Other authors have examined either particular treaties or the abstraction of "international law" from an Institutionalism perspective. Each approach, however, is open to criticism, either as too particularistic to lead to conclusions of widely applicable utility, or as too sweeping for conclusions of sufficient concreteness, respectively. This Article attempts to apply interdisciplinary analysis to international legal topics at an intermediate level of generality by examining the law of treaties, and in general, with the assistance of Institutionalism theory. Analysis at this intermediate level of generality allows sufficient specificity without entirely sacrificing a broad perspective. This piece is also the first to apply an iteration-oriented view to any international legal issue—indeed, the first piece to trace through the implications of an iterative perspective on *any* particular international institution. In so doing, the Article demonstrates the richness and practicality of Institutionalism as a source for making important predictions or arguments not only about international law, but also about international relations more generally.³

Any interdisciplinary effort makes extra informational demands upon the reader, who may be unfamiliar with at least one of the disciplines discussed. (Indeed, readers of traditional law reviews might well be substantially unfamiliar with *both* disciplines discussed here.) I have attempted to minimize such demands by focusing my discussion in several ways. First, I examine only that portion of international law known as "public," as opposed to "private," international law.⁴ Furthermore, although public international law looks to at least three main sources for its

³ As a collateral benefit of its examination of pre-existing perspectives on the law of treaties, the Article also provides the first extended analysis of the law of treaties from the legitimacy-oriented perspective. The legitimacy-oriented view has previously focused on only one norm in the law of treaties: the (crucial) notion of *pacta sunt servanda*. See *infra* part II.B.2. The Article thereby expands the elaborated domain of a subtle and interesting theory into important new territory.

⁴ Public international law typically involves the actions of governments, such as a treaty of military alliance, while private international law typically involves the actions of corporations or individuals, such as a contract between an American corporation and a French corporation for the sale of the latter's office building in France. The distinction, advanced by Joseph Story in 1834, has become less useful over time, but still persists to some degree. See generally MARK W. JANIS, AN INTRODUCTION TO INTERNATIONAL LAW 169 (1988) (describing Story's work in this area). Some now describe what once might have been "private international law" as "international business transactions," while

rules (custom, treaty, and organizations), I discuss only one such source: treaties. As to attempting to minimize the burden upon the reader resulting from the IR-theory portion of this interdisciplinary endeavor, I have chosen to discuss only a single theory (Institutionalism) and to focus upon a single concept within that theory (iteration).

I. INSTITUTIONALISM AND INTERNATIONAL LAW

This Part summarizes previous work seeking to combine Institutionalism with international law, and distinguishes the current Article from these previous efforts.

Three scholars of international law have attempted to examine the relationship between that discipline and Institutionalism: Kenneth Abbott, Edwin Smith, and Anne-Marie Slaughter. Kenneth Abbott has surveyed Institutionalism and noted its potential applicability to international legal scholarship.⁵ Edwin Smith has applied Institutionalism, as well as other strands of IR and domestic legal theories, to delineate a theory of "dynamic obligations."⁶ Anne-Marie Slaughter has noted the close conceptual parallels between relatively recent scholarship in international law and in Institutionalism, and has suggested an agenda for scholarship combining law and international regimes (as well as suggesting an alternative law-and-IR agenda drawing on Liberal IR theory).⁷

Abbott broke the interdisciplinary ice with his 1989 *article Modern International Relations Theory: A Prospectus for International Lawyers*.⁸ Focusing almost exclusively on Institutionalism,⁹ Abbott urges international lawyers to go beyond comparisons of state behavior and legal norms by also exploring the gains states seek in international agreements, the allocation

others simply use the phrase "international law" to describe what would traditionally have been called "public international law."

⁵ Abbott, *supra* note 1.

⁶ Edwin M. Smith, *Understanding Dynamic Obligations: Arms Control Agreements*, 64 S. CAL. L. REV. 1549, 1557-64, 1571-74, 1583-86 (1991). In addition to the writings of IR theorists, Smith draws upon Thomas Franck's work on legitimacy in international relations, See THOMAS M. FRANCK, *THE POWER OF LEGITIMACY AMONG NATIONS* (1990), as well as the teachings of various theorists of domestic jurisprudence.

⁷ Burley, *supra* note 1.

⁸ Abbott, *supra* note 1.

⁹ The "modern" IR theory of Abbott's title is Institutionalism. See Abbott, *supra* note 1, at 338 ("The development of regime theory and related theories of international cooperation-what I call modern IR theory-offers a long-overdue opportunity to re-integrate IL [international law] and IR."). Abbott acknowledges those aspects of Institutionalism that draw upon Realism, another (and in some ways more prominent) school of IR theory, but his gaze is firmly upon the regimes that are the focus of Institutionalism. See text accompanying *infra* notes 182-189.

of functions among various candidate institutions, and the proper design of incentive structures.¹⁰ Although Abbott provides a wealth of examples of international legal methods that can broaden the palette of cooperative options available to nations,¹¹ his piece tends simply to list these international legal options, rather than applying Institutional theory to them to any extent.¹² Such a trade-off seems perfectly defensible, of course, in a piece that was the first to apply a complex and sometimes ill-defined theory to another discipline, and that was intended mostly to serve as a "prospectus" to encourage others to examine that theory in the context of their own particular interests.

Abbott himself undertook a more focused study in a later piece examining provisions in

¹⁰ Abbott, *supra* note 1, at 341.

¹¹ See, e.g., Abbott, *supra* note 1, at 341 ("In analyzing the widespread adoption of the [Limited Test Ban Treaty] and [Nuclear Non-Proliferation Treaty], economic models might be more useful: both conventions can be interpreted as institutional arrangements designed to improve the outcome of unregulated market-like interactions."); *Id.* at 362 ("In the area of [international] economics, predatory 'beggar-thy-neighbor' policies typically reflect the [Prisoner's Dilemma] ... [and] include the classic optimum tariff, other strategic trade policies designed to capture rents, competitive exchange rate devaluations, and similar policies designed to alter capital flows.") (footnotes omitted); *Id.* at 367 (noting importance of monitoring in iterated Prisoner's Dilemma and stating that "[n]on-intrusive techniques such as reporting requirements, 'transparency' rules, and consultation obligations, surveillance techniques (the IMF and, increasingly, the GATT), decentralized verification procedures (the recent INF treaty), and centralized monitoring procedures (IAEA safeguards under the NPT)-all contribute to improved monitoring.") (footnotes omitted). In contrast to many Institutionalists, Abbott distinguishes public-goods problems from the Prisoner's Dilemma, but he notes the prevalence of international legal efforts in this area: "Examples [of subject matter for actual or proposed legal regimes] include the oceans (fish, whales and other marine life, navigation routes, seabed minerals, sites for dumping waste, and other ocean resources); Antarctica; the atmosphere; the ozone layer; outer space; the moon and other celestial bodies; geostationary orbits; and the frequencies of the radio spectrum." *Id.* at 380; See also *Id.* at 386 (discussing efforts to minimize public-goods problems with cursory treatment of the International Energy Agency, the IMF, GATT, and the U.S.- Canada Free Trade Agreement).

¹² See Abbott, *supra* note 1, at 387 (devoting a paragraph to law of the sea); *Id.* at 400 (devoting a paragraph to Uruguay Round in GATT); *Id.* at 408- 10, *passim* (discussing Limited Test Ban Treaty and Nuclear Non-Proliferation Treaty as illustrations of various phenomena identified by Institutionalism).

arms-control treaties that govern the production of information.¹³ Taking the game-theoretical concept of the "Prisoner's Dilemma" and a related though distinct game known as "Stag Hunt" as his starting points,¹⁴ Abbott derives two different kinds of defection, which he labels "offensive" and "defensive," that should concern rational nations entering into treaties against the background of a Prisoner's Dilemma.¹⁵ He argues that "verification" provisions (such as those governing on-site inspections) reflect a desire to prevent offensive defection, while "assurance" provisions (such as those obliging a nation to produce a database on its own forces) reflect an effort to minimize defensive defections.¹⁶ Abbott then explores the "rational design hypothesis," which encourages analysts to compare theoretically optimal designs with the realities of actual international phenomena.¹⁷ In Abbott's view, rationally designed treaties should typically contain provisions addressing offensive and defensive defection.¹⁸ Abbott concludes that the series of arms-control agreements reached since the middle 1960s in fact uses verification and assurance obligations to address offensive and defensive defections, respectively.¹⁹

Edwin Smith has also used Institutional theory to explain state behavior with respect to arms-control agreements. Drawing upon the Institutional underpinnings discussed below,²⁰ Smith notes a number of structural features of arms-control agreements that undercut the relevance of the static, formalistic analysis that Smith believes is typical of international legal

¹³ Kenneth W. Abbott, *"Trust But Verify": The Production of Information in Arms Control Treaties and Other International Agreements*, 26 CORNELL INT'L L.J. 1 (1993).

¹⁴ See *Id.* at 5-12 (discussing iterated Prisoner's Dilemma); *Id.* at 20-22 (discussing Stag Hunt).

¹⁵ An offensive defector hopes to be able to defect while others continue to cooperate, while a defensive defector wishes to avoid cooperating when others begin defecting. See *Id.* at 16 (discussing offensive defection); *Id.* at 20, 23 (discussing defensive defection).

¹⁶ See *Id.* at 17 (discussing linkage between offensive defection and verification); *Id.* at 23-24 (discussing linkage between defensive defection and assurance).

¹⁷ Someone exploring the "rational design hypothesis" first asks what the object under scrutiny, i.e., treaties, would look like if a rational designer had purposefully created that object, and then compares the actual object to the hypothetical, rationally designed object. Abbott's version of "rationality" is that adopted by Institutional IR theorists. *Id.* at 1-2. The extent to which the actual and hypothesized objects match is the extent to which the empirical evidence supports the rational design hypothesis.

¹⁸ See *Id.* at 25-30.

¹⁹ See *Id.* at 30-31 (listing treaties). Abbott also includes a discussion of the Treaty on Conventional Forces in Europe, which, as its name implies, does not govern nuclear weapons. *Id.* at 30-53.

²⁰ See *infra* part III.

scholarship.²¹ Smith emphasizes that, within an anarchical international system, one must allow flexibility and dynamism in the interpretation of agreements—at least when, as with arms control, the agreements not only regulate complex, developing technologies but also involve the fundamental security interests of the parties.²² Moving specifically to the implications of Institutionalism for bilateral nuclear arms control,²³ Smith argues that we can best understand nuclear arms-control agreements between the United States and the Soviet Union as a dynamic regime, rather than as a series of fixed obligations interpreted through a strictly legalistic framework. Over time, these agreements both created and reflected obligations with which the parties complied, in an expression of mutual interest forged in the international political arena and tempered by the need to guard against the continuing temptation to violate the agreements. Unsurprisingly, in Smith's view, the need to prevent this latter possibility resulted in legal documents that included extensive mechanisms for monitoring compliance with the substantive rules of the agreement and that created a bilateral institution for dispute resolution.²⁴

Slaughter takes a much broader view than Abbott's and Smith's tightly focused studies of arms-control efforts. She tells the post-war intellectual story of both IR theory and international law, with careful attention to the development in international law of many of the concepts later employed by Institutionalists (and employed by them, for better or worse, without reference to international law).²⁵ Institutionalist elaborations of assertions about the lessening of "information" and "transaction" costs offered by regimes, for example, echo the functionalist theoretical apparatus of international law developed over the past few decades by Louis Henkin, Abram Chayes, and others.²⁶ Indeed, says Slaughter, Institutionalist definitions of

²¹ Smith, *supra* note 6, at 1557-64, 1575-83. Smith also draws upon the theory of "relational" contracting employed by those examining domestic contract law, *See Id.* at 1583-91, as well as theories of "obligation" advanced by scholars examining international law, *See Id.* at 1567-75.

²² Smith, *supra* note 6, at 1560-64.

²³ Smith, *supra* note 6, at 1591-98.

²⁴ Smith, *supra* note 6, at 1598-1603.

²⁵ As Burley states:

Although frustrating to many international lawyers, the early regime theorists' insistence on deriving a theory of international institutions from Realist premises was a clever strategic move within political science. Reinventing international law in rational-choice language stopped the traditional "Realist-Idealist" debate cold. "Efficiency and transparency" are hardly legalist-moralist sentiments....

In the end, disciplinary one-upmanship must remain secondary to the central point: even without coercion and thus the requirement of central enforcement, legal rules and decisionmaking procedures can be used to structure international politics.

Burley, *supra* note 1, at 220, 221.

²⁶ Burley, *supra* note 1, at 213-14 (discussing pragmatic and process-oriented views of Chayes and Henkin).

"regime"—such as the widespread and long-standing description of regimes as the "principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue-area,"²⁷ or a more recent definition of regimes as "[f]ormal international organizations and *codified* rules and norms"²⁸ —are just one reflection of the degree to which "[political scientists have rediscovered international law, explaining its function and value to their fellow scholars in terms very similar to those long used by international lawyers."²⁹ Given the near-identity of more sophisticated recent efforts in international law and the Institutionalist inquiry, Slaughter briefly outlines four potential lines of inquiry for joint scholarship in Institutionalism and international law: distinctions between legal and non-legal regimes, organizational design, compliance, and international ethics.³⁰

This Article, like the work described above, takes the perspective that the intersection of Institutionalism and international law can provide fruitful insights into the latter. Smith's and Abbott's articles, which use an Institutionalist perspective to illuminate particular treaties are especially relevant to—if nonetheless distinct from—this Article. Like Abbott's study of information production in arms-control agreements, I examine a portion of Institutionalist theory in detail and then analyze a particular area of international law (the "law of treaties") in depth.³¹ Like Abbott, I conclude that the "organizational" design of the area of the law under examination is consistent with Institutionalist principles. Like Smith (and Slaughter), I am sensitive to the multiple theoretical currents flowing beneath the surface of international law, and so I examine two theoretical perspectives distinct from Institutionalism—a consent-oriented perspective and a legitimacy-oriented perspective—as competitors with the Institutionalist-derived view of the

²⁷ Stephen D. Krasner, *Structural Causes and Regime Consequences: Regimes as Intervening Variables*, 36 INT'L ORG. 185, 185 (1982).

²⁸ ROBERT O. KEOHANE, *INTERNATIONAL INSTITUTIONS AND STATE POWER* vii (1989) (emphasis added). Keohane's definition also includes less formal sources such as international institutions, though these less formally derived rules are not, in this view, part of regimes.

²⁹ Burley, *supra* note 1, at 220; See also *Id.* at 217-20 (discussing Institutionalism and its parallels with functionalist international legal thought).

³⁰ Burley, *supra* note 1, at 219-20. Slaughter also employs Liberalism, another theory of international relations, in order to criticize the dominant Realist paradigm and to provide a theoretical flooring to international legal inquiry. See *Id.* at 226-38 (describing Liberalism, comparing its virtues with those of Institutionalism, and setting forth an agenda for combining Liberalism and international law).

³¹ This sort of enterprise is what Slaughter has in mind when she suggests "organizational design" as one line of inquiry for joint scholarship in Institutionalism and international law. Indeed, Slaughter cites Abbott's piece on information production as "an exemplar of this [organizational design] approach." Burley, *supra* note 1, at 223 n.90.

law of treaties.³² Like Abbott and Smith, I rely on arms-control agreements for many of my examples.

The insights that I explore in this part, however, also differ in important ways from what has come before. Abbott inferred the importance of various types of defection from the game-theoretical underpinnings of Institutionalism, and then examined the implications of that inference for information production in arms-control agreements. I infer the importance of the concept of "iteration" from the game-theoretical underpinnings of Institutionalism, and then examine the implications of that inference for the law of treaties in Part IV and for various provisions in particular treaties in Part V. The differences between Abbott's and my approaches are a matter not only of the aspect of game theory that we examine, but also of the breadth of international legal rules that we examine. The arcaneness of the arms-control agreements surveyed by Abbott or Smith may reduce the applicability—or at least the accessibility—of the resulting analyses. I personally consider arms-control agreements quite important, but in any event, the broader focus of this Article allows discussions of many other types of treaties; a discussion of the law of treaties in fact implicitly concerns almost every treaty. At the same time, my focus is somewhat more specific than that of Slaughter, who assays the whole breadth of the fields of international law and international relations after World War II. By focusing my analysis upon the law of treaties and upon treaties generally, I examine an area of intermediate abstraction—broader than the sub-set of treaties involving arms control that especially concern Abbott and Smith,³³ but significantly narrower than the examination of international law as a whole undertaken by Slaughter. I hope thereby to generate insights that are less susceptible to criticisms of either excessive particularity or excessive abstraction. In any event, as a significant and ever-growing area of international law, treaties are a subject matter exceedingly worthy of examination.

³² I should note, however, that Smith, and perhaps Slaughter, consider legitimacy-oriented views as part of the larger stream of recent scholarship generally supporting the Institutional view. See Smith, *supra* note 6, at 1568-71 (discussing H.L.A. Hart's theories of legal obligation), 1571-75 (discussing Thomas Franck's theories of legitimacy in international law); Burley, *supra* note 1, at 223 n.91 (mentioning, in her discussion of organizational design, both legitimacy- and transparency-oriented views). I view legitimacy-oriented theories as distinct from, and in competition with, the "iterative perspective" that I derive from the game-theoretical framework underlying Institutionalism. See *infra* part IV.B.1 (contrasting iterative perspective with legitimacy-oriented view).

³³ In one sense, however, my work is narrower than Smith's endeavor, because Smith examines the domestic legal theory of relational contract, See Smith, *supra* note 6, at 1583-86, whereas I do not. Smith also emphasizes the benefits of non-formal and non-legalistic views of international agreements, while I stress the virtues of definition and formality that the law of treaties provides to international cooperation embodied in treaties.

II. THE LAW OF TREATIES AND TWO (FLAWED) JUSTIFICATIONS THEREFOR

This part of the Article describes the law of treaties and recounts two theoretical justifications for the law of treaties that international legal scholars have previously put forth. Each justification, one based upon consent, the other based upon legitimacy, has significant flaws. Part III describes Institutional theory and Part IV uses that theory to advance what I call the "iterative" perspective—a different, and in many ways superior, justification for the treaty process.

A. *The Law of Treaties*

An international treaty, like other legal documents, is a textual specification of legal obligations. Just as statutes result both from laws governing the legislative process and set forth rules of law for citizens to follow, a treaty results both from a general process governed by rules of law and itself sets forth particular rules of law. The body of legal rules generally governing the treaty process is known as "the law of treaties."³⁴ The Vienna Convention on the Law of Treaties (Vienna Convention or Convention)³⁵ codifies long-standing customary law governing the validity and interpretation of treaties between nations.³⁶

³⁴ See, e.g., JANIS, *supra* note 4, at 14-15 (defining "law of treaties" as "set[ting] forth the accepted rules respecting the making, the effect, and the amendment, invalidity, and termination of agreements among states"); See also MALCOLM N. SHAW, INTERNATIONAL LAW 560 n.1 (discussing various definitions of "[l]aw of [t]reaties").

³⁵ Vienna Convention on the Law of Treaties, May 23, 1969, U.N. Doc. A/Conf. 39/27 at 289 (1969), 1155 U.N.T.S. 331 [hereinafter Vienna Convention or Convention]. This Convention entered into force on January 27, 1980. Although the United States is not a party to the Convention, the U.S. Department of State has recognized the Vienna Convention as the "authoritative guide to current treaty law and practice." S. EXEC. DOC. L., 92d Cong., 1st Sess., at 1 (1971). The relevant *Restatement* "accepts the Vienna Convention as presumptively codifying the customary international law governing international agreements . . ." RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES pt. III, intro. n.2 (Tentative Draft No. 6, 1985).

³⁶ For simplicity's sake, I refer to potential treaty parties as "nations." Such entities are the exclusive focus of the Vienna Convention. See Vienna Convention, *supra* note 35, art. 1 ("The present Convention applies to treaties between States."). Another, substantively quite similar instrument sets forth the law of treaties involving international organizations that are composed of nation-states but formally possess a distinct legal status, such as the United Nations. See Vienna Convention on the Law of Treaties Between States and International Organizations or Between International Organizations, Mar. 21, 1986, U.N. Doc. A/Conf. 129/15 (1986), 25 I.L.M. 543 (setting forth rules); MICHAEL AKEHURST, A MODERN INTRODUCTION TO INTERNATIONAL LAW 124 (1987)

The law of treaties recognizes three critical events in the treaty process: signature, ratification, and termination.³⁷ By their signatures, negotiators indicate that a particular text is the authentic expression of their labors. A signatory is obliged to comply with any provisions clearly intended to apply immediately, such as clauses expressly describing substantive obligations to be undertaken before entry into force³⁸ or setting forth the procedures that the parties are to use in binding themselves fully to all substantive obligations of the treaty.³⁹ More

(discussing extensive similarities between two conventions on the law of treaties). Political sub-divisions of a state may sometimes enter into treaties. See JANIS, *supra* note 4, at 16. I do not separately discuss the rules governing any treaties except those among nations.

International organizations not composed of nation-states, such as Amnesty International, do not enter into "treaties," nor do individuals or corporations.

Entities eligible to enter treaties thus correspond to the entities that have traditionally been the focus of international law generally. See RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES pt. I, ch. 1 intro. n. (1986) [hereinafter RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW] ("The principal entities of the international political system are states."); SHAW, *supra* note 34, at 41 ("International law reflects first and foremost the basic state-oriented character of world politics.").

³⁷ For the sake of simplicity, I present these phases as if all nations are always involved in the same phase at a given time, but for the sake of accuracy, I should note that the foregoing need not be the case. While one nation is involved in ratification, for example, another nation could still be deciding whether to sign the treaty. However, in light of the fact that a large number of nations typically sign the treaty simultaneously, and that entry into force occurs only after a certain number of nations has ratified the treaty, my initial presentation of the treaty process as a set of orderly phases is hardly a gross distortion.

³⁸ According to Paul Reuter, the legal basis for compliance with such provisions lies in the "consent implicit in the very adoption of the treaty." PAUL REUTER, INTRODUCTION TO THE LAW OF TREATIES 53 (Jose Mico & Peter Haggemacher trans., 1989). This type of provision is frequently found in treaties establishing international organizations; such treaties typically provide for the immediate creation of a commission to prepare the constitution and operation of the organization. *Id.* For another example of such a provision, See Canada-U.S. Free Trade Agreement, Dec. 23, 1987, Can.-U.S., 27 I.L.M. 281, Annex 1901.2(1) [hereinafter CUSFTA] ("Prior to entry into force ... Parties shall develop a roster of individuals to serve as Panelists [for resolving disputes].").

³⁹ Such provisions by their nature "apply from the time of the adoption of [a treaty's] text." Vienna Convention, *supra* note 35, art. 24(4).

generally, a signatory must "refrain from acts which would defeat the object and purpose of [the] treaty."⁴⁰

Unlike the law of domestic contracts, a nation's signature on a treaty typically does not by itself bind that nation to all the terms of that treaty.⁴¹ A nation is affirmatively bound by the obligations contained in a treaty only when that treaty "enters into force," an event which generally does not occur until a sufficient number of signatories have "ratified" the agreement.⁴²

⁴⁰ Vienna Convention, *supra* note 35, art. 18; See also RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 36, § 312 cmt. i (suggesting that weapons testing in contravention of SALT II clause might violate "object and purpose" of treaty). Elias refers to this doctrine as one aspect of the fundamental principle enshrined in the maxim *pacta sunt servanda*. T.O. ELIAS, *THE MODERN LAW OF TREATIES* 26 (1974); See *infra* part II.B.1.b (discussing *pacta sunt servanda* as justification for obedience to treaties).

⁴¹ JANIS, *supra* note 4, at 17. Occasionally, however, signature is sufficient by itself to constitute full consent to be bound by a treaty. See Vienna Convention, *supra* note 35, art. 12(1) (describing circumstances in which signature expresses full consent); ELIAS, *supra* note 40, at 24 (stating that nations bind themselves by signature alone only in context of informal international agreements, such as exchanges of notes relating to economic or technical matters).

⁴² For examples of more traditional treaties, that is, treaties under which signatures denote partial consent and ratification full consent, See U.N. CHARTER art. 110, ¶ 1; Treaty Between the United States of America and the Union of Soviet Socialist Republics, June 19, 1979, U.S.-U.S.S.R., art. XIX, para. 1, S. EXEC. DOC. Y, 96th Cong., 1st Sess. (1979) [hereinafter SALT II Treaty]; Treaty on Non-Proliferation of Nuclear Weapons, July 1, 1968, art. IX, para. 2, 21 U.S.T. 483, 729 U.N.T.S. 161 [hereinafter NPT].

I use the word "ratified" here because ratification is in fact the most typical way in which nations express their full consent to be bound by the provisions of a treaty. See JANIS, *supra* note 4, at 18-19, 22. Ratification is, however, not the only way for a nation to express its full consent. The Vienna Convention states that a nation may express its full consent by "signature, exchange of instruments constituting a treaty, ratification, acceptance, approval or accession, or by any other means if so agreed." Vienna Convention, *supra* note 35, art. 11 (emphasis added); See IAN BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* 606-08 (4th ed. 1990); SIR IAN SINCLAIR, *THE VIENNA CONVENTION ON THE LAW OF TREATIES* 39 (1984). As explained above, signature, which article 11 mentions as one method for expressing full consent, only rarely does so in practice. See *supra* note 41 and accompanying text. As to the other terms mentioned in article 11, the Vienna Convention defines not only "ratification" but also "acceptance" and "approval" as an "international act so named whereby a State establishes on the international plane its consent to be bound by a treaty." Vienna

The default rule requires ratification by *every* signatory for a treaty to enter into force.⁴³ Parties to a treaty are, however, free to adopt a different rule⁴⁴ and provide that ratification by a subset of signatories is sufficient for the treaty to enter into force.⁴⁵ In any event, once the requisite number of nations has ratified a treaty, each nation's stated *intention* to be bound, as expressed in

Convention, *supra* note 35, art. 2, para. 1(b). The Convention conflates these terms, along with the "exchange of instruments," in its article describing which entity's receipt effectuates such consents, *Id.* at art. 16. See generally REUTER, *supra* note 38, at 47-48 (describing distinctions among these four terms as meaningless in international law); BROWNLIE, *supra*, at 606-08; SINCLAIR, *supra*, at 39. Finally, "accession" is defined in article 2(b) of the Vienna Convention as having the same effect as ratification, acceptance or approval but is reserved to describe the traditional method by which a state becomes a party to a treaty to which it is not a signatory. ELIAS, *supra* note 40, at 25.

The differences among these terms may be of some importance to the parties, however, as when an exchange of instruments not only serves as an expression of full consent but also makes certain additional representations. See CUSFTA, *supra* note 38, art. 2105 ("This Agreement shall enter into force on January 1, 1989 upon an exchange of diplomatic notes certifying the completion of necessary legal procedures by each Party.").

⁴³ See Vienna Convention, *supra* note 35, art. 24, para. 2 ("Failing any [provision in the treaty respecting entry into force], a treaty enters into force as soon as consent to be bound by the treaty has been established for all the negotiating States.") (emphasis added).

⁴⁴ See Vienna Convention, *supra* note 35, art. 24, para. 1 ("A treaty enters into force in such manner and upon such date as it may provide or as the negotiating States may agree.").

⁴⁵ See, e.g., Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, art. 17, para. 1, U.N. Doc. UNEP/IG.53/Rev. 1, S. TREATY DOC. NO. 9, 99th Cong., 1st Sess. (1985), T.I.A.S. 11,097 (entered into force Sept. 1, 1988) [hereinafter Ozone Convention] (of 47 signatories, 20 must consent prior to entry into force); Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, art. XXI, 27 U.S.T. 1087, 1105 [hereinafter CITES] (of 101 signatories, ten must consent prior to entry into force); International Convention for the Regulation of Whaling, Dec. 2, 1946, art. X, para. 4, 62 Stat. 1716, 161 U.N.T.S. 72, as amended, Nov. 10, 1948, T.I.A.S. 1849, U.N.T.S. 72, and Nov. 19, 1956, 10 U.S.T. 952 [hereinafter ICRW] (of 14 signatories, six must consent prior to entry into force). Some treaties differentiate among various ratifying nations. See U.N. Charter, art. 110, ¶ 3 (contemplating entry into force upon ratification by all five permanent members of Security Council, together with a majority of other signatory states); NPT, *supra* note 42, at art. IX, para. 3 (contemplating entry into force after ratification by three Depositary states and at least 40 other signatories).

its ratification, becomes an *obligation* to treat the treaty as "binding upon the parties to it and [to be performed by them in good faith."⁴⁶ Ratification may also indicate a nation's compliance with its own domestic laws governing ratification,⁴⁷ although the precise interaction between domestic and international law in this situation is complex.⁴⁸

⁴⁶ Vienna Convention, *supra* note 35, art. 26. During the time between ratification and entry into force, the state remains partly bound under the same obligations generated by its signature of the treaty. See Vienna Convention, *supra* note 35, art. 18.

⁴⁷ In the case of the United States, for example, domestic law typically requires formal action by the federal legislative branch before ratification can occur. Some, but not all, "treaties" under the Vienna Convention require the advice and consent of the U.S. Senate, U.S. CONST., art. II, § 2, before the President can ratify them. See generally MICHAEL J. GLENNON, CONSTITUTIONAL DIPLOMACY 170-91 (1990) (arguing that various sources of domestic law greatly constrain the President's ability to enter into binding international agreements without the Senate's consent). Other agreements, known as "congressional-executive" agreements, are "treaties" under international law but may be ratified after a simple majority of both houses of Congress approves. See Louis Henkin, *Foreign Affairs and the Constitution* 173-76 (1972); See also Jack S. Weiss, Comment, *The Approval of Arms Control Agreements as Congressional-Executive Agreements*, 38 UCLA L. Rev. 1533 (1991) (applying precedents in strategic nuclear arms control to question of form in which President must or should submit bilateral agreement on chemical weapons). Historically, the President has submitted to the Senate (as Article II treaties) those international agreements dealing with boundaries, arms control, military alliances, extradition, and investment; the President has typically treated as congressional-executive agreements those international agreements governing trade, finance, energy, fisheries and aviation. See Phillip R. Trimble & Jack S. Weiss, *The Role of the President, the Senate and Congress With Respect to Arms Control Treaties Concluded by the United States*, 67 Chi.-Kent L. Rev. 645, 648 (1991).

The executive branch may also ratify some international agreements without any legislative approval. See HENKIN, *supra*, at 176-84. See generally LAWRENCE MARGOLIS, EXECUTIVE AGREEMENTS AND PRESIDENTIAL POWER IN FOREIGN POLICY 108 (1986) (number of agreements not submitted under Article II has greatly exceeded number submitted for approval of two-thirds of Senate). For general discussions of these different types of agreements, and the limits (if any) on the President's ability to choose among them for the characterization of a particular international treaty, See BARRY E. CARTER & PHILLIP R. TRIMBLE, INTERNATIONAL LAW 134-219 (1991); JANIS, *supra* note 4, at 72-80; RESTATEMENT (THIRD) OF FOREIGN RELATIONS, *supra* note 36, § 303.

⁴⁸ Even if an expression of full consent is *procedurally* invalid as a matter of domestic law, such domestic invalidity is typically not a ground for vitiating a treaty's international

A nation may express its consent to be bound by some, but not all, provisions in a treaty through the use of "reservations." Under the default rule contained in the Vienna Convention, a nation may enter reservations either upon signature or upon ratification.⁴⁹ The parties may, however, override this default rule by specifying in the text of a treaty that no reservations, or only specified reservations, are permitted.⁵⁰ A nation that renders its reservations *too* broadly, however, is considered not to have consented to *any* of the provisions of the treaty.⁵¹

What of the interpretation of concededly binding text? Such interpretation rests upon the "ordinary meaning" of the relevant terms, as supplemented by a wide variety of related

legal effect:

A state may not invoke the fact that its consent to be bound by a treaty has been expressed in violation of a provision of its internal law regarding competence to conclude treaties as invalidating its consent unless that violation was manifest and concerned a rule of its internal law of fundamental importance.

Vienna Convention, *supra* note 35, art. 46(1). A violation is "manifest if it would be objectively evident to any State conducting itself in the matter in accordance with normal practice and in good faith." *Id.* art 46(2); *See also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS, *supra* note 36, § 311(3) (setting forth rule substantially similar to art. 46(1) of the Vienna Convention). The Vienna Convention is even stricter when a nation's consent is procedurally valid but results in a substantive conflict with domestic law: "A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty." Vienna Convention, *supra* note 35, art. 27; *cf.* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 36, § 115(1)(b) (stating that, even if domestic legislation supersedes an existing treaty as the applicable law of the United States, United States is not relieved of its international treaty obligations vis-a-vis other parties to that treaty).

⁴⁹ Vienna Convention, *supra* note 35, art. 19.

⁵⁰ Vienna Convention, *supra* note 35, art. 19(a), (b). For examples of limitations upon reservations, *See* Treaty for Amazonian Cooperation, July 3, 1978, art. XXVI, 17 I.L.M. 1045 (stating that "the present Treaty shall not be susceptible to interpretive reservation or statements."); Ozone Convention, *supra* note 45, art. 18 ("No reservations may be made to this Convention."); CITES, *supra* note 45, art. XXIII(1) (prohibiting "general reservations" but allowing "special reservations" to designation of a given plant or animal species as protected by treaty).

⁵¹ Vienna Convention, *supra* note 35, art. 19(c) (prohibiting reservations "incompatible with the object and purpose of the treaty").

documents and behavior.⁵² If the ordinary meaning is ambiguous, the parties may also draw upon the "preparatory work of [the negotiators of the treaty and the circumstances of its conclusion."⁵³

Under certain circumstances, however, a treaty may be invalid with respect to a particular nation despite that nation's apparently binding signature and ratification. Only the actions of properly authorized representatives of a national government will bind that government;⁵⁴ the law of treaties prescribes in some detail the particular conditions under which an individual is considered an authorized representative of a nation.⁵⁵ Moreover, even actions by a nation's duly appointed representatives cannot bind that government if those representatives have been corrupted,⁵⁶ coerced,⁵⁷ defrauded,⁵⁸ or the victim of a significant error in the treaty.⁵⁹ These

⁵² Vienna Convention, *supra* note 35, art. 31; See also *infra* part II.B.2.a. (discussing indeterminacy of provisions that results from allowing wide variety of permissible sources of interpretation).

⁵³ Vienna Convention, *supra* note 35, art. 32.

⁵⁴ See Vienna Convention, *supra* note 35, art. 12(1) (where consent to be bound by a treaty is to be expressed by signature, a State representative must provide that signature); See also *Id.* art. 10 (absent a contrary intention of the parties, the text of a treaty is authenticated by the signature of State representatives).

⁵⁵ The Vienna Convention provides:

A person is considered as representing a State for the purposes of adopting or authenticating the text of a treaty or for the purpose of expressing the consent of the State to be bound by the treaty if:

(a) he produces appropriate full powers; or

(b) it appears from the practice of the States concerned or from other circumstances that their intention was to consider that person as representing the State for such purposes and to dispense with full powers.

Vienna Convention, *supra* note 35, art. 7(1).

"[F]ull powers" ... [refers to] a document emanating from the competent authority of a State designating a person or persons to represent the State for negotiating, adopting or authenticating the text of a treaty, for expressing the consent of the State to be bound by a treaty, or for accomplishing any other act with respect to a treaty.

ELIAS, *supra* note 40, at 19. *But See also* Vienna Convention, *supra* note 35, art. 47 (representative given authority subject to specific restriction binds nation, despite the restriction, unless other nations notified of restriction before representative's expression of consent).

⁵⁶ Vienna Convention, *supra* note 35, art. 50 ("If the expression of a State's consent to be bound by a treaty has been procured through the corruption of its representative directly or indirectly by another negotiating State, the State may invoke such

invalidities, which involve wrong-doing against a nation, nullify the entirety of the victim-nation's obligations under a treaty. In addition, no state may be legally bound by a treaty that imposes obligations inconsistent with fundamental norms of international law.⁶⁰

The third critical event in the law of treaties is "termination."⁶¹ Once a treaty has entered

corruption as invalidating its consent to be bound by the treaty."). Note that corruption renders a treaty "voidable"; that is, a state "may invoke such corruption." If a state represented by a corrupt agent chooses not to raise that corruption as a defense, then the treaty remains binding. Cf. *infra* note 57 (discussing a "void" treaty).

⁵⁷ Vienna Convention, *supra* note 35, art. 51 ("The expression of a State's consent to be bound by a treaty which has been procured by the coercion of its representative through actors or threats directed against him shall be without any legal effect."). Note that coercion renders a treaty "void"; that is, the treaty "shall be without legal effect." Not only the coerced state, but also any other party to the treaty, may raise the defense in order to excuse itself from what would otherwise be its obligations. The invalidity of coerced actions applies writ large in the subsequent article of the Convention, entitled "Coercion of a State by the Threat or Use of Force": "[a] treaty is void if its conclusion has been procured by the threat or use of force in violation of the principles of international law embodied in the Charter of the United Nations." *Id.* art. 52.

⁵⁸ Vienna Convention, *supra* note 35, art. 49 ("If a State has been induced to conclude a treaty by the fraudulent conduct of another negotiating State, the State may invoke the fraud as invalidating its consent to be bound by the treaty."). Fraud, like corruption, creates "voidable" rights.

⁵⁹ Vienna Convention, *supra* note 35, art. 48 ("A State may invoke an error in a treaty as invalidating its consent to be bound by the treaty if the error relates to a fact or situation which was assumed by that State to exist at the time when the treaty was concluded and formed an essential basis of its consent to be bound by the treaty.").

⁶⁰ Vienna Convention, *supra* note 35, art. 53 (declaring invalid any treaties that conflict with peremptory norms at time of treaty's conclusion); See also *infra* part IV.C.2 (discussing peremptory norms from iterative perspective); cf. text accompanying *infra* note 65 (discussing termination of treaties inconsistent with peremptory norms arising after signature of treaty).

⁶¹ "Termination" involves events occurring after the treaty's entry into force. "Invalidity," discussed above, See text accompanying *supra* notes 54-60, involves events that have occurred before signature or entry into force, but that are discovered only after signature or entry into force. Both invalidity and termination can excuse a nation from its obligations under what would otherwise be a valid treaty.

into force, its default duration is infinite.⁶² Nonetheless, parties to a treaty may override this default rule and specify a date or event upon which its obligations terminate.⁶³ Treaties may also allow a nation to terminate its obligations by following certain procedures, such as providing notice to the proper entity.⁶⁴ The performance of a treaty may conflict with a norm of

⁶² The default duration of a treaty is not expressly specified by the Vienna Convention. Its article 54 states:

The termination of a treaty or the withdrawal of a party may take place:

(a) In conformity with the provisions of the treaty; or

(b) At any time by consent of all the parties after consultation with the other contracting States.

Vienna Convention, *supra* note 35, art. 54. If no terms in a treaty govern its termination, one may infer that its duration is unlimited. Some treaties are expressly of unlimited duration. See, e.g., Treaty on the Limitation of Anti-Ballistic Missile Systems, May 26, 1972, U.S.-U.S.S.R., art. XV, 23 U.S.T. 3435 [hereinafter ABM Treaty] ("This Treaty shall be of unlimited duration."); Agreement on Measures To Reduce the Risk of Nuclear War Outbreak, Sept. 30, 1971, U.S.-U.S.S.R., art. 8, 22 U.S.T. 1590 (same); Treaty Establishing the European Economic Community (EEC), Mar. 25, 1957, art. 240, 298 U.N.T.S. 11 [hereinafter Treaty of Rome] (stating that treaty is "concluded for an unlimited period").

⁶³ See Interim Agreement on Certain Measures With Respect to the Limitation of Strategic Offensive Arms, May 26, 1972, U.S.-U.S.S.R., art. VIII(2), 23 U.S.T. 3462 [hereinafter SALT I Interim Agreement] (stating that treaty shall remain in force for five years unless replaced by more complete measures limiting strategic offensive arms); See also Treaty on the Limitation of Underground Nuclear Weapon Tests, July 3, 1974, U.S.-U.S.S.R., art. V(1), S. EXEC. DOC. N, 94th Cong., 2d Sess. (1976), (treaty to be automatically extended every five years, in five-year increments, unless one party notifies other of its termination six or more months before expiration); cf. NPT, *supra* note 42, art. X(2) (stating in original agreement that 25 years after entry into force, conference shall decide whether treaty shall remain in force indefinitely or be extended for additional fixed period).

⁶⁴ Article 56 of the Vienna Convention discusses this possibility, known as "denunciation" or "withdrawal." Such terminations are allowed if (i) a term of the treaty provides for such terminations; (ii) the parties intended to allow denunciation or withdrawal; or (iii) the nature of the treaty implies a right to such terminations. See Vienna Convention, *supra* note 35, art. 56. Some treaties simply require proper and timely notice for withdrawals. See CITES, *supra* note 45, art. XXIV ("Any Party may denounce the present Convention by written notification ... [to] take effect twelve months after the Depositary Government has received the notification."); ICRW, *supra* note 45, art. XI (providing that any party may withdraw by written notification to depositary government on or before January 1 of a given year, with withdrawal effective on June 30 of that year); Treaty on

international law; if the norm is so fundamental as to pre-empt inconsistent obligations, then the conflict will terminate the treaty, even if the norm was not considered fundamental until after the treaty's entry into force.⁶⁵ Performance of a nation's obligations may become impossible through no fault of that nation,⁶⁶ or, alternatively, an unforeseeable and fundamental change in circumstances may have occurred since the inception of the treaty.⁶⁷ In all these cases,

Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, art. XVI, 18 U.S.T. 2410 (providing that, after treaty has been in force for a year, any party may withdraw by written notification to depositary government, with withdrawal effective one year after such notice). Other treaties impose the additional requirement that the treaty have been in force for a particular length of time. See Convention for the Protection of Human Rights and Fundamental Freedoms, Nov. 4, 1950, art. 65, 213 U.N.T.S. 221 (providing that, after treaty has been in force for five years, any party may withdraw by written notification to Secretary-General of Council of Europe, with withdrawal effective six months after such notice).

For a discussion of the political and bureaucratic constraints upon withdrawal, See Abram Chayes, *An Inquiry into the Workings of Arms Control Agreements*, 85 HARV. L. REV. 905, 957-59, 962-67 (1972).

⁶⁵ See Vienna Convention, *supra* note 35, art. 64 (declaring invalid any treaties that conflict with newly emerged peremptory norms); See also *infra* part IV.C.2 (discussing peremptory norms from iterative perspective).

⁶⁶ See Vienna Convention, *supra* note 35, art. 61 (allowing such termination only if impossibility "results from the permanent disappearance or destruction of an object indispensable for the execution of the treaty" and if impossibility does not result from party's own breach of any international obligation).

⁶⁷ The fundamental-changes doctrine is also known as *rebus sic stantibus*, of which the Vienna Convention provides the following formulation:

A fundamental change of circumstances from those existing at the time of the conclusion of a treaty and which was not foreseen by the parties may not be invoked as a ground for terminating or withdrawing from the treaty unless:

a. The existence of those circumstances constituted an essential basis of the consent of the parties to be bound by the treaty; and

b. The effect of the change is radically to transform the extent of obligations still to be performed under the treaty.

Vienna Convention, *supra* note 35, art. 62(1); cf. NPT, *supra* note 42, art. X(1) (providing that each party has right to withdraw if it decides that "extraordinary events" related to subject matter of treaty have jeopardized its "supreme interests"); SALT II Treaty, *supra* note 42, art. XIX(3) (same). The United States Supreme Court has held that, if the parties themselves decline to

termination effectively occurs through no fault or action of the party released from its obligations.

Termination may also occur as a result of circumstances under the control of at least one of the parties. A declaration of war between parties may suspend or terminate their treaty obligations to one another.⁶⁸ One party's material breach of a treaty allows other parties to terminate their obligations to the breaching party.⁶⁹

B. Previously Advanced Justifications for the Law of Treaties: The Consent- and Legitimacy-Oriented Views

invoke *rebus sic stantibus*, then "a private person who finds the continued existence of the treaty inconvenient may not invoke the doctrine on their behalf." *Trans World Airlines v. Franklin Mint Corp.*, 466 U.S. 243, 253 (1984) (emphasis added). See also *infra* part IV.C.2 (discussing *rebus sic stantibus* from iterative perspective).

⁶⁸ The Vienna Convention withholds comment on this topic: "The provisions of the present Convention shall not prejudice any question that may arise in regard to a treaty from ... the outbreak of hostilities between States." Vienna Convention, *supra* note 35, art. 73. Nonetheless, while hostile relations do not automatically terminate treaties between hostile parties, treaties are in practice often suspended in time of war, whether as a result of a special norm allowing such suspension or as an application of the general rule allowing suspension on the grounds of impossibility or a fundamental change in circumstances. See BROWNLIE, *supra* note 42, at 617; cf. ARNOLD MCNAIR, *THE LAW OF TREATIES* 696 (1961) (arguing that there is no inherent juridical impossibility in forming or continuing treaty relations between hostile parties); Geneva Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 287 (describing obligations towards a nation's enemies that could only arise during wartime). Short of war, nations may sever diplomatic relations with one another, an action that does not affect legal relations under a treaty unless the existence of such relations is "indispensable for application of the treaty." Vienna Convention, *supra* note 35, art. 63.

⁶⁹ See Vienna Convention, *supra* note 35, art. 60(1) ("A material breach of a bilateral treaty by one of the parties entitles the other to invoke the breach as a ground for terminating the treaty or suspending its operation in whole or in part."); *Id.* art. 60(2) (discussing effects of material breach on multilateral treaty); See also Chayes, *supra* note 64, at 957-59 (discussing material breach, as well as withdrawal clause, in context of Limited Test Ban Treaty). The Vienna Convention defines a "material breach" as a repudiation of the treaty as a whole or "the violation of a provision essential to the accomplishment of the object or purpose of the treaty." Vienna Convention, *supra* note 35, art. 60(3).

The law of treaties determines the degree to which a nation is obliged by international law to obey the provisions of a particular treaty. If the rules of the law of treaties possess some unified underlying justification or structure, we may be able to infer a particular goal for these rules. Such an inference might allow wiser resolutions of disputes concerning the rules and inform any general evaluation of their utility. Consider, by way of an example from United States domestic law, the Federal Rules of Civil Procedure concerning discovery. The underlying structure of these rules reflects a desire to allow civil litigants to gather a great deal of information from one another in order to minimize surprise at trial and encourage well-informed decision making during earlier stages of litigation. Given these goals, there should be a judicial presumption in favor of granting a particular discovery request in any dispute over such rules. In evaluating the utility of such rules, we should begin by asking whether they are effective instruments of their goals (i.e., do the rules of discovery in fact minimize surprise at trial and encourage exchanges of information likely to lead to better-in-formed decision making earlier in litigation?). Armed with a general justification for a set of rules, we may then also inquire about the proper value to be attached to their apparent goals in competition with other values (i.e., do the rules of discovery place too much weight upon sharing information at the expense of, say, preventing one litigant from imposing excessive costs upon another litigant?). To make similar inferences or inquiries about the underlying structure of the law of treaties should allow us to conduct similar evaluations.

The sections immediately below examine two conceptions of an underlying structure for the law of treaties. The first focuses upon consent. Although consent is a traditional justification for much of international law, critics argue that the consent-oriented view is internally inconsistent, a criticism that I find telling, though not quite damning. The second conception focuses on legitimacy. The myriad factors that together determine "legitimacy," however, are too indeterminate, taken either individually or collectively, to make this perspective of great use in evaluating the law of treaties. Given the significant flaws in each of these attempts to provide a theoretical justification for the law of treaties, I find it worthwhile, in the next parts of the Article, to develop and advance a third, "iterative" perspective, derived from Institutional IR theory.

1. Consent and the Law of Treaties

a. A Consent-Oriented View of the Law of Treaties

Most international lawyers would probably summarize the underlying structure of the law of treaties in a single phrase: the consent of sovereign nations.⁷⁰ A host of rules in the law of treaties seems designed to ensure the validity of that consent. In a consent-oriented view, the rules governing "full powers," corruption, and coercion seek to ensure that the actions of the assumed agent (i.e., the representative) in fact represent the desires of the principal (i.e., the

⁷⁰ For one discussion of consent-based views, See Smith, *supra* note 6, at 1565-66 and accompanying notes.

nation).⁷¹ The rules governing fraud, error, and coercion against the state seek to ensure that the consent of the nation is freely and fairly given.⁷² Specific and abundant textual support for a consent-oriented view can be found in the Vienna Convention, which frequently describes the impact of a certain phenomenon as "invalidating" the victim-nation's "consent to be bound by the treaty."⁷³ For a treaty to be invalidated, the Convention may require that the victim-nation's consent to be bound by a treaty was actually "procured" through the offending behavior;⁷⁴ that an erroneous assumption "formed an essential basis" of such consent;⁷⁵ or that the victim-state was "induced to conclude a treaty" by the prohibited behavior.⁷⁶ For purposes of the law of treaties, even freely given consent will lack its usual effect if based on false assumptions caused by events that render performance impossible or lead to a fundamental change in circumstances.⁷⁷ Reservations allow, within limits, a nation to modulate its consent according to its precise wishes rather than according to the treaty in its entirety.⁷⁸ The usual need for a nation to register its consent through ratification, even after displaying an expression of consent through signature,

⁷¹ See *supra* notes 55 (discussing full powers), 56 (discussing corruption), 57 (discussing coercion of representative).

⁷² See *supra* notes 57 (discussing coercion against the state), 58 (discussing fraud), 59 (discussing error).

⁷³ Vienna Convention, *supra* note 35, art. 48 ("A State may invoke an error in a treaty as invalidating its consent to be bound by the treaty if the error relates to a fact or situation which was assumed by that State to exist at the time when the treaty was concluded and formed an essential basis of its consent to be bound by the treaty.") (emphasis added); *Id.* art. 49 ("If a State has been induced to conclude a treaty by the fraudulent conduct of another negotiating State, the State may invoke the fraud as invalidating its consent to be bound by the treaty.") (emphasis added); *Id.* art. 50 ("If the expression of a State's consent to be bound by a treaty has been procured through the corruption of its representative directly or indirectly by another negotiating State, the State may invoke such corruption as invalidating its consent to be bound by the treaty.") (emphasis added).

⁷⁴ Vienna Convention, *supra* note 35, art. 50 ("If the expression of a State's consent to be bound by a treaty has been procured through the corruption of its representative directly or indirectly by another negotiating State, the State may invoke such corruption as invalidating its consent to be bound by the treaty.") (emphasis added); *Id.* art. 51 ("The expression of a State's consent to be bound by a treaty which has been procured by the coercion of its representative through acts or threats directed against him shall be without any legal effect.") (emphasis added).

⁷⁵ Vienna Convention, *supra* note 35, art. 48.

⁷⁶ Vienna Convention, *supra* note 35, art. 49.

⁷⁷ See *supra* notes 66 (discussing impossibility of performance), 67 (discussing fundamental changes in circumstances).

⁷⁸ See *supra* part II.A. (discussing reservations).

shows a desire to obtain the consent not merely of a nation's executive branch but also of its legislative branch.⁷⁹

As mentioned above, according to many international lawyers, the phrase "the consent of sovereign nations" would accurately describe the underlying rationale of the law of treaties. In addition to the implications of the word "consent" in that phrase, the "of sovereign nations" portion of the phrase is also relevant. Throughout the discussion of consent in the Vienna Convention, the only actor of relevance is the nation-state. The most concise article states a fundamental fact of treaty law: "Every State possesses capacity to conclude treaties."⁸⁰ International organizations (IOs), the other typical party to a treaty, are simply aggregations of national authority.⁸¹ IOs may conclude treaties only if authorized to do so by the nations that constitute them.⁸² Individuals, in contrast to nations and IOs, typically lack any specific rights

⁷⁹ See *supra* note 47 (discussing role of legislature in ratification process in United States); See also *supra* part II.A (discussing ratification generally).

⁸⁰ Vienna Convention, *supra* note 35, art. 6 (emphasis added); See REUTER, *supra* note 38, at 56 ("Any State has the capacity to conclude treaties. Calling this a right seems to miss the crucial point: in fact it would be closer to the truth to call it a definition."). The Vienna Convention defines a "party" as "a State which has consented to be bound by the treaty, whether or not the treaty has entered into force." Vienna Convention, *supra* note 35, art. 2(g).

⁸¹ An international organization (IO) is "an organization that is created by an international agreement and has a membership consisting entirely or principally of states." RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 36, § 221; See HENRY G. SCHERMERS, INTERNATIONAL INSTITUTIONAL LAW § 52 (1980) ("The most important Members of public international organizations are States. Many constitutions expressly require statehood as a condition for membership."); REUTER, *supra* note 38, at 9 n.26 ("the only members of [international] organizations are States") (emphasis added). Some IOs have classes of membership with limited rights, such as "associate" members, that may include quasi-governmental organizations such as national liberation movements or governments in exile. See SCHERMERS, *supra*, § 142. IOs may also allow nongovernmental organizations to play purely consultative roles. See *Id.* § 151. The dominance of nation-states in IOs leads some to call them inter-governmental organizations (IGOs), in contradistinction to international organizations dominated by private associations or individuals, known as nongovernmental organizations (NGOs). See generally Developments in the Law- International Environmental Law, 104 HARV. L. REV. 1484, 1580-1609 (1991) (describing diverse international environmental arena involving intergovernmental organizations, nation-states, and nongovernmental organizations).

⁸² Vienna Convention on the Law of Treaties Between States and International Organizations or Between International Organizations, *supra* note 36, art. 6 ("The capacity of an

both under international law generally and under treaties specifically.⁸³ As treaties either involve national governments directly, or indirectly through IOs, treaties at their core are *always* agreements between national governments.

The focus on the consent of sovereign states as the theoretical underpinning of the law of treaties makes sense not only as a matter of inference from the rules of the Vienna Convention, but also as an acknowledgment of international realities. In contrast to most domestic systems, one cannot rely on coercive measures ordered by some centralized international body; no such body exists. If one recharacterizes the anarchical international system as a series of interactions among sovereign nation-states, then, as Louis Henkin notes, consent becomes a clear candidate for an organizing principle in international law generally:

The essential quality of Statehood in a State system is the autonomy of each State. State autonomy suggests that a State is not subject to any external authority unless it has voluntarily consented to such authority. The State has a "will," moral authority, the power to consent, to enter into relations, to conclude agreements, to form associations. By their ability to consent, to have relations and conclude agreements, States have in effect created the international political system, by a kind of "social contract." By their ability to consent to external authority and to conclude agreements, they have created norms and institutions to govern these relations, the international law of the system.⁸⁴

Even if some kinds of international law do not seem so expressly dependent upon consent,

international organization to conclude treaties is governed by the rules of that international organization.").

⁸³ See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 36, pt. II, intro. n. ("Although individuals and corporations have some independent status as persons in international law, the principal relationships between individuals and international law still run through the state, and their place in international life depends largely on their status as nationals of states."); See *also supra* note 36 (discussing importance of nation-state in international law). But See *infra* note 92 (discussing growing role of individuals in trade and human-rights law).

⁸⁴ Louis Henkin, *International Law: Politics, Values and Functions*, 216 RECUEIL DES COURS D'ACADEMIE DE DROIT INTERNATIONAL [R.C.A.D.I.] 27 (1989) (footnotes omitted). The Permanent Court of International Justice has similarly stated:

International law governs relations between independent States. The rules of law binding upon States therefore emanate from their own free will as expressed in conventions or by usages generally accepted as expressing principles of law and established in order to regulate the relations between these co-existing independent communities or with a view to the achievement of common aims. Restrictions upon the independence of States cannot therefore be presumed.

S.S. Lotus Case (Fr. v. Turk.), 1927 P.C.I.J. (ser. A) No. 10, at 18.

certainly treaties, with their emphasis on written, negotiated texts, seem especially grounded in consent. The notion of *pacta sunt servanda*, incorporated in article 26 of the Vienna Convention⁸⁵ and typically translated from the Latin as "treaties are to be obeyed,"⁸⁶ underlines the importance of consent:

The idea of consent to a promise is very powerful evidence that the rule is "binding" upon the consenting parties. It therefore should come as no surprise that one of the most basic principles of international law is the principle of *pacta sunt servanda*—that is, that nations are bound to keep the promises they make.⁸⁷

As a matter of both textual inference and international reality, therefore, consent has much to commend it as a general justification for the law of treaties and as an explanation of many of its particular provisions.

b. An Important Difficulty with the Consent-Oriented View

The use of consent as a theory to undergird the law of treaties potentially involves a crucial inconsistency. If consent is the basis of treaties, then how can treaties purport to bind a nation that wishes to withdraw its consent?⁸⁸ To give effect to such at-will withdrawals of consent, however, would dramatically undermine the binding force of treaty provisions. Certainly one would need to rework the concept of *pacta sunt servanda* significantly, abandon presumptive limits on reservations, and remove the restraints on termination. Indeed, a treaty's entry into

⁸⁵ See Vienna Convention, *supra* note 35, art. 26 (entitled "*Pacta sunt servanda*" in English-language version) ("Every treaty in force is binding upon the parties to it and must be performed by them in good faith.").

⁸⁶ See, e.g., Abram Chayes & Antonia Chayes, *On Compliance*, 47 INT'L ORG. 175, 185 (1993) [hereinafter Chayes & Chayes, *On Compliance*] ("It is often said that the fundamental norm of international law is *pacta sunt servanda* (treaties are to be obeyed)."); JANIS, *supra* note 4, at 11 ("[T]he basic principle of treaty law, the norm that treaties are legally binding, *pacta sunt servanda*, is itself a rule drawn from the customary practice of states.").

⁸⁷ BURNS H. WESTON ET AL., INTERNATIONAL LAW AND WORLD ORDER 44 (1990). Note that Weston and his co-authors characterize *pacta sunt servanda* as "one of the most basic principles of international law" generally, not just as a basic principle of treaty law. See also Chayes & Chayes, *On Compliance*, *supra* note 86, at 185 (stating that "the fundamental norm of international law is *pacta sunt servanda*").

⁸⁸ For various formulations of this criticism, See Smith, *supra* note 6, at 1566-67; BARRY CARTER & PHILLIP TRIMBLE, *supra* note 47, at 19; JOHN L. BRIERLY, THE LAW OF NATIONS: AN INTRODUCTION TO THE INTERNATIONAL LAW OF PEACE 51-54 (H. Waldock ed., 6th ed. 1963).

force would essentially have no effect, since a nation could withdraw from its resulting "obligations" by withdrawing its consent. The rules on interpretation and termination would become superfluties as well.⁸⁹ Yet to argue that the law of treaties rests upon consent and *not* give effect to withdrawals of consent is to say that obligations at time A stem from valid consent, but remain in force at a later time B despite the withdrawal of the consent that sanctified the obligations in the first place. Such a position strikes many as logically inconsistent. Thomas Franck has addressed this point in the context of the rule of *pacta sunt servanda*, with reference to contractual analogies and the decentralized nature of international law:

"Why are treaties binding?" is a question usually answered by the superficial assertion that "treaties are binding because states have agreed to be bound." This explanation has its counterpart in domestic law. Contracts, which are often regarded as analogous to treaties, are also said to be binding because the parties have agreed to be bound. But this characterization of treaties as primary rule-based obligations is misleading, as is the analogy to contract. If two persons enter into a contract, it is binding because the law has defined the requirements of a valid commitment and, if those are met, it is *the law* which imposes a binding obligation on the parties. Thus contractual obligation cannot be explained by the mere agreement of the parties. Neither can the obligation of parties to a treaty be explained merely by their mutual consent Rather, "*rules* must already exist providing that a state is bound to do whatever it undertakes by appropriate words to do." Such rules about treaties are now actually found in a global text defining the law of treaties, which declares that *pacta sunt servanda* ("treaties are binding"). But the binding force even of that statement cannot emanate solely from the agreement of the parties. It must come from some ultimate unwritten rule of recognition, the existence of which may be inferred from the conduct and belief (*opinio juris*) of states.⁹⁰

If one prizes consistency⁹¹ and accepts this criticism, then one can explain the law of treaties only partly as a matter of consent. Alternatively, perhaps one cannot *coherently* explain *any* portion of the law of treaties as based upon consent.

This inconsistency in the consent-based view is telling, but not entirely damning. I see nothing casuistic in the argument that parties to a treaty consent not only to particular terms but also to the general notion that their consent may not be withdrawn. In interpersonal relations not governed by contractual law, for example, one may still be understandably upset if another party

⁸⁹ A nation would consent *vel non* to a particular interpretation. If dissatisfied with a consensus interpretation of a provision, the dissenting nation could simply terminate unilaterally all of its obligations under the contested provision.

⁹⁰ THOMAS FRANCK, *supra* note 6, at 187 (footnotes omitted) (emphasis in original) (quoting H.L.A. HART, *THE CONCEPT OF LAW* 219 (1961)).

⁹¹ *But See* RALPH WALDO EMERSON, *Self-Reliance*, in *ESSAYS: FIRST SERIES* 37 (Everyman's Library ed. 1906) (1841) ("A foolish consistency is the hobgoblin of little minds, adored by little statesmen and philosophers and divines.").

treats his or her promises as weightless; in international relations, one may imagine the same reaction. In both cases, the normative justification for anger at those who treat their promises too casually must be that freely given consent has some binding force that persists even if the initially consenting party later states that the consent is withdrawn. Nonetheless, I consider the position that consent-based views are inconsistent to be a troubling and legitimate argument, and thus consider the consent-based view of the law of treaties to contain a significant flaw. In addition, the focus of the consent-oriented view on national governments, rather than on the rights of individuals, strikes some as inappropriate or outmoded.⁹² One might therefore naturally seek an alternative theory, such as a view based on the concept of legitimacy, discussed immediately below.⁹³

⁹² See SHAW, *supra* note 34, at 43 (describing small but growing role for individuals in international law, especially with respect to human rights); See also JANIS, *supra* note 4, at 174-97 (describing human-rights law). For example, the European Commission of Human Rights allows "any person, non-governmental organization or group of individuals claiming to be a victim of a violation" to bring petitions before it so long as the defendant-state consents to such a procedure. European Convention for the Protection of Human Rights and Fundamental Freedoms, November 4, 1950, art. 25, Europ. T.S. No. 5, 213 U.N.T.S. 237-8. All party-states have so consented. SHAW, *supra* note 34, at 223 n.161.

In the trade arena, the Canada-U.S. Free Trade Agreement and the North American Free Trade Agreement are examples of treaties that give individuals and corporations the right to seek redress. CUSFTA, *supra* note 38, art. 1904(5), (7), (14); North American Free Trade Agreement, Dec. 11-17, 1992, Can.-Mex.-U.S., art. 1904(5), Hein's No. KAV 3417, Temp. State Dep't No. 94- 48, 32 I.L.M. 296 and 32 I.L.M. 605 (entered into force Jan. 1, 1994); See also *Id.* art. 2022(1) (encouraging use of international arbitral tribunals to resolve disputes between private parties in free trade area). In addition, a number of bilateral investment treaties between the United States and other nations allow an affected legal individual to bring a complaint against a nation-party. See, e.g., Treaty Concerning the Reciprocal Encouragement and Protection of Investments, Sept. 29, 1982, U.S.-Egypt, art. I(1), 21 I.L.M. 927 [hereinafter US-Egypt BIT], (defining "company of a Party" to include natural and legal persons); *Id.* art. VII (allowing a national or a company of a Party to bring disputes under the dispute-resolution provisions of the treaty); Treaty Between the United States of America and the Czech and Slovak Federal Republic Concerning the Reciprocal Encouragement and Protection of Investment, Czech. and Slovak-U.S., Oct. 22, 1991, art. I(1) (definitions), S. TREATY DOC. NO. 102-31 (entered into force Dec. 19, 1992), in 5 INTERNATIONAL CENTRE FOR SETTLEMENT OF INVESTMENT DISPUTES, INVESTMENT PROMOTION AND PROTECTION TREATIES, (Release 92-4, Mar. 1993); *Id.* art. VI (dispute resolution).

⁹³ Partly overlapping the legitimacy-oriented view is the opinion expressed by an eminent combination of commentators that

2. Legitimacy and the Law of Treaties

a. Applying Franck's Legitimacy Theory to the Law of Treaties

Those focusing on "legitimacy" in international law offer the possibility of an approach quite different from the consent-based view of the law of treaties, though thus far this legitimacy-oriented view has been applied to the law of treaties only glancingly. Like the consent-oriented view, a legitimacy-oriented approach to the law of treaties is useful but also significantly flawed. This conclusion rests on two appraisals. First, the various categorizations and evaluations required by the legitimacy-oriented view are nebulous or contradictory. Second, the legitimacy-oriented view proves, in the particular context of the law of treaties, to be only partly distinguishable from the consent-oriented view. As a result, the legitimacy-oriented view incorporates the flaws, already discussed above, of the consent-oriented view.

Rooted in the analysis of "obligation," the legitimacy-oriented approach explores why nations might feel bound to their promises for reasons other than consent. Thomas Franck, the most prominent exponent of this school among international legal academics,⁹⁴ has advanced a four-factor test for determining the "legitimacy," and thus the "pull toward compliance," of a particular rule or set of rules:

Specifically, four indicators of a rule's and a rule-making process' legitimacy will be hypothesized in the ensuing chapters. These indicators of rule-legitimacy in the community of states are: *determinacy*, *symbolic validation*, *coherence*, and *adherence* The hypothesis

"treaties are legally binding because there exists a customary rule of international law that treaties are binding." L. Oppenheim, 1 *International Law* 880-81 (H. Lauterpacht ed., 1955) (distinguishing this rationale from rationales of natural law, religious or moral principles, the self-restraint of states in joining treaties, and the will of contracting parties); cf. McNair, *supra* note 68, at 493 (arguing that *pacta sunt servanda* is in the class of "elementary and universally agreed principles for which it is almost impossible to find specific authority"). Since customary rules depend upon past practice, a justification for *pacta sunt servanda* based upon its status as a customary rule is equivalent to saying that treaties are binding now because they have been treated as binding in the past. This justification is not quite circular, but I do find it elliptical: whence comes the rationale for the past treatment of treaties as binding? In any event, I discuss below the overlap between this view and the legitimacy-oriented view. See text accompanying *infra* note 97 (discussing "pedigree" of rules as factor in their legitimacy).

⁹⁴ My exposition takes two of Franck's works as exemplars of legitimacy-oriented theory. See FRANCK, *supra* note 6; Thomas Franck, *Legitimacy in the International System*, 82 AM. J. INT'L L. 705 (1988).

asserts that, to the extent a rule, or rule process, exhibits these four properties it will exert a strong pull on states to comply. To the extent these properties are not present, the institution will be easier to ignore and the rule easier to avoid by a state tempted to pursue its short-term self-interest.⁹⁵

"Determinacy" is "that which makes [a rule's message clear. The same quality may also be termed its 'transparency.'"⁹⁶ A rule such as, "To each according to his needs," is indeterminate, at least compared to a rule such as, "To each, in U.S. currency, \$100 in cash on January 1, 1995." "Symbolic validation" is the procedural use of ritual and historical pedigree in connection with the perpetration of a substantive rule.⁹⁷ An opinion announced by a black-robed judge in a courtroom, said to be in accordance with the fundamental principles of the U.S. Constitution, displays a good deal more symbolic validation than my announcement of the same opinion on a street corner. Coherence is the degree of connection between rational principles on the one hand, and a rule (and its exceptions) on the other.⁹⁸ To divide a loaf of bread equally between two persons is a coherent rule, based on the principle of equal distribution. Giving the whole loaf to the person with bushier eyebrows is less coherent, because eyebrow bushiness possesses less generality and rationality as a principle of distribution.⁹⁹ Adherence is the depth and breadth of the system used to interpret the relevant rules.¹⁰⁰ The fictional game of "Calvinball"¹⁰¹ or the actual sporting event of America's Cup¹⁰² demonstrates only a small degree of adherence to a normative hierarchy, while interpretation of a rule within the Uniform Commercial Code involves many courts and commentators drawing upon many principles of rule interpretation.

I now take up in turn each of the four aspects of legitimacy as applied to the law of treaties.

i. Determinacy

⁹⁵ FRANCK, *supra* note 6, at 49 (emphasis in original).

⁹⁶ FRANCK, *supra* note 6, at 52.

⁹⁷ FRANCK, *supra* note 6, at 90-95.

⁹⁸ FRANCK, *supra* note 6, at 150-53.

⁹⁹ FRANCK, *supra* note 6, at 152 (using "only blue-eyed persons may vote" and "property taxes will be levied only on houses with even-numbered addresses" as examples of rules lacking coherence).

¹⁰⁰ FRANCK, *supra* note 6, at 184 (defining "adherence" as "the vertical nexus between a *primary rule of obligation*, which is the system's workhorse, and a hierarchy of secondary rules identifying the sources of rules and establishing normative standards that define how rules are to be made, interpreted, and applied").

¹⁰¹ In the fictional world created by Bill Watterson, the young protagonist, Calvin, has developed a game called Calvinball, where the rules are developed on an *ad hoc* basis. In Calvin's own words, "The only permanent rule in Calvinball is that you can't play it the same way twice." BILL WATTERSON, *SCIENTIFIC PROGRESS GOES "BOINK"* 113 (1991).

¹⁰² See E.M. Swift, *Sham on Them: By Changing Rules As It Sails Along, The America's Cup Has Lost Its Place on the Sports Map*, *SPORTS ILLUSTRATED*, Apr. 17, 1995, at 72.

Franck directly addresses the degree of determinacy in the law of treaties. He uses the law of treaties, along with rules protecting diplomats codified in the Vienna Convention on Diplomatic Relations,¹⁰³ as examples of consummately clear sets of rules:

It happens . . . that, in international practice, the rules protecting diplomats, as codified by the Vienna convention, have a very high degree of specificity, and they are almost invariably obeyed. So, too, are the highly specific rules, in another Vienna Convention, on the making, interpreting, and obligation of treaties. This says with consummate clarity that *treaties are binding*. Yet, even within the four corners of that Convention are two concepts which are less clear. Article 62 appears to sanction the notion that at least some treaties may be terminated in the event of "a fundamental change of circumstances." However, what that means is defined only in rather vague generalities. Article 53, moreover, provides that a treaty is void "if, at the time of its conclusion, it conflicts with a peremptory norm of general international law," but the term "peremptory norm" is only tautologically defined as "a norm from which no derogation is permitted, and which can be modified only by a subsequent norm of general international law having the same character." These provisions introduce an element of uncertainty.¹⁰⁴

This passage discusses both clarity (in its description of rules as possessing "a very high degree of specificity," "consummate clarity," and so forth) and compliance (in its evaluation that some rules are "almost invariably obeyed"). Let us focus here on clarity.¹⁰⁵

Franck mentions three types of rules in the Vienna Convention: those concerned with the "making" of treaties, with the "interpreting" of treaties, and with the "obligation" of treaties. Referring to "the highly specific rules" of each type, he appears to believe that all three types of rules show a great deal of clarity. The notion of *pacta sunt servanda*, in fact, displays "consummate clarity." The only exceptions that he discusses are two "less clear" concepts, a fundamental change in circumstances and the violation of a peremptory norm.

This evaluation offers much too rosy a picture of the degree of determinacy which inheres in the law of treaties, regardless of whether one examines rules governing the making, the interpretation, or the obligations of treaties. I treat indeterminacies in each type of rule in turn. Some of the concepts related to the *making* of treaties may be almost wholly determinate—that an agreement, silent as to the mechanism for entry into force, enters into force when "all" parties have ratified the agreement, or that a head of state automatically possesses full powers to negotiate—but many concepts are not. With concepts such as "corruption," "coercion" or "error,"

¹⁰³ Vienna Convention on Diplomatic Relations, Apr. 18, 1961, 23 U.S.T. 3227, 500 U.N.T.S. 95.

¹⁰⁴ FRANCK, *supra* note 6, at 59-60 (emphasis in original) (footnotes omitted).

¹⁰⁵ For a discussion of compliance, See text accompanying *infra* note 134.

one must determine not only what behavior fits into the putatively proscribed category, but also that a close link exists between that behavior and some other nation's consent. Such a process, like the linkage in domestic contract law between an activity like "fraud" and the effect of that fraud on the validity of consent, is far from wholly determinate. The Vienna Convention provides only very general rules for making these determinations.¹⁰⁶

Because the *interpretation* of a treaty may involve a large number of factors, the situation here is not much more determinate than with respect to the making of a treaty. The Vienna Convention requires parties routinely to consult not only the ordinary meaning of the text immediately at issue,¹⁰⁷ but also the rest of the treaty's text,¹⁰⁸ the treaty's object and purpose,¹⁰⁹ any non-textual but good-faith meanings,¹¹⁰ any other agreements or instruments that all parties agree are relevant,¹¹¹ any subsequent agreements regarding the interpretation of the treaty,¹¹² any state practices relevant to the interpretation of the treaty,¹¹³ any relevant rules of international law applicable between the parties,¹¹⁴ and any special meanings intended by the parties.¹¹⁵ If the meaning of a provision remains ambiguous or absurd even after consulting all these sources, then the parties may also examine "the preparatory work of the treaty and the circumstances of its conclusion."¹¹⁶ As with any multi-factor test in domestic legal interpretation, such a lengthy list of sources for interpretation can cause indeterminacy for those attempting to arrive upon a single meaning for a particular treaty provision. Interpretation is often a complex and difficult task, of course, so this panoply of possibilities may be the best that

¹⁰⁶ See text accompanying *supra* notes 56-59.

¹⁰⁷ See Vienna Convention, *supra* note 35, art. 31(1) ("A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.") (emphasis added).

¹⁰⁸ See Vienna Convention, *supra* note 35, art. 31(1); *Id.* art. 31(2) (defining context to include "the text, including its preamble and annexes").

¹⁰⁹ See Vienna Convention, *supra* note 35, art. 31(1).

¹¹⁰ See Vienna Convention, *supra* note 35, art. 31(1); See also *Id.* art. 26 ("Every treaty in force is binding upon the parties to it and must be performed by them *in good faith.*") (emphasis added).

¹¹¹ See Vienna Convention, *supra* note 35, art. 31(1); *Id.* art. 31(2) (defining context to include "any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty" or "any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty").

¹¹² See Vienna Convention, *supra* note 35, art. 31(3)(a).

¹¹³ See Vienna Convention, *supra* note 35, art. 31(3)(b).

¹¹⁴ See Vienna Convention, *supra* note 35, art. 31(3)(c).

¹¹⁵ See Vienna Convention, *supra* note 35, art. 31(4) ("A special meaning shall be given to a term if it is established that the parties so intended.").

¹¹⁶ Vienna Convention, *supra* note 35, art. 32.

one can do. Nonetheless, for purposes of assaying the *determinacy* of the law of treaties, one must conclude that the rules of interpretation open the door not only for the entrance of a great many relevant sources, but also for a great deal of indeterminacy.

As with the rules governing the making and interpretation of treaties, the rules governing *obligation* also lack clarity in many aspects. One may well agree with Franck that, considered in complete isolation, the fundamental notion of full obligation-"treaties are binding"-is stated with "consummate clarity."¹¹⁷ Even with respect to the notion of *pacta sunt servanda*, however, article 26 of the Vienna Convention specifies that treaties are "binding ... and must be performed ... in good faith."¹¹⁸ The content of this second portion of article 26 is quite indeterminate. Does this good-faith requirement *impose* obligations not clearly set forth in the text, or does the good-faith language *relieve* parties of obligations clearly set forth in the text when the parties attempt at least a good faith effort at compliance?¹¹⁹ In any event, "good faith" can be a highly indeterminate notion. Therefore, article 26, viewed as a whole, is actually less than consummately clear.

Even examining all of article 26 is, in many ways, too narrow a field in which to examine *pacta sunt servanda*. As Franck implies in the passage quoted above, the various ways to invalidate an otherwise-binding treaty effectively mean that the rule of the law of treaties, rather than being "treaties are binding everywhere in all circumstances," is actually that "treaties are binding, except when terminated by fundamental changes in circumstances or by inconsistency with a peremptory norm." As Franck himself points out, neither of these exceptions is set forth in an especially clear rule.¹²⁰ Indeed, although Franck does not treat material breach in the

¹¹⁷ FRANCK, *supra* note 6, at 60; See also *Id.* at 85 (calling *pacta sunt servanda* rule "a model of clarity").

¹¹⁸ Vienna Convention, *supra* note 35, art. 26 (emphasis added).

¹¹⁹ See generally SHABTAI ROSENNE, *DEVELOPMENTS IN THE LAW OF TREATIES 1945- 1986*, at 139-41 (1989) (stating that International Law Commission recognized that concept of good-faith was difficult to express and should be left undefined); David Koplow, *Parsing Good Faith: Has the United States Violated Article VI of the Nuclear Non-Proliferation Treaty?*, 1993 WIS. L. REV. 301, 367-79 (discussing ambiguous nature of doctrine of good faith).

¹²⁰ Indeed, in a later passage in the same work quoted at length above, See text accompanying *supra* note 104, Franck explores one linkage between *pacta sunt servanda* and fundamental changes in circumstances that muddies the supposed clarity of the former doctrine:

For example, consider the rule noted in Chapter 4 as a model of clarity: *pacta sunt servanda*-treaties are binding. Its very clarity presages problems. What if the subject matter of the treaty disappears? What if the circumstances in which the treaty operates are altered so radically as to make it nonsense? What is the validity of a treaty governing international commercial access to a river port once the river has changed course? In such circumstances, to insist on

discussion quoted above, the rule of the law of treaties should be qualified even further: "treaties are binding, except when terminated by fundamental changes in circumstances or by inconsistency with a peremptory norm *or by the material breach of another party*." The rules for determining material breach are thus also part of the analysis involved in the determinacy of rules of obligation stemming from the idea of *pacta sunt servanda*. The rules on material breach are significantly indeterminate. A material breach may consist either of an unauthorized repudiation of the treaty or of "[the violation of a provision essential to the accomplishment of the object or purpose of the treaty."¹²¹ Commentators have argued whether the tiniest violation of an essential provision is sufficient to constitute a material breach under the Vienna Convention, or whether the violation of the essential provision must instead be severe enough actually to hinder accomplishment of the object or purpose of the treaty.¹²² Debates over which terms in a treaty are essential to the accomplishment of its purpose have also occurred.¹²³

My discussion of the two other components in determining the legitimacy of a rule—symbolic validation and adherence—is relatively brief, since these aspects exist to essentially the same degree throughout the law of treaties; little analysis of individual provisions in the Vienna Convention is required.

ii. Symbolic Validation

In contrast to the indeterminacies of the law of treaties, the high degree of symbolic validation in the law of treaties argues favorably for the legitimacy of its rules. The Vienna Convention is, for the most part, a codification of long-standing customary rules. Its "pedigree" is therefore excellent. A few of the "codifications" embodied in the Vienna Convention, however, are controversially innovative:

It must be remarked that the notion of invalidity based on error, fraud, corruption,

the immutability of treaty rights would make the rule unfair or absurd. For such exigencies, the international rule-system implies into treaty texts a sophist proviso—the *clausula rebus sic stantibus*, which permits a treaty to be deemed to have lost its validity upon a profound change of circumstance. While this reduces the rule's clarity, it actually makes it more sensible.

FRANCK, *supra* note 6, at 85 (emphasis in original).

¹²¹ See Vienna Convention, *supra* note 35, art. 60(3).

¹²² Compare Frederic L. Kirgis, Jr., *Some Lingering Questions about Article 60 of the Vienna Convention on the Law of Treaties*, 22 CORNELL INT'L L.J. 549 (1989) (arguing that relatively minor violation of essential provision does not constitute material breach) with L. OPPENHEIM, *INTERNATIONAL LAW* 756 (A. McNair ed., 1928) (arguing that any breach of treaty provision entitles other party to terminate).

¹²³ See MARK VILLIGER, *CUSTOMARY INTERNATIONAL LAW AND TREATIES* 372 (1985) (acknowledging that debates concerning essential provisions depend on subjective judgment of parties).

coercion, and a peremptory norm is rather controversial in customary international law. Here the conventional rules cannot be said to necessarily codify existing practices Given the rarity of states accepting each other's arguments of changed circumstances, there must be considerable doubt as to whether the concept of *rebus sic stantibus* has, outside the Vienna convention, any commonly accepted legal value.¹²⁴

The notion of *jus cogens*, discussed below, is also problematic.¹²⁵ For the most part, however, the Vienna Convention is uncontroversial.

As to the symbolic validation of the treaties given effect according to the rules of the Vienna Convention, Franck does not specifically treat the treaty process as a ritual of the sort conveying symbolic validation upon a rule. Nonetheless, the rituals of signature and ratification that accompany the typical treaty are similar to the other rituals that Franck does mention: the triple readings of the statutes of Parliament, the singing of national anthems, ritual Chinese sacrifices and court proceedings, marriages for purposes of state, and, from the international legal sphere, the flying of the U.N. flag and the accreditation of ambassadors.¹²⁶ The various formalities of signature and ratification in the treaty process are designed, in part, to show the authority and legitimacy of the rules thereby perpetrated.

iii. Adherence

International legal rules generally show an intermediate degree of adherence to a normative hierarchy.¹²⁷ Domestic laws are embedded within intricate interpretive hierarchies of courts and political subunits, each taking advantage of extensive rules and materials governing units, each taking advantage of extensive rules and materials governing interpretation. The international legal system, in contrast, lacks an equally elaborate structure of hierarchies and interpretive rules. Nonetheless, in comparison to wholly non-legal activities, a significant proportion of actors in the international legal system devote themselves to the interpretation of rules, including rules for interpreting rules.¹²⁸ The law of treaties devotes some attention to this category, and the textual nature of treaties (as opposed to the conduct-generated rules of international customary law) imbues treaties with an especially high degree of adherence to a normative interpretive hierarchy within international law.

iv. Coherence

¹²⁴ JANIS, *supra* note 4, at 31, 32-33.

¹²⁵ See *infra* part IV.B.2 (discussing *jus cogens* from iterative perspective).

¹²⁶ See FRANCK, *supra* note 6, at 91-110; See also *Id.* at 111-42 (exploring in depth the symbolic validation involved in the recognition of governments, both by the United Nations and by individual nations).

¹²⁷ FRANCK, *supra* note 6, at 183-86.

¹²⁸ FRANCK, *supra* note 6, at 189-90 (distinguishing sources of obligation in international law from sources of rules).

The fourth factor in Franck's legitimacy-oriented framework is coherence, the degree to which "distinctions in the treatment of 'likes' [are justifiable in principled terms."¹²⁹ An ideally coherent rule not only contains its own principled purpose, but is also consonant with the principles underlying other existing rules.¹³⁰ For example, debt relief on the basis of "need" is coherent not only because of the appeal of need as a rational principle for awarding relief, but also because such a criterion is used elsewhere in the international system. Debt relief based upon the place in the alphabet of the first letter of a nation's English-language name, in contrast, would not be coherent.¹³¹

The particular coherence of the law of treaties thus depends on the rationality of the principle used to distinguish between nation-states (the "like" entities) that are bound by a treaty and those that are not. The rational principle justifying the different treatment of these essentially alike entities would seem to be the notion of consent, as discussed above. For example, nations are treated differently by the law of treaties when they have signed a treaty, ratified a treaty now entered into force, defrauded another nation, and so forth. Consent, however, is not the only rational principle that could be used in distinguishing obligations. One might instead determine a nation's obligation to obey treaties by looking at that nation's status, or at how much that nation deserves to be bound, with such determinations based in turn on a rational sub-principle such as ability to comply with the strictures of the treaty under discussion. In light of the structure of the law of treaties, however, these other logically available principles appear to do a poor job of actually explaining the rules of the law of treaties. The Vienna Convention does not pre-determine a particular status, such as "Great Power" or "Pre-excused Treaty Violator," for any particular states;¹³² nor does it attempt in any way to assist with the determination of who might "deserve" to comply with a treaty. This notion of consent in the law of treaties is also consistent with the (same) principle applied more generally in international law, although not applied in precisely the same fashion in customary law as in the law of treaties. To the degree that this search for coherence in the law of treaties involves consent, therefore, legitimacy analysis imports the same logical inconsistency, discussed above, that plagues the

¹²⁹ FRANCK, *supra* note 6, at 144; *See also Id.* at 154-72 (developing extended example of coherence of norm of "self-determination" as applied immediately after World War I and II).

¹³⁰ FRANCK, *supra* note 6, at 148.

¹³¹ FRANCK, *supra* note 6, at 144-47.

¹³² There is one exception. The Vienna Convention, in a single article, distinguishes "aggressor states" from other states. *See* Vienna Convention, *supra* note 35, art. 75 ("The provisions of the present Convention are without prejudice to any obligation in relation to a treaty which may arise for an aggressor State in consequence of measures taken in conformity with the Charter of the United Nations with reference to that State's aggression."). *See generally* SINCLAIR, *supra* note 42, at 101-02, 180-81 (stating that article 75 intended to ensure validity of treaties imposed by U.N. upon aggressor nations).

consent-oriented view.¹³³

v. Summary

Legitimacy-oriented theorists believe that the four factors described above, taken together, provide an indication of the amount of legitimacy-the amount of "compliance pull"-a given rule or set of rules possesses. Holding constant factors such as the benefits to a nation from breaking a rule of international law in a particular case, a rule of international law with greater compliance pull is more likely to be obeyed than a rule with less legitimacy. The examination in this Article of these four factors in connection with the law of treaties shows that the law of treaties possesses modest determinacy, significant symbolic validation, a moderate adherence to a normative hierarchy, and substantial coherence (though a coherence threatened by a potential logical inconsistency). A simple, qualitative averaging among the four criteria yields an overall legitimacy that is more than modest but less than substantial. It seems reasonable, then, to conclude that the law of treaties contains rules with significant, but hardly irresistible, legitimacy.

This conclusion seems consistent with the empirics of the law of treaties. On the one hand, there is clearly an imperfect record of compliance with treaties generally, and thus with the *pacta sunt servanda* requirement of article 26 of the Vienna Convention.¹³⁴ On the other hand,

¹³³ See *supra* part II.B.1.b.

¹³⁴ Such a judgment opens the usual Pandora's Box of debate about compliance. This is especially true in this particular case because judgments about compliance with a given treaty must incorporate judgments not only about the general norm of *pacta sunt servanda* but also about the legitimacy of the particular provisions of particular treaties. If a nation violates article 2(4) of the U.N. Charter, for example, is that a reflection on the legitimacy of that article or on the legitimacy of the rule of *pacta sunt servanda* set forth in the Vienna Convention?

The debate over compliance is in many ways at the root of the criticism of those IR theorists, known as Realists, who argue that international law is irrelevant. The Realists argue that nations frequently violate international law, or that nations obey international law only so long as the relevant rule coincides with their calculation of naked self-interest. Those IR theorists favoring a role for international law, in contrast, typically assert that nations routinely comply with international law, and that such compliance occurs despite a conflict between compliance and the narrowly calculated self-interest of the nations involved. The most prominent statement by an international lawyer on compliance-a statement wholly unaccompanied by an examination of evidence-is that "almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time." LOUIS HENKIN, *HOW NATIONS BEHAVE: LAW AND FOREIGN POLICY* 47 (2d ed. 1979).

Note that the passage from Franck quoted above, See text accompanying *supra* note 104, could be read to assert that the law of treaties, and especially its maxim of *pacta sunt servanda*, is

there are few disputes about the more strictly procedural aspects of the law of treaties, such as whether a nation has validly signed or ratified a particular treaty, or whether that treaty has entered into force. In addition, the most controversial particularized provisions about obligation—*rebus sic stantibus* and *jus cogens*—are those with the shortest pedigree,¹³⁵ a phenomenon consistent with Franck's assertions about the importance of symbolic validation. Thus, it appears that there is a rough correspondence between Franck's assertions about "compliance pull" and the reality of behavior with respect to the law of treaties: the law of treaties displays a mixture of characteristics likely and unlikely, in the legitimacy-oriented view, to lead to compliance, and nations in fact display a mixed record of compliance with that law of treaties.

b. Some General Limitations to a Legitimacy-Oriented View of the Law of Treaties

The vagueness of this conclusion about the predictions of the legitimacy-oriented perspective on the law of treaties and the realities of international behavior is in many ways an inevitable consequence of three vagaries in the legitimacy-oriented view itself. First, the four factors of determinacy, symbolic validation, coherence, and adherence are not easy to define in any objective way. In addition, the legitimacy-oriented view provides little guidance for determining how to aggregate the four factors into a single judgment about legitimacy. Finally, Franck himself advances "justice" as an alternative metric that may affect compliance even after one has determined the legitimacy of a particular rule.¹³⁶

Assigning a value to each of the four factors comprising legitimacy can be a slippery business. Franck notes, for example, that clarity is not always a reliable indicator of determinacy:

[While such terms as "fundamental change" and "peremptory norm" may be vague, the elasticity of those terms actually might increase the determinacy of the rule in certain circumstances. This paradox cannot be explored here, but we will revert to it ... when we examine the possibility that uncertainty sometimes may actually make a rule *more* determinate. For present purposes it is enough merely to note once more than clarity and certainty are usually, but not invariably, synonymous with determinacy.¹³⁷

almost invariably obeyed:

It happens ... that, in international practice, the rules protecting diplomats, as codified by the Vienna convention, have a very high degree of specificity, and they are almost invariably obeyed. So, too, are the highly specific rules, in another Vienna Convention, on the making, interpreting, and obligation of treaties. This says with consummate clarity that *treaties are binding*.

FRANCK, *supra* note 6, at 59-60 (emphasis in original).

¹³⁵ See text accompanying *supra* note 124.

¹³⁶ FRANCK, *supra* note 6, at 51, 73.

¹³⁷ FRANCK, *supra* note 6, at 60 (emphasis in original).

Franck explains this paradox at another point: excessive clarity may encourage nations to infer qualifications into a rule, and such inferences can lessen the utility of the stated (unqualified) rule in predicting what nations will see as the actual (qualified) rule.¹³⁸ Paradoxical or not, an inability to equate clarity with determinacy obviously increases the difficulty of evaluating the determinacy of a given rule. Another difficulty in applying legitimacy-oriented theories stems from the complexities of comparing one rule to another along a given dimension. The notion of coherence, for example, allows reference to any number of rational principles, with none privileged over others. Is a rule based upon equality in distribution more or less coherent than a rule based upon equality of outcome? To take another example, the notion of adherence appears so broad as to sweep almost all of international law under the same rug of moderate adherence (although particular treaties with their own dispute-resolution mechanisms might have somewhat greater adherence).

These analytical difficulties arise in examining the four relevant factors one at a time. Adding to the generally subjective nature of the legitimacy-oriented inquiry is the difficulty of aggregating those four components into a single judgment about legitimacy. Franck is clearly aware that various rules may possess a fair amount of one factor but little of another: "An indeterminate new treaty may exert a less powerful pull to compliance than a venerable and clearly understood custom. A clearly determinate treaty or custom may be rendered incoherent by a countervailing General Assembly resolution or by inconsistent state conduct"¹³⁹ In the first comparison—of an "indeterminate new treaty" with a "venerable and clearly understood custom"—the outcome of the comparison is clear. The new treaty has less determinacy *and* less symbolic validation, and thus, presumably, less legitimacy. But what if the new treaty had *more* determinacy and less symbolic validation? The theory provides no way to aggregate those two factors to compare the legitimacy of the new treaty to the less determinate but venerable custom. Because judgments about legitimacy actually require comparisons along *four* dimensions, rather than just two, this difficulty in aggregation is even greater.

Even if one could combine the four factors into a single metric of legitimacy, Franck is unsure that "legitimacy" is truly the determinant of compliance pull. Perhaps the notion of "justice" exerts a similar effect: "A treaty may be the locus of a lively dispute between those who wish to see it obeyed because it is legitimate even though unjust and others who wish to see it repealed or even violated because it is unjust although legitimate."¹⁴⁰ Franck's concern for justice points out what may be another difficulty with legitimacy-oriented theory: the categories slide into one another. Are not most of our notions of "justice" tied to the relationship between a rule and rational principles—that is, to a rule's coherence? Distributing debt relief according to the alphabet would seem both incoherent and unjust for the same reason: distribution according to

¹³⁸ FRANCK, *supra* note 6, at 84-90; See also *supra* note 120 (discussing interaction of *rebus sic stantibus* and *pacta sunt servanda*).

¹³⁹ FRANCK, *supra* note 6, at 206.

¹⁴⁰ FRANCK, *supra* note 6, at 238.

the alphabet is not, in this instance, a rational principle. The lesser determinism of an excessively clear rule, discussed above,¹⁴¹ seems difficult to separate from the idea that such a rule is less coherent: the (determinate) rule that treaties would always be obeyed in every circumstance violates the (coherent) notion that certain circumstances rationally give rise to excuse.

The legitimacy-oriented perspective, therefore, suffers from difficulties in defining the various factors said to comprise legitimacy, in aggregating those factors to arrive at a single evaluation of legitimacy, and in being sure that legitimacy is in fact the desired metric at all. Moreover, as mentioned above, the legitimacy-oriented perspective incorporates the logical difficulties (via the notion of coherence) of the consent-oriented view. The legitimacy-oriented perspective thus not only suffers from its profound subjectivity but also effectively incorporates the difficulties present in the consent-oriented view.

III. INSTITUTIONALISM AND ITERATION

In light of the difficulties with the consent- and legitimacy-oriented perspectives described above, there seems ample justification for the advancement of a theoretical underpinning for the law of treaties less beset with problems of internal consistency and definitional clarity. An "iterative perspective," derived from Institutional IR theory, is such a superior perspective.

Institutionalists usually speak the language of economists, who in turn often speak the language of game theorists. A brief, untranslated preview of the exposition of this section is as follows: Institutionalists hold that international cooperation is analogous to a "pure public good" and thereby, in light of the ongoing interactions among nations, also analogous to the "iterated Prisoner's Dilemma." Nations facing an iterated Prisoner's Dilemma may benefit from mutually cooperative behavior evolved over a number of iterations. International "institutions" or "regimes" may increase the likelihood or depth of such cooperation by lowering "information costs" or "transactions costs."

A. *International Cooperation as a Public Good*

Although other IR theorists may examine the full panoply of interactions between nation-states, Institutionalists focus on international cooperation. They begin their analysis by adopting the view that international cooperation is analogous to a "pure public good."¹⁴² The

¹⁴¹ See text accompanying *supra* note 137

¹⁴² See, e.g., ROBERT O. KEOHANE, *AFTER HEGEMONY: COLLABORATION AND DISCORD IN THE WORLD POLITICAL ECONOMY* 77 (1984) (stating that "[c]ontemporary international relations are beset by dilemmas of collective action"); Duncan Snidal, *Relative Gains and the Pattern of International Cooperation*, 85 AM. POL. SCI. REV. 701, 720 (1991) [hereinafter Snidal, *Relative Gains*] (questioning "standard assumption" that international cooperation is public goods problem). See also *infra* note 160 (describing close relationships

crucial characteristic of such a good is that, once produced, the costs to the producers of preventing others from consuming the good are prohibitive.¹⁴³ The relevant literature often cites lighthouses,¹⁴⁴ clean air,¹⁴⁵ and national defense¹⁴⁶ as examples of pure public goods in national economies.¹⁴⁷ Institutionalists believe that the products of international cooperation are the equivalent of pure public goods. Nations that band together to minimize depletion of the ozone layer, for example, cannot exclude other nations from reaping the resultant benefits. Stratospheric ozone circulates with relative rapidity and without regard to the international borders below, and no one has devised a practical method of confining that circulation. Those who "produce" a thicker ozone layer cannot, therefore, prevent others from "consuming" the benefits of that thicker ozone layer.

Economists believe that a centralized authority with coercive powers is necessary to produce pure public goods in a national economy.¹⁴⁸ Rational, uncoerced individuals will not

among problems of collective action, Prisoner's Dilemmas, and tragedies of the commons).

¹⁴³ See John G. Head, *Public Goods and Public Policy*, 17 PUB. FIN. 197 (1962); See also MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* 5-52 (1971). In economic argot, this characteristic makes the good "non-excludable." A producer of the good cannot, practically speaking, exclude others from becoming consumers of the good. The definition of a public good has two other parts, both of less salience for this analysis than non-excludability. First, a public good is non-rivalrous, that is, "all enjoy [it] in common in the sense that each individual's consumption of such a good leads to no subtraction from any other individual's consumption of that good." Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387 (1954). Second, and more generally, the aggregate benefits of producing the particular (public) good must exceed the aggregate costs of doing so, or society as a whole would not be much interested in producing such a good.

¹⁴⁴ Ronald Coase, *The Lighthouse in Economics*, 17 J. LAW & ECON. 357, 357-60 (1974).

¹⁴⁵ Bruce Russett & John D. Sullivan, *Collective Goods and International Organization*, 25 INT'L ORG. 845, 847 (1971).

¹⁴⁶ WALTER NICHOLSON, *MICROECONOMIC THEORY* 612 (2d ed. 1978).

¹⁴⁷ This list is by no means exhaustive. See JON ELSTER, *THE CEMENT OF SOCIETY* 17 (1989) ("The problem of collective action, also referred to as the problem of free riding or the problem of voluntary provision of public goods, is deep and pervasive.").

¹⁴⁸ As Olson states:

[D]espite the force of patriotism, the appeal of the national ideology, the bond of a common culture, and the indispensability of the system of law and order, no major state in modern history has been able to support itself through voluntary dues or contributions.... Taxes, compulsory payments by definition, are needed. Indeed, as the old saying indicates, their necessity is as certain as death itself.

pay for the production of pure public goods; because an uncoerced individual can consume a pure public good whether or not he pays for it—the cost of *preventing* an individual from consuming it is, by definition, prohibitive—the rational individual will choose the "free ride" over the costly alternative of paying for the good.¹⁴⁹ If we aggregate these individually rational decisions across society, no one will pay for production of the public good, and the good will go unproduced. In the domestic economy a central authority may coerce tax payments from individuals and use the money to produce the public good. In some circumstances, such coercion will make everyone happier than if no good were produced.¹⁵⁰ In the realm of international relations, however, no world government exists to force nations to pay taxes for pure public goods. Under a strict analogy to public goods, then, international cooperation should never occur.¹⁵¹ The Institutionalist argument, however, draws a further analogy between public goods and the game-theoretical concept of the Prisoner's Dilemma,¹⁵² and then emphasizes the possibility that

OLSON, *supra* note 143, at 13 (emphasis in original).

¹⁴⁹ See NICHOLSON, *supra* note 146, at 612-13; OLSON, *supra* note 143, at 14-15.

¹⁵⁰ Governmental production of the good may be more costly than private production as a result of bureaucratic inefficiency or the efforts of taxpayers to avoid their obligations. These greater costs may lead to a situation in which the costs of private production of the good would be less than the benefits, but the costs of governmental production would be higher than the benefits. In this case, society as a whole would like to produce the good privately, but the private producer will not find it profitable to do so (owing to free riders), and society as a whole will not want to produce the good publicly, because the costs of doing so exceed the benefits. The ordinary assumption, however, is that the costs of governmental production do not so exceed the costs of private production as to make public production of the public good undesirable.

¹⁵¹ See KENNETH N. WALTZ, *THEORY OF INTERNATIONAL POLITICS* 196-99, 209-10 (1979); See also Russett & Sullivan, *supra* note 145, at 851 (arguing that lack of overarching organizations with power to enforce agreements creates an international problem when nation-states produce collective goods). But cf. Jeffrey A. Hart & Peter F. Cowhey, *Theories of Collective Goods Reexamined*, 30 W. POL. Q. 351 (1977) (concluding that different definitions of public goods lead to very different conclusions about likelihood of cooperation by self-interested individuals).

¹⁵² The Prisoner's Dilemma is so named as a metaphor for a situation involving a prosecuting attorney and two prisoners unable to communicate with one another. See R. DUNCAN LUCE & HOWARD RAIFFA, *GAMES AND DECISIONS: INTRODUCTION AND CRITICAL SURVEY* 94-95 (1957) (attributing metaphor to A.W. Tucker). For an application of the Prisoner's Dilemma to a legal problem that takes some pains to make the analysis comprehensible to those trained in the law but not trained in economics or game theory, See John K. Setear, *The Barrister and the Bomb: The Dynamics of Cooperation, Nuclear Deterrence, and Discovery Abuse*, 69 B.U. L. REV. 569 (1989). See generally Anatol Rapoport, *Prisoner's*

cooperative behavior may evolve with repeated (or "iterated") interactions that each take the form of a Prisoner's Dilemma. This chain of reasoning, to which I now proceed, allows for the development of international cooperation even though such cooperation is a pure public good.

B. *International Cooperation as a Prisoner's Dilemma*

In the typical Prisoner's Dilemma, as in many other games, two players, A and B, may each independently¹⁵³ choose one of two possible actions,¹⁵⁴ *c* or *d*. The interaction of their

Dilemma, in THE NEW PALGRAVE: GAME THEORY 199 (John Eatwell et al. eds., 1989) [hereinafter NEW PALGRAVE GAME THEORY] (describing and analyzing Prisoner's Dilemma); MORTON D. DAVIS, GAME THEORY: A NONTECHNICAL INTRODUCTION 108-19 (rev. ed. 1983) (same).

¹⁵³ The assumption of independent choices means, inter alia, that players cannot make binding agreements. Games in which binding agreements are possible are known as "cooperative" games, and their study is a different branch of game theory from that involved in "non-cooperative" games such as the Prisoner's Dilemma. See, e.g., ERIC RASMUSEN, GAMES AND INFORMATION 29 (1989) (defining cooperative and non-cooperative games and noting that, with the exception of one sub-section, his text examines non-cooperative games); Joseph E. Harrington, Jr., *Noncooperative Games*, in NEW PALGRAVE GAME THEORY, *supra* note 152, at 178 (defining cooperative game as one that "assumes the existence of an institution which can make any agreement among players binding"); See also Martin Shubik, *Cooperative Games*, in *Id.* at 103 (stating that cooperative games "would be better termed games in coalitional form").

Those discussing the Prisoner's Dilemma sometimes conflate the assumption of a non-cooperative structure with the assumption that the players cannot communicate with one another. The assumption of non-communication, however, is not typically necessary. Communication that does not convey a credible threat is simply irrelevant to players displaying the kind of self-centered rationality assumed in this sort of analysis. See RASMUSEN, *supra*, at 29 ("[I]f promises are not binding, then although the two prisoners might [communicate and] agree not to fink [i.e., choose *d*], they would fink anyway when the time came to choose actions."); See also MARTIN J. OSBORNE & ARIEL RUBINSTEIN, BARGAINING AND MARKETS (1990) (discussing "independence" of players as ability to move without considering the opponent); DREW FUDENBERG & JEAN TIROLE, GAME THEORY 362 (1991) (noting that independence is implied by game structures with simultaneous moves or by a first stage in a multiple-stage game). In the Prisoner's Dilemma, silver-tongued persuasions or pleas for sympathy, for example, are assumed to fall on rationally deaf ears. PETER ORDESHOOK, GAME THEORY AND POLITICAL THEORY 97-98, 207 (1986); RASMUSEN, *supra*, at 76 (suggesting that because the value of communication varies according to the game, "cheap talk" may be useful in some contexts but not in others).

choices determines the outcome, or "payoff," for each player. A particular relationship among these payoffs makes the game a "Prisoner's Dilemma," rather than any of a number of other types of games.¹⁵⁵ In the Prisoner's Dilemma, a player receives her highest payoff when she chooses *d* while her opponent chooses *c*; she receives a lesser payoff when both choose *c*; she obtains an even smaller payoff when she and her opponent both choose *d*; and she receives the smallest of all rewards when she chooses *c* while her opponent chooses *d*. The situation is symmetrical with respect to the other player. Figure 1 is a diagrammatic representation of this situation with particular numbers chosen as the payoff for A and B, respectively.¹⁵⁶

FIGURE 1: THE PRISONER'S DILEMMA

		PLAYER B	
		COOPERATE	DEFECT
PLAYER A	COOPERATE	(3,3)	(0,5)
	DEFECT	(5,0)	(1,1)

Game theorists believe that if a game is a Prisoner's Dilemma, and if both players know that the game will be played only once, both players will choose *d* as their action.¹⁵⁷ Consider a given

¹⁵⁴ "Action" in this context is a synonym for what others call a "move." See, e.g., GEORGE TSEBELIS, *NESTED GAMES: RATIONAL CHOICE IN COMPARATIVE POLITICS* 93 (1990) (using "move"); ORDESHOOK, *supra* note 153, at 106-08 (discussing "strategy"). I follow Rasmusen's terminology. See RASMUSEN, *supra* note 153, at 22-25.

¹⁵⁵ Games with two players each capable of taking two actions are known as "two-by-two" games. There are 78 different structures of incentives for such games, at least if one cares only about the comparative ("ordinal") rankings of the payoffs rather than their precise amount, and if one does not allow ties in the comparative rankings. See generally Anatol Rapoport & Melvin Guyer, *A Taxonomy of 2 x 2 Games*, 11 GEN. SYS. 203 (1966) (describing possible structures of incentives).

¹⁵⁶ Typically, an additional assumption of the Prisoner's Dilemma—and one reflected in the figure—is that a player does better when both players choose *c* twice in a row than with an alternated pairing of different choices (A chooses *c* while B chooses *d*, followed by A choosing *d* while B chooses *c*). See RASMUSEN, *supra* note 153, at 39.

¹⁵⁷ A game played only once is often called a "one-shot" game. See, e.g., RASMUSEN, *supra* note 153, at 88; FUDENBERG & TIROLE, *supra* note 153, at 145. Below, I discuss the crucially different analysis when the game is "iterated"—that is, played more than once. See *infra* part III.C-D.

player's point of view. If her opponent chooses *c*, then her own choice of *d* means that she will receive the highest payoff (a payoff of 5 in the example) rather than her second-highest payoff (her reward of 3 when both players choose *c*). Choosing *d* will therefore yield a higher payoff to her than *c*. Alternatively, if her opponent is planning to choose *d*, then her own choice of *d* means that she will receive the third-highest payoff (the reward of 1 to her when both choose *d*) rather than her worst payoff (the reward of 0 when she chooses *c* while her opponent chooses *d*). Again, *d* yields a higher payoff to her than *c*. The choice of *d* is thus, in game-theoretical terms, a "dominant" strategy: given any single choice of move by an opponent, one's own choice of *d* provides a bigger payoff than one's own choice of *c*.¹⁵⁸ Since both players operate under the same set of incentives, and since both players are assumed to be smart enough to look at affairs from their opponent's point of view as well as from their own, both players will reliably choose *d*.¹⁵⁹

It is common in the literature, if somewhat prejudicial to the inquiry, to label the actions *c* and *d* as "cooperate" and "defect," respectively. With this characterization of the actions available to each player, the Prisoner's Dilemma matches up neatly with the public-goods problem described above.¹⁶⁰ To "cooperate" in the public-goods case is to contribute to the production of

¹⁵⁸ See RASMUSEN, *supra* note 153, at 27-29 (discussing *d* as dominant strategy in one-shot Prisoner's Dilemma); See also *Id.* at 30-32 (discussing some additional conceptions of strategy dominance).

¹⁵⁹ This outcome is the "Nash equilibrium"-a very popular choice for defining the "logical" outcome of a game-for a game of Prisoner's Dilemma played a single time. See THOMAS C. SCHELLING, *THE STRATEGY OF CONFLICT* 113 (1960). See generally RASMUSEN, *supra* note 153, at 32-35 (discussing concept of Nash equilibrium); David M. Kreps, *Nash Equilibrium*, in *NEW PALGRAVE GAME THEORY*, *supra* note 152, at 167 (same).

¹⁶⁰ See John A.C. Coneybeare, *Public Goods, Prisoners' Dilemmas and the International Political Economy*, 28 *INT'L STUD. Q.* 5-8 (1984). Provision of a "public good" is also frequently described as a "problem of collective action." The seminal work is OLSON, *supra* note 143. When a good is rivalrous but non-excludable, See *supra* note 143 (discussing rivalrous and non-excludable goods), a "tragedy of the commons" is likely to result. See Garrett Hardin, *The Tragedy of the Commons*, 162 *SCI.* 1243 (1968). Whether initially characterizing the situation as a "Prisoner's Dilemma," a "public good," a "collective-action problem," or a "tragedy of the commons," most theoreticians consider all these metaphors for the difficulties of achieving cooperative solutions to be freely applicable. See, e.g., KEOHANE, *supra* note 142, at 67-69 (noting that Olson's discussion of the logic of collective action and Hardin's tragedy of the commons are structurally similar to the Prisoner's Dilemma); Anatol Rapoport, *Prisoner's Dilemma*, in *NEW PALGRAVE GAME THEORY*, *supra* note 152, at 199 ("Generalized to more than two participants . . . Prisoner's Dilemma becomes a version of the so-called Tragedy of the Commons") (citing G. Hardin, *supra*); THOMAS C. SCHELLING, *MICROMOTIVES AND MACROBEHAVIOR* 110-15

the public good, while to "defect" corresponds to a decision not to contribute.¹⁶¹ If player A can defect while player B cooperates, then A makes the greatest possible net gain: A, the free-rider, avoids paying any of the costs of producing the good but, because A by definition cannot practically be excluded from consuming the good, A nonetheless reaps the benefits of the good's production. If both players cooperate, then the good is produced, with each obtaining the same benefits as before but with the players splitting the costs. This outcome is not as pleasing to A as free-riding: he must make a contribution when both cooperate, but receives no greater benefits than when he is not contributing. The third-best outcome for player A occurs when neither player contributes: the good is not produced, which means that A reaps no benefits, but A also avoids any outlays. The worst outcome for A is to contribute when his rival does not, as this involves an outlay made only by A, and since he does not reap sufficient benefits to make up for the outlay, he is on the whole worse off than if the good had not been produced at all.

Figure 2 corresponds to a public-goods problem in which the total cost of producing the good is 5 units and the benefit to each individual from consuming the good is 4 units.¹⁶² Rather than conceptualizing the pair of actions abstractly as "cooperate" and "defect," one might, for example, imagine two nations with industrial plants located so close to their common border that all such plants affect the citizens of each nation equally. In this context, to "cooperate" might involve installation of pollution-control devices, while a choice to "defect" would be equivalent to

(1978) (discussing the commons as a Prisoner's Dilemma); RUSSELL HARDIN, *COLLECTIVE ACTION* 25-28 (1982) (discussing problem of collective action as a Prisoner's Dilemma). Art Stein has also described a "dilemma of common interests" similar to the tragedy of the commons. Arthur Stein, *Coordination and Collaboration: Regimes in an Anarchic World*, 36 INT'L ORG. 299, 306-07 (1982).

¹⁶¹ See RICHARD CORNES & TODD SANDLER, *THE THEORY OF EXTERNALITIES, PUBLIC GOODS, AND CLUB GOODS* 137-39 (1986) (providing Prisoner's Dilemma analysis and graphical exposition of collective action problem).

¹⁶² Note that, for a given individual, the costs of production exceed the benefits. If the benefits to a single individual instead exceeded the costs of producing the public good, then production of the good by that individual would be rational.

Note also that the public-goods case never meets the criterion, sometimes advanced as a characteristic of the Prisoner's Dilemma, See *supra* note 156, that continued mutual cooperation is superior to alternating pairs of different strategies. Because the good in question is a pure public good, the sum of the benefits to both players from mutual cooperation will always be the same as the sum of the benefits to both players when one cooperates and one defects, and the total costs of production are assumed to be the same regardless of whether one or two players contribute to the costs of production. The average of repeated mutual-cooperation outcomes will thus always be equal to-not greater than, as some require for a Prisoner's Dilemma-the average of alternating pairs of different strategies.

FIGURE 2: PURE PUBLIC GOODS AS A PRISONER'S DILEMMA

		PLAYER B	
		COOPERATE/ PARTICIPATE/ CONTRIBUTE	DON'T COOPERATE/ DON'T PARTICIPATE/ DON'T CONTRIBUTE
PLAYER A	COOPERATE/ PARTICIPATE/ CONTRIBUTE	(1.5, 1.5)	(-1, 4)
	DON'T COOPERATE/ DON'T PARTICIPATE/ DON'T CONTRIBUTE	(4, -1)	(0, 0)

leaving the plants' emissions uncontrolled.¹⁶³ Note that the payoffs bear the same relationship to one another as in the Prisoner's Dilemma described in Figure 1, although the exact payoffs are different.

C. Institutions and the Evolution of International Cooperation

Against this background of the Prisoner's Dilemma, the Institutionalists tell a tale of cooperation with two aspects. The first aspect involves importing a now-familiar conclusion

¹⁶³ Those desiring additional particularized examples of actual or potential international cooperation considered against the backdrop of a Prisoner's Dilemma may consult an extensive literature. See Joseph Grieco, *Realist Theory and the Problem of International Cooperation: Analysis with an Amended Prisoner's Dilemma Model*, 50 J. POL. 600, 601 n.2 (1988) (listing instances and citations). For specific examples, See Mancur Olson, Jr. & Richard Zeckhauser, *An Economic Theory of Alliances*, 48 REV. ECON. & STAT. 266 (1966) (international alliances); Charles P. Kindleberger, *International Public Goods Without International Government*, 76 AM. ECON. REV. 1 (1986) (international trade); Ernst Haas, *Words Can Hurt You; Or, Who Said What to Whom About Regimes*, in INTERNATIONAL REGIMES 23, 56-59 (Stephen D. Krasner ed., 1983) (international joint ventures in science and technology); *Developments in the Law-International Environmental Law*, 104 HARV. L. REV. 1484, 1534-36 (1991) (tropical rain forests, elephants, Antarctica, portions of the ocean, atmosphere, and global climate); JAMES K. SEBENIUS, NEGOTIATING THE LAW OF THE SEA 8-9, 12, 14 (1984) (discussing deep-seabed minerals and their treatment as "common heritage of mankind"); Stein, *supra* note 160 (International Coffee Agreement); LYNTON K. CALDWELL, INTERNATIONAL ENVIRONMENTAL POLICY 268-69 (1990) (outer space). Some of these authors are Institutionalists; some are not.

from game-theoretical studies of the Prisoner's Dilemma: repeated interactions among actors can lead to the evolution of cooperative strategies that give such cooperatively inclined actors a relative advantage over their less cooperative competitors. The second aspect of Institutionalism identifies the "institution" or the "regime" as the locus of such cooperation in the world of international relations, and then explores the advantages that institutions or regimes can provide.

In discussing this first aspect of their tale of cooperation, Institutionalists rely heavily upon Robert Axelrod's landmark work, *The Evolution of Cooperation*.¹⁶⁴ Axelrod, a scholar of international relations, conducted a series of tournaments involving the Prisoner's Dilemma in which the victors adopted strategies that tended to result in mutually cooperative outcomes. First, he invited fourteen game-theory experts to submit their "strategies" for playing a repeated (or "iterated") Prisoner's Dilemma.¹⁶⁵ A "strategy" was a set of rules for choosing an action for each pairwise interaction between players; a strategy could, if its author so desired, incorporate the "memory" of all previous interactions with a given player.¹⁶⁶ Axelrod then used a computer to referee a tournament in which each strategy played every other strategy 200 times.¹⁶⁷ He reported the results to the game-theory *literati* and invited submissions for a second round-robin tournament, which resulted in 62 individuals' strategies (including the original 14).¹⁶⁸ The strategy scoring the most points in *both* tournaments was a simple "tit-for-tat" strategy.¹⁶⁹ This strategy chose "cooperate" as its action in the first interaction with an opponent and thereafter chose in each round whichever action its opponent had chosen in the *previous* round.¹⁷⁰ In addition to these round-robin tournaments, Axelrod conducted an "ecological" tournament in which more successful strategies were more likely to be prevalent in the next round and less successful

¹⁶⁴ ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* (1984).

¹⁶⁵ *Id.* at 30-31. The payoff to each player in Axelrod's tournament was 3 for mutual cooperation and 1 for mutual defection; a player who defected when her opponent cooperated received 5 points to her opponent's 0 points. *Id.* These are the payoffs shown in Figure 1.

¹⁶⁶ An example of a "strategy" would be "defect if opponent has ever defected against me" or "cooperate if opponent cooperated in at least four of seven previous interactions with me." Players could also construct strategies not contingent upon previous interactions, such as "always cooperate" or "cooperate if a number greater than 0.553 is obtained from a random number generator set to produce, with equal likelihood, all three-digit numbers between 0 and 1." See generally *Id.* at 31-36, 39-40, 44-46 (discussing some strategies actually submitted, including those used in preliminary tournament not extensively described by Axelrod).

¹⁶⁷ *Id.* at 30.

¹⁶⁸ *Id.* at 41-43.

¹⁶⁹ *Id.* at 42. This strategy, authored by Anatol Rapoport, garnered 504.5 points in the first tournament and 434.73 points in the second. *Id.* at 193,200. The second-place finisher (which was a different strategy in the two tournaments) had scores of 500.4 in the first tournament and 433.88 points in the second. *Id.*

¹⁷⁰ *Id.* at 13.

strategies were less likely to be prevalent.¹⁷¹ Thus at the end of each of 1000 "generations" of round-robin iterations, Axelrod changed the composition of the population so that the proportion of each strategy was equal to the proportion of points it garnered in the most recent iteration relative to the total points garnered by all strategies.¹⁷² The "tit-for-tat" strategy triumphed in the ecological tournament as well-indeed, this strategy maintained its first-place ranking through all 1000 generations.¹⁷³

Not everyone believes unqualifiedly in the utility of Axelrod's tournament in the analysis of international cooperation. Some have criticized, in general terms, the fact that Axelrod focuses on pairwise interactions despite the fact that interactions in the real world may involve several entities simultaneously.¹⁷⁴ Others consider a Prisoner's Dilemma that presents players with only two choices to be an excessive oversimplification of international relations.¹⁷⁵ The Prisoner's

¹⁷¹ *Id.* at 49.

¹⁷² *Id.* at 48-53.

¹⁷³ *Id.* at 52-53. The successes of the "tit-for-tat" strategy in both the round-robin and the ecological tournament have led some to view this particular strategy as a panacea. In fact, simulations involving elimination tournaments and a wider array of strategies show that the "tit-for-tat" strategy is not always a clear winner. See Jack Hirshleifer & Juan C.M. Coll, *What Strategies Can Support the Evolutionary Emergence of Cooperation?*, 32 J. CONFLICT RESOL. 367 (1988). Axelrod himself notes that several simple strategies (including some described to all entrants) would have displaced the tit-for-tat strategy as victor in the first tournament if someone had entered them. AXELROD, *supra* note 164, at 39.

¹⁷⁴ For example, Cornes and Sandler, who are economists rather than IR scholars, have sounded a cautionary note about whether Axelrod's conclusions are relevant to the public-goods problem:

 Axelrod has investigated the evolution of cooperation in repeated games in a study that draws on the results of a computer tourney, in which he invited contestants to submit computer programs to play a repeated Prisoner's Dilemma. In general, it appeared that a simple tit-for-tat strategy performed extremely well, by virtue of its ability to secure cooperation from the other player. Such a result is certainly interesting, although its relevance to public goods problems is debatable. For one thing, we have pointed out that, even within the binary choice framework, the public goods problem may not conform to the Prisoner's Dilemma. Second, n-player games are more complicated than two-player games. Axelrod's tournament consisted of rounds of two-player contests, whereas our ultimate interest is in public goods models with many players. It is not clear that it makes much sense for an individual to punish or reward 99 others to secure their cooperation in later plays of the game.

CORNES & SANDLER, *supra* note 161, at 141-42 (citations omitted).

¹⁷⁵ See R. Harrison Wagner, *The Theory of Games and the Problem of International Cooperation*, 77 AM. POL. SCI. REV. 330, 331

Dilemma may not truly correspond to problems of providing public goods or collective action.¹⁷⁶ Analysis of a wide variety of other games may yield useful insights.¹⁷⁷ Even given these criticisms, however, the vast majority of works with a rational-choice flavor do employ the Prisoner's Dilemma as the central metaphor for international cooperation,¹⁷⁸ and, to the typical Institutionalists, the results of Axelrod's simulation with individual players are at least a useful source of metaphors for discussing the real world of international relations.¹⁷⁹ Because the

(1983) (criticizing implicit assumption of Prisoner's Dilemma that players know one another's choices and that they make only one choice each).

¹⁷⁶ See Duncan Snidal, *Coordination Versus Prisoners' Dilemma: Implications for International Cooperation and Regimes*, 79 AM. POLI. SCI. REV. 923, 924 (1985) [hereinafter Snidal, *Coordination Versus Prisoners' Dilemma*] ("a particular model of collective action, the Prisoners' Dilemma (PD), has incorrectly come to be treated as the problem of collective action . . . [and] sometimes even a very special case of PD-the public good problem-is treated as if it were the sole problem"); *Id.* at 931-41 (exploring "coordination" games and contrasting them to Prisoner's Dilemma). Snidal has also advanced a more general, methodological criticism, arguing that IR scholars typically use game theory only as a metaphor rather than as a tool for the rigorous disproof of hypotheses. See Duncan Snidal, *The Game Theory of International Politics*, in COOPERATION UNDER ANARCHY, at 25, 29-36 (Kenneth Oye ed., 1986).

¹⁷⁷ Many analysts have discussed games besides the Prisoner's Dilemma that may serve as useful metaphors in exploring problems of cooperation. See, e.g., Jack Hirshleifer, *Evolutionary Models in Economics and Law: Cooperation Versus Conflict Strategies*, in JACK HIRSHLEIFER, ECONOMIC BEHAVIOR IN ADVERSITY 223-48 (1987) (discussing evolutionary equilibria not only for Prisoner's Dilemma but also for "Tender Trap," "Chicken," "Hawk-Dove," and "Battle of the Sexes"); Abbott, *supra* note 1, at 368-74 (discussing "Stag Hunt" and "Coordination" games); CORNES & SANDLER, *supra* note 161, at 139-40 (noting that public-goods problem can also result in non-Prisoner's Dilemma games, such as "Chicken"). One should note, however, that a focus on relative, rather than absolute, gains can transform many of these other games into a Prisoner's Dilemma. See Snidal, *supra* note 142, at 704-10.

¹⁷⁸ See Snidal, *Coordination Versus Prisoners' Dilemma*, *supra* note 176, at 923-25; See also *supra* note 163 (providing plethora of examples of international relations analyses using Prisoner's Dilemma).

¹⁷⁹ In fact, Axelrod and the leading theorist of Institutionalism have co-authored an article discussing international cooperation in the light of Axelrod's work. See Robert Axelrod & Robert O. Keohane, *Achieving Cooperation Under Anarchy: Strategies and Institutions*, 38 WORLD POL. 226, 232-34, 244-47, 249 (1986); See also *Id.* at 231 ("contributors to this volume do not assume that Prisoners' Dilemmas are typical of world politics [but the Prisoner's Dilemma does] emphasize the

best-performing strategy in the tournaments was contingently cooperative, Institutionalists draw the conclusion that contingently cooperative strategies can lead to international cooperation of benefit even to resolutely self-interested nations.¹⁸⁰ In addition, because the Axelrod tournament used a Prisoner's Dilemma as the relevant game and measured the overall success of each participant against the overall success of others, Institutionalists conclude that international cooperation can occur even if it is a pure public good and even if nations use relative measures of success, respectively.¹⁸¹

Institutionalists did not simply point to Axelrod's work, however, and cry "*Voila!*" Instead, they sought a particular mechanism in the international arena that might allow states to adopt a cooperative strategy most effectively. They found that mechanism in the theory's eponymous "institution." The closely related notion of a "regime" is most commonly defined as a set of "principles, norms, rules and decision-making procedures around which actors' expectations converge in a given issue area."¹⁸² The most prominent scholarship of regime

fundamental problem that ... myopic pursuit of self-interest can be disastrous").

¹⁸⁰ There are many parallels between the "tit-for-tat" strategy and the notion of "reciprocity." See Robert O. Keohane, *Reciprocity in International Relations*, 40 INT'L ORG. 1 (1986); Axelrod & Keohane, *supra* note 179, at 244- 47; See also Smith, *supra* note 6, at 1595-98 (discussing reciprocity in international relations).

¹⁸¹ Both the round-robin and ecological tournaments involved a ranking of various strategies and to that extent measured relative success. On an interaction-by-interaction basis, however, Axelrod's tournament did not measure relative success: when both players received a "3" payoff, both players received an increase in their scores of "3," even though neither player scored a relative gain against the other. See generally Snidal, *Relative Gains*, *supra* note 142 (discussing how a relative view of gains inhibits cooperation).

¹⁸² Stephen D. Krasner, *Structural Causes and Regime Consequences: Regimes as Intervening Variables*, 36 INT'L ORG. 185, 185 (1982); See also Oran R. Young, *International Regimes: Problems of Concept Formation*, 32 WORLD POL. 331, 332-33 (1980) (describing regimes as social institutions, which may or may not be associated with "explicit organizational arrangements"); John G. Ruggie, *International Responses to Technology: Concepts and Trends*, 29 INT'L ORG. 557, 570 (defining regimes as "a set of mutual expectations, rules and regulations, plans, organizational energies and financial commitments, which have been accepted by a group of states"). One prominent Institutionalists defines regimes as "[f]ormal international organizations and codified rules and norms"; he defines "institutions" to include not only regimes as so defined but also less formal behaviors that are nonetheless "recognized by participants as reflecting established rules, norms, and conventions." ROBERT O. KEOHANE, *INTERNATIONAL INSTITUTIONS AND STATE POWER* vii (1989).

theorists has concerned regimes in international trade¹⁸³ and finance,¹⁸⁴ but various scholars have also asserted that regimes exist in areas as disparate as national security,¹⁸⁵ energy,¹⁸⁶ human rights,¹⁸⁷ and the international environment.¹⁸⁸ Whatever their exact nature, the established principles and procedures of these regimes (or associated institutions) make negotiations on any issue within the purview of the regime easier to conduct, and the identification of particular rules and procedures also assists in the detection and punishment of those who defect from the standards of the regime.¹⁸⁹ Institutionalists refer to these phenomena as the lowering of "information" or "transaction" costs, terms also employed by economists. Reductions in these costs lower the costs of cooperation, and thereby broaden or deepen the level of cooperation in international relations.

Institutionalism, then, draws its name from a belief that international institutions have a useful role to play in international relations. These regimes or institutions operate within an international arena in which cooperation, although characterized as a pure public good, can nonetheless occur as a result of the evolution of cooperative strategies within an iterated Prisoner's Dilemma. For purposes of my demonstration of the interdisciplinary exchange possible between Institutionalism and international law, "iterated" is a crucial word. I therefore now examine the concept of iteration, and its importance to Institutional thought, in greater depth.

¹⁸³ See, e.g., Jock A. Finlayson & Mark Zacher, *The GATT and the Regulation of Trade Barriers: Regime Dynamics and Functions*, 35 INT'L ORG. 561, 602 n.168 (1981); Charles Lipson, *The Transformation of Trade: The Sources and Effects of Regime Change*, 36 INT'L ORG. 417 (1982).

¹⁸⁴ See Benjamin J. Cohen, *Balance of Payments Financing: Evolution of a Regime*, 36 INT'L ORG. 457 (1982).

¹⁸⁵ Robert Jervis, *Security Regimes*, 36 INT'L ORG. 357 (1982) (discussing Concert of Europe during 19th century as well as Cold War security problems); Joseph S. Nye, Jr., *Nuclear Learning: U.S.-Soviet Security Regimes*, 41 INT'L ORG. 371, 374-78 (1987) (discussing superpower competition as involving aspects of regimes); Smith, *supra* note 6, at 1598-1603 (discussing arms control between United States and Soviet Union); cf. THOMAS C. SCHELLING, *THE STRATEGY OF CONFLICT* 225-26 (1960) (discussing arms race as involving tacit bargaining in iterated Prisoner's Dilemma); George W. Downs et al., *Arms Races and Cooperation*, in *COOPERATION UNDER ANARCHY* 118 (Kenneth Oye ed., 1986) (same).

¹⁸⁶ Robert O. Keohane, *The International Energy Agency: State Power and Transgovernmental Politics*, 32 INT'L ORG. 929 (1978).

¹⁸⁷ Jack Donnelly, *International Human Rights: A Regime Analysis*, 40 INT'L ORG. 599 (1986).

¹⁸⁸ See *INSTITUTIONS FOR THE EARTH: SOURCES OF EFFECTIVE INTERNATIONAL ENVIRONMENTAL PROTECTION* (Peter M. Haas et al. eds., 1993) (describing wide variety of environmental regimes).

¹⁸⁹ KEOHANE, *supra* note 142, at 89-90; See also Robert O. Keohane, *The Demand for International Regimes*, 36 INT'L ORG. 325 (1982).

D. *The Importance of Iteration in Institutional Theory*

An "iteration" is essentially a single "play" of a game, in which each player chooses her action, and then each player receives the payoffs assigned to the resulting interplay of actions. An "iterated" game, sometimes called a "repeated" or "multi-shot" game, involves more than one such iteration. As discussed above, the only rational strategy in a one-shot Prisoner's Dilemma is for players to defect.¹⁹⁰ In fact, the dominance of the "defect" action in the un-iterated Prisoner's Dilemma contaminates even some iterated versions of the game. In theory, if both players know the number of iterations with certainty, and if each player can be sure that she accurately perceives her opponent's choice of action, then rational players will not cooperate in the Prisoner's Dilemma for *any* fixed, finite number of iterations.¹⁹¹ Despite the possible virtues of cooperation during all but the final round, the final round is the logical equivalent of an un-iterated game. Choosing the "defect" action is therefore the dominant strategy in the final iteration, just as in the one-shot game. If both players know this, and are thus sure to defect in the last round, then a player choosing an action in the *penultimate* round cannot affect her opponent's incentives in this round by promising cooperation in the next round—which, as we will see below,¹⁹² is the key to the possibility of mutual cooperation in iterated games. Deprived of such an opportunity to affect future play, rational players facing the next-to-last iteration see the equivalent of a one-shot game and will therefore choose the "defect" action. With this next-to-last iteration predetermined as one involving mutual defection, players will find defection the only rational action in the second-from-last iteration, and so forth, until this process of "backward induction" unravels the fabric of cooperation all the way back to the very first round. In theory, therefore, the prerequisite for cooperation is not simply multiple iterations, but rather iterations of an

¹⁹⁰ See *supra* part III.B.

¹⁹¹ The explanation of this paragraph draws upon RASMUSEN, *supra* note 153, at 88-89; AXELROD, *supra* note 164, at 10; David Kreps et al., *Rational Cooperation in the Finitely Repeated Prisoners' Dilemma*, 27 J. ECON. THEORY 245, 246-48 (1982); See also Elliot Sober, *Stable Cooperation in Iterated Prisoners' Dilemmas*, 8 ECON. & PHIL. 127 (1992) (discussing difference between a game of fixed length and a game of the same average length but of uncertain length). But cf. Robert Sugden & Phillip Petit, *The Backward Induction Paradox*, 86 J. PHIL. 169, 170 (1989) (arguing that the reasoning of this paragraph, known as "backward induction," fails where player's initial beliefs are sufficient to support "testing" whether player's opponent is willing to cooperate). Reinhard Selten originally described the logic underlying this situation in terms of the "chainstore paradox," in which a store with multiple branches seeks to deter entrance into its markets by threatening a price war, despite the fact that such a price war will in the short run harm the incumbent more than allowing entry. See Reinhard Selten, *The Chain-Store Paradox*, 9 THEORY & DECISION 127 (1978).

¹⁹² See text accompanying *infra* note 194.

infinite or unpredictable length.¹⁹³

Increasing the number of iterations from a finite to an infinite number allows for mathematically rigorous demonstrations that cooperation is a rational strategy, even if both players are completely certain in their estimate of the other player's choice of strategy and valuation of the payoffs. Essentially, when there is no known final iteration (and thus no iteration in which defection is known to be the dominant strategy), the way is clear for the *possibility* of rational cooperation, so long as the players value sufficiently the prospect of future interactions.¹⁹⁴ The placement of a sufficiently high value on future interactions allows a player

¹⁹³ Experimental evidence, however, tends to show that individuals in finitely iterated Prisoner's Dilemmas typically cooperate for long stretches between the very beginning and very end of their iterations. Kreps et al., *supra* note 191, at 246. Compare AXELROD, *supra* note 164, at 10 ("If the game is played a known finite number of times, the players ... have no incentive to cooperate.") with *Id.* at 42 (describing use of unknown ending to avoid "minor end-game effects") (emphasis added). Individuals in a one-shot Prisoner's Dilemma, in contrast, rarely cooperate. See ANATOL RAPOPORT ET AL., *THE 2 x 2 GAME* 104 (1972).

Cooperation in a fixed, finitely iterated Prisoner's Dilemma is even possible in theory for at least part of the game, so long as a player has some small doubts about whether her opponent will actually behave rationally, See Kreps et al., *supra*, at 247-50, or so long as a player believes with some small probability that her opponent will behave with instrumental rationality but will assign some intrinsic value to cooperation, *Id.* at 251.

In addition, game theorists have shown that developing a reputation for behavior positively self-detrimental in the short run may in fact lead to long-run gains for a firm facing the chain-store paradox, even if the firm's competitors believe the chance that the firm will actually live up to its reputation is only a small one. David M. Kreps & Robert Wilson, *Reputation and Imperfect Information*, 27 J. ECON. THEORY 253 (1982). See also *supra* note 191.

Note, of course, that all of these results still depend upon some amount of iteration if cooperation is to occur.

¹⁹⁴ AXELROD, *supra* note 164, at 12-16. As Cornes and Sandler state in summarizing both their own thoughts and the work of others:

A particularly interesting question is whether repetition may encourage cooperative behavior. For example, suppose one of the two players follows a tit-for-tat strategy-adopting at each round the choice that the other player adopted in the previous round. This has the effect of punishing the other player for failure to contribute, while rewarding him or her for contributing. Taylor shows that, under certain conditions, mutual cooperation is an equilibrium. However, this depends on the numerical value of the discount rate used to weight future payoffs vis-a-vis the present, and other equilibria are possible. It is also the case that the

rationally to trade off short-term gains (from defecting while the other player cooperates) for longer-term gains (from mutual cooperation). The actual rationality of cooperation then depends upon the particular strategies adopted by the players. If, for example, both players adopt the so-called "grim strategy" (in which each cooperates until the other defects, and then grimly defects forever after), then rational players will both blissfully choose the cooperative outcome in their infinite number of interactions.¹⁹⁵ Regrettably, however, the infinitely iterated game "proves too much," as a lawyer would say. In any infinitely iterated game, any set of observed actions is in fact consistent with a rational strategy.¹⁹⁶ Universal cooperation is one such set of actions, but so too is universal defection, and anything in between.

The work of Robert Axelrod described above is therefore not *proof* that cooperation *will* evolve.¹⁹⁷ Rather, his tournaments constitute a *demonstration* of the possibility that cooperation *may* evolve. It is clear that iteration played an important role in Axelrod's tournaments. The tournaments involved large numbers of iterations, with 200 iterations in each round-robin tournament, and 1000 generations of 200 iterations in each of his ecological tournaments.¹⁹⁸ The tit-for-tat strategy that emerged in Axelrod's particular tournaments as the best strategy for obtaining the maximum (absolute) gains for a player is inherently iterative—the players' actions depend on what happened in a previous iteration¹⁹⁹—and a large number of the other successful

one-shot solution, with its implied inefficiency, remains a Nash equilibrium in repeated play, regardless of the value of the discount rate.

CORNES & SANDLER, *supra* note 161, at 141-42.

¹⁹⁵ I use rational here in a fairly rigorous sense to mean a "subgame perfect Nash equilibrium." This involves a strategy that results in a Nash equilibrium for every possible combination of outcomes across all iterations. See RASMUSEN, *supra* note 153, at 85 (discussing subgame perfect Nash equilibrium); *Id.* at 91 (discussing mutual choice of "grim strategy" as perfect Nash equilibrium).

¹⁹⁶ See RASMUSEN, *supra* note 153, at 92; Ariel Rubinstein, *An Optimal Conviction Policy for Offenses that May Have Been Committed by Accident*, in APPLIED GAME THEORY 406 (S.J. Brams et al. eds., 1979). This result is known as the "Folk Theorem."

¹⁹⁷ See AXELROD, *supra* note 164, at 15 ("It is the sad news that if the future is important, there is no one best strategy."). There is, therefore, no guarantee that the "best" interaction of strategies will yield an outcome with a high degree of cooperation.

¹⁹⁸ See AXELROD, *supra* note 164, at 30 (round-robin tournament); *Id.* at 52 (ecological tournament).

¹⁹⁹ The exception is in the first iteration, where, by definition, there are no previous iterations to take into account. The tit-for-tat strategy in Axelrod's tournament cooperated in its first iteration with a given player. AXELROD, *supra* note 164, at 13.

strategies also depended heavily upon iterations for their decision rules.²⁰⁰ In addition, many of the important assumptions implicitly made by Axelrod in constructing the tournament are consistent only with a densely iterative environment. For example, the likelihood that Axelrod's second round-robin tournament would end after a given iteration was less than one in 275,²⁰¹ and the ecological tournament was run out to 1000 generations.²⁰² Both these choices obviously imply an environment rich with the potential for extensive iteration.

The number of rounds in Axelrod's tournaments, and the use that successful strategies made of prior iterations, both imply the importance of iteration. In addition, the points awarded to a player for a given outcome did not vary with the round in which the outcome occurred.²⁰³ This structure assumes players value the near and distant futures equally. If interaction with another individual in the future were a chancy proposition, after all, then rational players would weight payoffs from initial encounters with another individual heavily and discount the payoffs from less certain future interactions.²⁰⁴ Moreover, individuals typically discount the future by weighing future gains less heavily than present gains (in contrast to the no-discount world of the Axelrod tournaments) even when future interactions are certain to occur.²⁰⁵ Such discounting can have dramatic effects on evaluation of future payoffs when one is making an evaluation over a lengthy period of time.²⁰⁶ For such discounting to have no effect, as is implicitly assumed in the

²⁰⁰ The most successful strategies in the first tournament, for example, all waited to defect until their opponent had done so in a prior iteration. AXELROD, *supra* note 164, at 33. A strategy that chose its action randomly rather than depending upon results in previous iterations was the last-place strategy. *Id.* at 30 (describing strategy); *Id.* at 193 (ranking strategies).

²⁰¹ AXELROD, *supra* note 164, at 42. This implies a median game length of 200 iterations. *Id.* at 217 n.5. The 5 versions of the 63-entrant tournament that Axelrod examined proved to have an average length of 151 iterations. *Id.*

²⁰² AXELROD, *supra* note 164, at 51.

²⁰³ AXELROD, *supra* note 164, at 30-31 ("payoff matrix for each move was the familiar one described [earlier in the book]") (emphasis added); *Id.* at 42 (stating that second tournament conducted as was the first, except for modification of when game was to end).

²⁰⁴ Axelrod discusses this phenomenon under the rubric of "the shadow of the future," although he fails to note the relationship between it and the assumptions implicit in his unchanging payoff structure. See AXELROD, *supra* note 164, at 12-16, 126-28.

²⁰⁵ Axelrod discusses this phenomenon and notes that it is a separate issue from the likelihood of future interaction. AXELROD, *supra* note 164, at 128, 130. He does not mention that the ranking and payoff structure of his tournaments implicitly assume a zero discount rate, although he does assert that a lower discount rate increases the likelihood of cooperation. *Id.*

²⁰⁶ See generally EDITH STOKEY & RICHARD ZECKHAUSER, A PRIMER FOR POLICY ANALYSIS 160-65 (1978) (discussing discounting and present value).

payoff structures of the Axelrod tournaments, the interactions must all occur within a relatively short period of time.²⁰⁷ In addition, when Axelrod and others examine policy prescriptions for increasing the chances of cooperation, an increase in the frequency of iterations is one of the leading contenders. These prescriptions include lengthening the "shadow of the future"—that is, increasing the likelihood of, or payoffs from, future iterations—by encouraging territoriality, community, public ceremonies, and so forth.²⁰⁸

Although mechanisms different from Axelrod's suggestions may suggest themselves in international relations, the utility of repeated interactions remains. Certainly, if regimes are standards of behavior around which expectations converge,²⁰⁹ then one is likely to require a number of interactions among a number of states before the expectations of participants have converged around a particular standard. Similarly, as anyone familiar with the common-law process of adjudication knows, even the most specific standard may need to await a particular application for the standard to be truly understood by its audience. The fact that the international environment often involves actors who bring greatly differing cultural expectations to the interpretation of such standards makes the process likely to require an even greater number of iterations than in an environment where participants share a host of background assumptions and experiences.

To summarize, in the absence of multiple iterations, there is essentially no chance for cooperation to evolve in the face of a Prisoner's Dilemma. In contrast, in the presence of multiple iterations, cooperation in the Prisoner's Dilemma may evolve. At least two iterations are necessary for cooperation even in theory. In practice (or at least in simulated practice), it would appear that a greater number, or a denser structure, of iterations leads to greater prospects for cooperation. Institutionalism maintains that international cooperation presents a Prisoner's

²⁰⁷ Indeed, technically, if the discount rate is greater than zero, then the "relatively short period of time" mentioned in the text must actually be a vanishingly small amount of time; otherwise, the discount rate will alter the effective payoffs in the later iterations. For our purposes, however, it is sufficient to note simply that a shorter time between iterations makes earlier and later payoffs more nearly the same, and that a shorter time between iterations is equivalent to a more densely iterative environment.

²⁰⁸ See AXELROD, *supra* note 164, at 126-32. Axelrod offers five methods of improving the prospects for cooperation. The first is lengthening the shadow of the future; the others are changing the payoffs, encouraging altruism, encouraging reciprocity, and easing the identification of other players. See *Id.* at 126-32; See also Axelrod & Keohane, *supra* note 179, at 232-34 (discussing ways to lengthen shadow of the future in international relations); Setear, *supra* note 152, at 616-23, 628-33 (discussing ways to lengthen shadow of the future in the discovery process in civil litigation).

²⁰⁹ See text accompanying *supra* note 182 (discussing definitions of regimes).

Dilemma. Implicitly, then, Institutionalism maintains that iteration is a necessary (though not sufficient) condition for the evolution of cooperation, and that a more densely iterative structure of interactions improves the prospects for cooperation.

IV. AN ITERATIVE PERSPECTIVE ON THE LAW OF TREATIES

The "iterative perspective," which holds that the law of treaties reflects a deep and pervasive concern with the promotion of iteration, predicts a wide range of rules in the law of treaties: its overall structure, its graduated increase in national obligations as the treaty process progresses, and its rules on termination. Because the iterative perspective offers advantages compared to the two theoretical justifications for the law of treaties discussed in Part II, the iterative perspective is worth developing in greater detail. The iterative perspective can be helpful not only in providing a theoretical justification for well-specified doctrines in the law of treaties, but also in clarifying the murkier provisions thereof, such as ambiguities concerning withdrawal and denunciation. The iterative perspective also predicts points of tension between doctrines set forth in the law of treaties, such as tensions involving fundamental changes in circumstance and peremptory norms, and international practice.

Part III described the importance of iteration in the evolution of cooperation in a Prisoner's Dilemma, and the importance of the iterated Prisoner's Dilemma in Institutional thought.²¹⁰ If the world of international relations bears some relationship to the world of Institutional theory, then iteration—the repeated and, in the treaty context, formalized interactions of nations—should play an important role in the evolution of cooperation in international relations. The law of treaties, as the specification of the rules by which nations pursue what may be the most important method of cooperation of all, should be one of the "institutions" that reflects a deep concern with iteration.²¹¹ I call this view of the law of treaties the "iterative perspective." Below, I explore the myriad ways in which the iterative perspective provides an illuminating viewpoint for examining the law of treaties, and even beyond that, for systematically examining certain provisions in particular treaties.

²¹⁰ See *supra* part III.C-D.

²¹¹ Abbott has formulated this "rational design hypothesis" as follows: "In situations of interdependence, the [Institutionalist] theory suggests, states will, and should, tend to design their international agreements and institutions to address the particular strategic situations in which they find themselves." Abbott, *supra* note 13, at 1-2 (footnotes omitted). In Abbott's particular application, the rational design hypothesis asserts, essentially, that nations will design treaties that produce information with a blend of verification and assurance, an assertion that Abbott teases out of an analysis of the Prisoner's Dilemma in the context of Institutionalism and the production of information in international agreements. See *supra* part I.A (discussing Abbott's article on the production of information in arms control agreements).

A. Explaining the Doctrines of the Law of Treaties

The consent- and legitimacy-oriented views discussed above provide a theoretical justification or explanation for the law of treaties. I here provide a similar examination of the law of treaties from the iterative perspective, focusing on four facets of the law of treaties: its overall phasing, its dispute resolution procedures, its structure of obligations, and its rules on termination.

1. The Phases (Iterations) of the Law of Treaties

The iterative perspective predicts that the law of treaties will display significant concern for iteration. This claim is presumably strengthened to the degree that the interactions structured by the law of treaties actually resemble the Prisoner's Dilemma studied by Institutionalists, with its multiple iterations and bi-modal choices. The overall structure of the law of treaties is in fact iterative. The law of treaties expressly sets forth two iterations, signature and ratification.²¹² At each of these iterations, a nation may formally cooperate with, or defect from, the efforts at cooperative action prescribed by the rules of the treaty at issue. These expressly denoted phases also imply two other phases. First, signature of a negotiated treaty implies negotiations, in which nations may (or may not) choose to participate. Second, the ratification phase ends with entry into force, and entry into force of a treaty implies a subsequent period during which the parties comply *vel non* with the treaty's terms. Thus, the law of treaties erects an iterative structure with four distinct iterations: negotiation, signature, ratification, and compliance. At each iteration, furthermore, the interpretation of a nation's actions is clear—at least so long as one equates a "treaty" with a "cooperative effort."²¹³ A decision to participate in negotiations, to sign, to ratify, or to comply after entry into force is cooperative. A failure to participate, sign, ratify, or comply is equivalent to the "defect" option in the Prisoner's Dilemma.

2. Dispute Resolution

The default dispute-resolution mechanism set forth in the Vienna Convention also has a strongly iterative cast.²¹⁴ A party seeking to reduce its obligations under a treaty as a result of

²¹² See text accompanying *supra* notes 37-40 (discussing signature); text accompanying *supra* notes 41-48 (discussing ratification).

²¹³ See also text accompanying *infra* notes 256-257 (discussing, in context of *jus cogens*, the underlying assumption that treaties embody cooperative goals).

²¹⁴ Parties often modify the default provisions set forth in the law of treaties. See generally *infra* part V.A.2 (discussing dispute-resolution provisions in particular treaties). Because parties often modify the default provisions, and because dispute resolution is to some extent separable from other aspects of the Vienna Convention, I discuss the default dispute-resolution provisions of the Convention here rather than as part of the law of treaties generally. See *supra* part I.A.

invalidity, termination, or withdrawal must notify other parties of its assertions.²¹⁵ If no other party objects to this notification within three months, then the party seeking to reduce its obligations may do so by unilateral action.²¹⁶ If another party does object, then the disputants are to "seek a solution through the means indicated in Article 33 of the Charter of the United Nations."²¹⁷ That article reads:

The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.²¹⁸

If these means do not result in a resolution of the dispute within twelve months, then, in the typical case, any party may submit the dispute to a conciliation commission²¹⁹ or, in the case of

²¹⁵ The Vienna Convention states:

A party which, under the provisions of the present Convention, invokes either a defect in its consent to be bound by a treaty or a ground for impeaching the validity of a treaty, terminating it, withdrawing from it or suspending its operation, must notify the other parties of its claim. The notification shall indicate the measure proposed to be taken with respect to the treaty and the reasons therefor.

Vienna Convention, *supra* note 35, art. 65(1).

²¹⁶ The Vienna Convention provides:

If, after the expiry of a period which, except in cases of special urgency, shall not be less than three months after the receipt of the notification, no party has raised any objection, the party making the notification may carry out in the manner provided in article 67 [which sets forth the formal requirements of the notification] the measure which it has proposed.

Vienna Convention, *supra* note 35, art. 65(2). This is not the most completely specified provision in the treaty. For example, the definition of "special urgency" is left open, as is how short a period is acceptable in such cases. In any event, however, three months appears to be the outer limit for the non-asserting party's opportunity to object.

²¹⁷ Vienna Convention, *supra* note 35, art. 65(3).

²¹⁸ U.N. CHARTER, art. 33, ¶ 1. Note that the U.N. Charter sets forth a substantive requirement, which states that "continuance of [the dispute] is likely to endanger the maintenance of international peace and security." The phrasing of article 65(3) of the Vienna Convention—"through the means indicated in Article 33 of the Charter of the United Nations"—Seems aimed at ensuring that any treaty dispute should be referred to one of the methods set forth in article 33, even if the treaty-related dispute is not so serious as to endanger international peace and security.

²¹⁹ See Vienna Convention, *supra* note 35, art. 66. The early paragraphs of the Annex to the Vienna Convention set forth the

a dispute involving *jus cogens*, to the International Court of Justice or an arbitration commission.²²⁰

This dispute-resolution scheme therefore highlights at least five events: notification of a desire to reduce one's obligations, objection to that reduction, resort to Article 33 methods of dispute resolution, resort to conciliation, and the issuance of a report by the conciliation commission. These events point to a number of iterations in any dispute resolution. The "objection" iteration would begin with transmittal of notification, and end three months later. The "Article 33" iteration would then begin, and would end one year later, followed by the "conciliation" iteration, which would end with the issuance of the conciliation commission's report (which must occur within two years of resort to such a commission).²²¹ The "dispute-resolution compliance" iteration would then begin.

Note also that, as with the twelve-months notice required for denunciation or withdrawal in the absence of express governing terms in the treaty,²²² this notice requirement should increase the chances for the parties to reach a cooperative solution. These rules of dispute resolution require several iterations before parties may legally abandon the cooperative framework set forth

procedural contours of the conciliation commission. *See Id.* Annex, paras. 1-2 (detailing procedure for selecting members of conciliation commission); *Id.* Annex, para. 3 (procedures generally). The substantive role of the commission is, as its name implies, conciliatory, not mandatory. *See Id.* Annex, para. 4 (commission "may draw the attention of the parties to the dispute to any measures which might facilitate an amicable settlement"); *Id.* Annex, para. 5 (commission "shall ... make proposals to the parties with a view to reaching an amicable settlement of the dispute"); *Id.* Annex, para. 6 (report of commission "shall not be binding upon the parties and it shall have no other character than that of recommendations submitted for the consideration of the parties in order to facilitate an amicable settlement of the dispute").

²²⁰ *See* Vienna Convention, *supra* note 35, art. 66(a) (when articles involving *jus cogens* are involved, any party may submit the dispute to International Court of Justice "for a decision unless the parties by common consent agree to submit the dispute to arbitration").

²²¹ The conciliation commission is to issue its report within one year of its creation. *See* Vienna Convention, *supra* note 35, at Annex, para. 6. It is created in two phases: first, four conciliators are appointed, and then the fifth commissioner, who is also the chairperson, is appointed. *See Id.* Annex, para. 2. Each of these phases is ordinarily to take no more than 60 days, but each phase may extend an additional 60 days under certain circumstances. *Id.* Two 120-day phases plus a 365-day year for issuance of the report would total 605 days, which as the text states, would be within two years of resort to the commission.

²²² Vienna Convention, *supra* note 35, art. 56(2).

in the treaty.²²³

3. The Graduated Obligations of the Law of Treaties

At each of the iterations mentioned just above, the interpretation of a nation's actions as "cooperate" or "defect" is relatively clear. Nonetheless, a nation undertakes a varying degree of obligation at each of the four iterations set forth expressly or implicitly by the law of treaties. A "uniform" pattern of cooperation-participation in negotiations, signature, ratification, and compliance-is uniform in kind, but the *degree* of cooperation required by the law of treaties increases with each iteration. From the iterative perspective, such a trend is perfectly sensible.

The obligations of a cooperating party increase as each of the four iterations described above unfolds. During negotiations, a party need not modify any of its behavior as a result of the (proposed) treaty's provisions, although a nation must presumably conduct its negotiations in good faith.²²⁴ Upon signature, a party must refrain from taking actions that would defeat the object and purpose of the (signed) treaty.²²⁵ Upon entry into force, a ratifying party must comply in good faith with all the obligations imposed upon it by the treaty's provisions.²²⁶ As

²²³ See also *infra* part V.A.2 (discussing the iterative nature of dispute-resolution mechanisms expressly provided by particular treaties).

²²⁴ Although the law of treaties sets forth no obligations relating to nations that have sent negotiators to an international conference, a generalized international legal duty to conduct a nation's international affairs in good faith appears to exist. See, e.g., Air Service Agreement of 27 March 1946 Between the United States and France, 18 R.I.A.A. 417 (1978), paras. 85-86 (stating that it is "tempting" to assert that parties in negotiations to resolve dispute are under a general duty not to aggravate the dispute as "a kind of emanation of the principle of good faith," and that tribunal "is far from rejecting such an assertion," but that one must define the principle more precisely in a particular case); Norwegian Loans (Fr. v. Nor.), 1957 I.C.J. 9, at 53 (July 6) (Lauterpacht, J., concurring) ("Unquestionably, the obligation to act in accordance with good faith, being a general principle of law, is also part of international law."), as quoted in JANIS, *supra* note 4, at 23; Vienna Convention, *supra* note 35, art. 26 (setting forth duty of good faith with respect to provisions of treaty in force); cf. OSCAR SCHACHTER, INTERNATIONAL LAW IN THEORY AND PRACTICE 100 (1991) (stating that nations generally intend to carry out in good faith the non-legal obligations they assume). One might infer therefrom a duty to conduct one's negotiations in good faith and thus, for example, a duty to refrain from fraud in one's negotiations.

²²⁵ See text accompanying *supra* note 40.

²²⁶ See text accompanying *supra* note 46. Note that there are four iterations but, in my description, only three different levels of obligation. This is because ratification does not result in any obligations beyond those incurred by signature-until the

the iterations of the law of treaties progress, therefore, a party can initially cooperate without undertaking any obligations regarding the eventual treaty; the party can then cooperate by hewing to its (negative) obligations with respect to a treaty's object and purpose; finally it can cooperate only by undertaking affirmative obligations, not only with respect to the object and purpose of the treaty but also with respect to any specific means for achieving that object and purpose set forth in the treaty's provisions.

Such a progression in obligations is highly consistent with an iterative perspective, although it does not, I would readily admit, necessarily fit neatly within the drastic simplifications of the iterated Prisoner's Dilemma. The typical Prisoner's Dilemma presents exactly the same choice of actions at each iteration: each player simply chooses *c* or *d* at each and every iteration, and the payoffs for each particular combination of actions remain constant in all iterations. In contrast, the progression of obligations specified in the law of treaties, while presenting a similarly bi-modal choice, involves different actions, and presumably different payoffs, at each iteration.

Nonetheless, viewed from an iterative perspective, the progression of obligations in the law of treaties makes a great deal of sense. Generally, an increase in the ability of players to identify one another, and especially to identify those who have adopted cooperative strategies, increases the likelihood that cooperation will evolve.²²⁷ In fact, under some conditions, only a small number of players with cooperative strategies is necessary to allow the cooperative players to achieve higher scores than uncooperative players—despite the much greater prevalence of the latter in the population as a whole—so long as the cooperatively inclined players can identify one another.²²⁸ Nations participating in the treaty process are identifying themselves to one another as cooperators (and, given the discreetness of the iterations and the relative clarity of their decisions in each iteration, are doing so in a way quite easy to recognize).²²⁹ This identification mechanism is in itself, regardless of any increase in obligations as iterations progress, a valuable

treaty actually enters into force. Upon entry into force the compliance phase begins for those who have ratified. See Vienna Convention, *supra* note 35, art. 18 (noting obligation to refrain from acts defeating object and purpose of treaty if nation has signed treaty or has expressed its consent to be bound by treaty); text accompanying *supra* notes 42-45 (discussing ratification and entry into force).

²²⁷ See AXELROD, *supra* note 164, at 139-41.

²²⁸ See AXELROD, *supra* note 164, at 63-69 (discussing "clustering").

²²⁹ This identification must be costly in some way, or the "signal" of cooperation will be no more meaningful than the "cheap talk" of communication between those in a one-shot Prisoner's Dilemma. See *supra* note 153. The costliness criterion would be met if, for example, those who signed but violated a treaty suffered a greater diminution in their international reputation than those who neither sign nor behave consistently with a treaty's strictures.

function served by the law of treaties. In addition, with the increase in obligations as iterations progress, the group of self-selected cooperators effectively increases the gains from cooperation by increasing the obligations undertaken at each iteration. While such an increase in payoffs might be risky in a group of undifferentiated players, the result in a group of self-selected cooperators should be the possibility of a more rapid or more fruitful evolution of cooperation.

Consider, for example, two versions of a two-round Prisoner's Dilemma, a "constant-obligation" version and an "increasing-obligations" version. Both games have, as their first round, the actions and payoffs set forth in Figure 1.²³⁰ In the constant-obligation version, the second round's actions and payoffs are identical to those in the first round. In the increasing-obligations version, the situation remains a Prisoner's Dilemma, but the second round's payoffs are as shown in Figure 3. The rewards to jointly cooperating players in the increasing-obligations version are greater in the second round than in the first round, while the second-round payoff to a

FIGURE 3: The Second-Round Payoffs for the Increasing-Obligations Prisoner's Dilemma

		PLAYER B	
		COOPERATE	DEFECT
PLAYER A	COOPERATE	(4, 4)	(0, 7)
	DEFECT	(7, 0)	(1, 1)

player who defects while her opponent cooperates is increased by an even greater amount.²³¹ My intention here is to reflect a situation in which greater obligations lead to greater gains if both players cooperate, but also lead to an even greater gain for a player who cheats while her opponent complies with the greater obligations. (To increase the gains from cooperation and lessen the relative gains from taking advantage of one's opponent would seem to stack the deck too much *in favor* of cooperation, and I wish here to show that cooperation can occur in the increasing-obligations game even if the deck appears to be stacked *against* cooperation.)

²³⁰ See *supra* part III.B.

²³¹ In the first round, the payoff when both players cooperate is 2 greater than when both defect; in the second round, the payoff when both players cooperate is 3 greater than when both defect. In the first round, the payoff to a player who defects while his opponent cooperates is 2 greater than when both cooperate; in the second round, the payoff to a player who defects while his opponent cooperates is 3 greater. Similarly, the ratio of payoffs in the second round would seem to tempt a player into defecting: the ratio of the I-defect- you-cooperate outcome to the both-cooperate outcome is 1.67 (5:3) in the first round, and a presumably more tempting 1.75 (7:4) in the second round.

In the absence of a way to identify and punish uncooperative players, such a change in payoffs might worsen the position of cooperative players in comparison to the constant-obligations game. Assume, for example, a tournament consisting of two players with an always-cooperate strategy and one player with an always-defect strategy, and assume that all three players participate in both the first and second rounds of a round-robin tournament. Figure 4 shows such a tournament. The always-defect player will score 7 more points than each of the always-cooperate players in the first round and 10 more points than each always-cooperate player in the second round.²³² The cooperative players thus fare (relatively) worse in the

Figure 4: Increasing Obligations Game, Always-Cooperate Strategies, Without Exclusion		
	Round One	Round Two
Player x Strategy: Always Cooperate	x and y	x and y
	c and c	c and c
	3 and 3	4 and 4
	x and z	x and z
	c and d	c and d
	0 and 5	0 and 7
	Total for Round One:	Total for Round Two:
	3	4
Player y Strategy: Always	y and x	x and y
	c and c	c and c
	3 and 3	4 and 4
	y and z	y and z

²³² In the first round, which uses the payoffs set forth in Figure 1, the always-defect player plays each of the always-cooperate players once, garnering 5 points each time, as each pairing is a defect-cooperate result from the point of view of the always-defect player. The always-cooperate players each face the always-defect player, for a gain of 0, and each other, for a gain of 3, as this is the cooperate-cooperate payoff. The always-defect player's total score for the round (10 points) is 7 points more than each always-cooperate player's total score for this round (3 points).

In the second round, which uses the payoffs set forth in Figure 3, the always-defect player now garners 7 points each time, for a total of 14, while the always-cooperate players gain 4 in their interaction with one another. The always-defect player's score of 14 in this second round is therefore 10 points more than each always-cooperate player's total for the round (4 points).

Cooperate	c and d 0 and 5 Total for Round One: 3	c and d 0 and 7 Total for Round Two: 4
Player z Strategy: Always Defect	z and x d and c 5 and 0 z and y d and c 5 and 0 Total for Round One: 10	z and x d and c 7 and 0 z and y d and c 7 and 0 Total for Round Two: 14

increasing-obligations game than in the constant-obligations game: their ever-defecting opponent scores 14 more points than they do in the first two rounds of the constant-obligations game, while that ever-defecting opponent scores 17 more points than they do in the increasing-obligations game.

If, in contrast, one can identify and then exclude the uncooperative player, the increasing-obligations game can favor the cooperative players when compared to the constant-obligations game. Figure 5 shows such a tournament. If only the two ever-cooperative

Figure 5: Increasing Obligations Game, Always-Cooperate Strategies, With Exclusion		
	Round One	Round Two
Player x Strategy: Always Cooperate	x and y c and c 3 and 3 x and z c and d 0 and 5 Total for Round One: 3	x and y c and c 4 and 4 Total for Round Two: 4
Player y Strategy: Always	y and x c and c 3 and 3 y and z	y and x c and c 4 and 4 Total for Round Two:

Cooperate	c and d 0 and 5 Total for Round One: 3	4
Player z Strategy: Always Defect	z and x d and c 5 and 0 z and y d and c 5 and 0 Total for Round One: 10	Excluded Total for Round Two: 0

players participate in the second round of the game, then each will score 6 points in the first two rounds of the constant-obligations game (3 each in each round) and 7 points each in the increasing-obligations game (3 in the first round and 4 in the second). In either version of the game, their ever-defecting opponent will score 10 points in the first round and then, excluded, will score no points in the second round. The increasing-obligations game is thus better for the cooperative players than the constant-obligations game, as the ever-cooperative players come closer in the increasing-obligations game to the score of the ever-defecting player.

Actually allowing players to exclude another player completely from the game stretches the usual treatment of identification and exclusion; a more traditional treatment of these mechanisms would be to substitute two players using the tit-for-tat strategy for the two always-cooperate players.²³³ Figure 6 shows such a tournament. Nothing changes in the first

Figure 6: Increasing Obligations Game, Tit-For-Tat Strategies		
	Round One	Round Two

²³³ In this version, the "identification" occurs when the tit-for-tat strategy incorporates previous iterations into its choice of action, in contrast, for example, to the always-cooperate strategy. The "exclusion" is represented by the resulting choice of "defect" when playing the always-defect player. This is a "more traditional" interpretation of the mechanism of "exclusion" because all strategies continue to participate in the tournament, whereas I arbitrarily eliminated the always-defect player in the previous, less traditional treatment of the increasing-obligations game.

Player x Strategy: Tit for Tat	x and y c and c 3 and 3 x and z c and d 0 and 5 Total for Round One: 3	x and y c and c 4 and 4 x and z d and d 1 and 1 Total for Round Two: 5
Player y Strategy: Tit for Tat	y and x c and c 3 and 3 y and z c and d 0 and 5 Total for Round One: 3	y and x c and c 4 and 4 y and z d and d 1 and 1 Total for Round Two: 5
Player z Strategy: Always Defect	z and x d and c 5 and 0 z and y d and c 5 and 0 Total for Round One: 10	z and x d and d 1 and 1 z and y d and d 1 and 1 Total for Round Two: 2

round of either the constant-obligations or increasing-obligations version of these games, since players employing the tit-for-tat strategy, like players employing the always-cooperate strategy, will cooperate on their first move. In either version, then, the tit-for-tat players will gain 3 points each in the first round, compared to the 10 points gained by their ever-defecting opponent. In the second round of either version of the games, the tit-for-tat players will "defect" when facing the always-defecting opponent, because the always-defecting player defected in the first round, and each such interaction will lead to 1 point for each participant. When facing each other in the second round of either version of the game, the tit-for-tat players will choose to "cooperate," because the other tit-for-tat player cooperated in the previous round. This cooperate-cooperate pairing will lead to only 3 points for each tit-for-tat player in the second round of the

constant-obligation game, but to 4 points for each such player in the second round of the increasing-obligations game. Figure 7 shows the secondround payoffs, both in absolute terms and

Figure 7: Summary of Increasing-Obligations Tournaments in terms of Second-Round Payoffs				
	Constant obligations game	Increasing obligations game. Always-cooperate strategies, without exclusion	Increasing obligations game. Always-cooperate strategies, with exclusions	Increasing obligations game. Tit for tat strategy
Player x or y*	6 (60%)	7 (50%)	7 (70%)	8 (75%)
Player z	10	14	10	12

*Number in parentheses is Player's score as percentage of Player z's score

expressed as a percentage representing the ratio of a cooperative player's score to the uncooperative player's score. Since the cooperative (tit-for-tat) players will do better in the increasing-obligations game compared to their performance in the constant-obligation game,²³⁴ one might conclude that the cooperative players will have a preference for the increasing-obligations game. The increasing-obligations structure of the law of treaties is thus consistent with the iterative perspective, at least under the set of assumptions made here.²³⁵

4. Termination

In addition to explaining the general structure of the treaty process and its increasing obligations, the iterative perspective can also explain a number of specific rules in the law of treaties governing termination. Termination might be seen as the equivalent, in game-theoretical terms, of allowing an end to the iterations between the parties, or at least an end to their interactions within the context of the law of treaties and the particular treaty at issue. The possibility of such an end to the game shortens the shadow of the future and thereby reduces the prospects for cooperation.²³⁶ Alternatively, one may view this sort of termination as imposing a "defect" action upon both players, which even more clearly lessens the prospects for cooperation. Those holding the iterative perspective should therefore be leery of allowing the

²³⁴ Since the tit-for-tat strategy reacts to the always-defect strategy by itself defecting, the increase in the defect-cooperate payoff becomes effectively irrelevant.

²³⁵ One should recall, however, that the Folk Theorem cautions against privileging a particular set of assumptions. See text accompanying *supra* note 196.

²³⁶ See text accompanying *supra* note 208 ("discussing shadow of the future").

termination of treaties. The law of treaties is in fact consistent with such leanness.

Take, for example, the issue of what might be called "global termination"- that is, the simultaneous extinction of *all* the obligations of *all* the parties. As discussed above,²³⁷ the default rule of the law of treaties specifies an infinite period of iteration for the parties to the treaty, thereby maximizing the length of the shadow of the future. There are exceptions, however:

The termination of a treaty or the withdrawal of a party may take place:

- (a) in conformity with the provisions of the treaty; or
- (b) at any time by consent of all the parties after consultation with the other contracting States.²³⁸

The parties, in other words, may override the usual anti-termination bias of the law of treaties. They may override this default bias either in advance of a particular situation, as allowed by sub-paragraph (a), or upon discovering that their mutual interests are best served by termination, as allowed by sub-paragraph (b). *In either case, however, they may override the default rule only by unanimous agreement.* These exceptions to the usual rule against termination, given their narrowness, therefore seem sensible even in the light of the generally anti-termination iterative perspective.

"Denunciation" or "withdrawal" are words applied to what one might call "local termination," in contrast to the "global" termination discussed above. In a "local" termination, a *particular* party asserts the simultaneous extinction of all of *its* obligations. As with global termination, the law of treaties should, if it is to be consistent with the iterative perspective, discourage such terminations. While the Vienna Convention is somewhat convoluted on this point, it does in fact disfavor local termination:

1. A treaty which contains no provision regarding its termination and which does not provide for denunciation or withdrawal is not subject to denunciation or withdrawal unless:
 - (a) It is established that the parties intended to admit the possibility of denunciation or withdrawal; or
 - (b) A right of denunciation or withdrawal may be implied by the nature of the treaty.
2. A party shall give not less than twelve months' notice of its intention to denounce or withdraw from a treaty under paragraph 1.²³⁹

After untangling the numerous negatives, one sees a presumption against withdrawals: a treaty silent on termination, denunciation and withdrawal is *not* subject to such terminations, *unless* one

²³⁷ See text accompanying *supra* note 62.

²³⁸ Vienna Convention, *supra* note 35, art. 54.

²³⁹ Vienna Convention, *supra* note 35, art. 56.

can show the various circumstances set forth.²⁴⁰ Those various circumstances are the equivalent of the unanimity requirement necessary with respect to global terminations, although here the focus is on the intentions of the parties upon entering into the agreement. Even if one may overcome the presumption against local termination and show unanimity in the parties' intentions to allow withdrawal, the withdrawing party must give a year's notice of its intention to withdraw. This latter sub-rule provides the parties with a significant amount of time in which to attempt a cooperative solution to whatever problem has given rise to a nation's desire to denounce or withdraw from the treaty at issue, and thereby attempts to stretch out the shadow of the future as much as possible even when a party has indicated that it intends to defect from the treaty. All in all, the rules of the Vienna Convention appear to evince a significant bias against both global and local termination, just as the iterative perspective would predict.

Other rules on termination and invalidity confer an expressly legal status upon the "tit-for-tat" strategy that proved so successful in encouraging the evolution of cooperation in Axelrod's densely iterative computer tournaments. A material breach by one party allows other parties to terminate their treaty obligations with respect to the breaching party.²⁴¹ Similarly, if a state discovers that it has been the victim of uncooperative behavior such as error, fraud, or coercion, then that state may legally retaliate by invalidating the treaty. The breach or error (or fraud or coercion) seems naturally characterized as a defection, and, tit for tat, the victim may then defect, blessed in doing so by the law of treaties.

B. Comparing the Iterative Perspective to the Consent- and Legitimacy-Oriented Views of the Law of Treaties

The analysis above shows some of the potential utility of an iterative perspective on the law of treaties. The iterative perspective can account for the general structure of the law of treaties, explain the gradual increase in obligations as the treaty process progresses, and account for the rules governing termination and invalidity. The iterative perspective therefore possesses sufficient depth and explanatory power to warrant further analysis. Before using the iterative perspective to illuminate ambiguities in the law of treaties and to examine certain tensions between the law of treaties and international practice, I briefly undertake an explicit comparison of the iterative perspective with the consent- and legitimacy-oriented views. The iterative perspective does not share the flaws of the consent- and legitimacy-oriented views discussed previously.²⁴² The iterative perspective on the law of treaties, however, does suffer from one disadvantage—a relative inattention to history or precedent—that the legitimacy-oriented view,

²⁴⁰ See also *infra* part IV.C.1 (discussing iterative perspective on various ambiguities in article on denunciation or withdrawal in absence of explicit provisions thereon).

²⁴¹ Vienna Convention, *supra* note 35, art. 60; See also *supra* note 69 (discussing material breach).

²⁴² See *supra* part II.B.1.b (discussing flaw in consent-oriented view); See also *supra* part II.B.2.b (discussing flaws in legitimacy-oriented view).

at least, does not possess.

1. An Advantage of the Iterative Perspective Over a Legitimacy-Oriented Perspective

The iterative perspective, with its focus on the single and more objective factor of iteration, is easier to apply than the legitimacy-oriented perspective, which focuses on multiple factors. As discussed above, one faces some daunting difficulties of aggregation in converting the sometimes-competing factors of determinacy, symbolic validation, coherence, and adherence into the final metric of legitimacy.²⁴³ For example, a new and clearer rule is, in the terminology of the legitimacy-oriented view, more determinate but reflects less symbolic validation (in light of the lack of pedigree inevitably possessed by a "new" rule). One would be hard-pressed to say in many cases whether the new rule is more or less legitimate. The iterative perspective, in contrast, focuses on a single concept—iteration—and thus involves fewer ill-defined balancings.

The relevant factors in an iterative perspective also seems easier to define than at least some of the characteristics involved in legitimacy theory. I have little difficulty in examining the law of treaties and concluding that it implies at least four iterations for a given treaty. I certainly cannot count the "coherence" of the law of treaties, and I am unsure of even some ordinal distinctions. Is a very close linkage between rules and a modestly rational principle more coherent than a loose linkage to a highly rational principle? Is a linkage to "equality" better than a linkage of the same strength to "consent" or "consistency"? The sharper focus and clearer conceptual definition of the iterative perspective therefore offer an important advantage over legitimacy theory.

2. An Advantage of the Iterative Perspective over a Consent-Oriented Perspective

An emphasis on iteration also offers the advantage of being more consistent than an emphasis on consent. As discussed above, the reliance upon sovereign consent to validate treaties, combined with an implicit unwillingness to carry through with that reliance once a treaty has been concluded, is an important inconsistency in consent-oriented views.²⁴⁴ The iterative perspective, in contrast, does not suffer from this inconsistency. From the iterative perspective, the law of treaties should seek to encourage iteration. The structure of the law of treaties and its specific rules do so. One may consistently maintain the iterative perspective on the law of treaties both before and after a treaty's entry into force. A nation that abandons its treaty obligations with a statement withdrawing its consent thereto is, in the iterative perspective, simply making quite clear its defection at a particular iteration—not, as is the case with the consent-oriented perspective, taking an action that calls into question the foundations of that perspective.

²⁴³ See *supra* part II.B.2.b.

²⁴⁴ See *supra* part II.B.1.b.

Indeed, in a sense, the iterative perspective is more thoroughly consent-oriented than what I have called the consent-oriented perspective. The iterative perspective simply assumes that nations retain *forever a choice* as to whether to cooperate or defect at each iteration—that is, as to whether to indicate, through their behavior, their consent to a treaty's rules or instead to "withdraw" the "consent" implied by a cooperative strategy and instead defect. The iterative perspective therefore maintains the same assumptive framework at each iteration. Nations have an *incentive* to cooperate through adherence to the law of treaties, but there is no theoretical inconsistency in the withdrawal by nations of their consent. Such behavior is a challenge to long-term cooperation, but not by itself a challenge to the theory underlying the iterative perspective. In the "consent-oriented" view, in contrast, a legally impermissible withdrawal of consent calls into question the validity of the consent-oriented perspective itself.

3. A Disadvantage of the Iterative Perspective in Comparison to the Consent- and Legitimacy-Oriented Views

Like many rational-choice theories, the iterative perspective suffers to some degree from a poverty of interpretation, especially the interpretation of the rich history of international relations. In its own way, admittedly, the evolution of cooperation depends upon the history of dealings between the parties. The strategies that thrived in Axelrod's tournaments, for example, used the history of past interactions to choose their present actions. One could hardly confuse a string of *c*'s and/or *d*'s with Toynbee or Gibbon, however. The consent-oriented view, in contrast, can call upon centuries of discussion about *pacta sunt servanda* to enrich its analysis. The legitimacy-oriented view, for its part, expressly incorporates historical events into its metric via the characteristic of symbolic validation, which in turn depends in part upon the "pedigree" of a particular rule. In addition, given the emphasis on a richly factual and historical past in domestic common-law systems based upon adherence to precedent, one must count the relative historical poverty of the iterative perspective as a special disadvantage in any efforts to garner support for the iterative perspective from the mainstream of legal academics, who, by training, are much more naturally inclined towards that subset of history denominated "precedent" than they are disposed towards analyses of the Prisoner's Dilemma.

C. Further Uses of the Iterative Perspective on the Law of Treaties

The iterative perspective is useful in explaining various aspects of the law of treaties—its overall structure, its gradually increasing obligations, and its specific rules on termination. The iterative perspective lacks the chief analytical disadvantages of the consent- and legitimacy-oriented views of the law of treaties, although the iterative perspective has a decontextualized flaw of its own. On balance, therefore, the iterative perspective seems a worthy contender as an explanation of the law of treaties. If the iterative perspective offers a persuasive overarching explanation for a number of general aspects of the law of treaties, then that perspective might also usefully inform specific debates about various ambiguities in the law of treaties, and might helpfully illuminate specific tensions between doctrine and practice. Here, I focus upon using the iterative perspective to resolve ambiguities regarding termination, and to

explore the dissonance between international practice and the law of treaties in two areas-fundamental changes in circumstances (a doctrine often also denominated *rebus sic stantibus*) and peremptory norms (often known as *jus cogens*).

1. Resolving Ambiguities in the Law of Treaties

Let me set forth once more article 56 of the Vienna Convention, which covers denunciation and withdrawal:

1. A treaty which contains no provision regarding its termination and which does not provide for denunciation or withdrawal is not subject to denunciation or withdrawal unless:
 - (a) It is established that the parties intended to admit the possibility of denunciation or withdrawal; or
 - (b) A right of denunciation or withdrawal may be implied by the nature of the treaty.

2. A party shall give not less than twelve months' notice of its intention to denounce or withdraw from a treaty under paragraph 1.²⁴⁵

The initial portion of this rule identifies two foci of inquiry. First, does a treaty have a provision regarding termination? Second, does a treaty have a provision providing for denunciation or withdrawal? If the answer to both questions is "no," then the provision expressly states the proper rule: the treaty is not subject to denunciation or withdrawal, except under the circumstances set forth in sub-paragraphs (a) and (b). If the answer to the second question is "yes," then denunciation or withdrawal would presumably be governed by the relevant treaty terms.²⁴⁶

The final possible configuration of provisions, however, presents an ambiguity: what is one to do when a treaty has a provision concerning termination but *does not have* any provisions treating denunciation or withdrawal? The language of article 56 provides no rules to govern this situation, nor does any other article in the Convention. One possibility is that a treaty mentioning termination is also *automatically* subject to withdrawal or denunciation. This possibility seems the likely outcome of a consent-oriented inquiry. If one emphasizes consent, one might bring to this particular question the general assumption that nations may generally withdraw from or denounce a treaty. In this view, article 56 simply states the one situation in which withdrawal or denunciation is limited (when an agreement lacks any provisions on

²⁴⁵ Vienna Convention, *supra* note 35, art. 56. See *supra* part IV.A.4 (discussing article 56 in terms of presumptions against giving legal effect to "local" and "global" defections).

²⁴⁶ Since the Vienna Convention contains no substantive provisions on denunciation and withdrawal except for article 56, the idea that treaty provisions on denunciation or withdrawal would govern is technically an inference, but it seems reasonable given the predilection of the Vienna Convention for setting forth default rules rather than immutable prescriptions.

extinguishing its obligations), and withdrawal or denunciation is allowed in all other situations, whether under the relevant provisions of the treaty (if express provisions exist) or under some general set of implied rules. The notion that withdrawal or denunciation is allowed when a treaty mentions only termination seems especially plausible if one believed that termination on the one hand, and withdrawal or denunciation on the other, were related notions. An express discussion of termination in a treaty would, in this view, show an intention by the parties to allow parties eventually to free themselves of their obligations, and withdrawal or denunciation would in this view seem similarly a way for parties to free themselves of their obligations. One might therefore infer an implicit right to withdraw or denounce from the explicit right to terminate.²⁴⁷

The iterative perspective, however, encourages a contrary view. Provisions on termination reflect a unanimous (and thus unusually weighty) determination by signatories to consider the extinction of the treaty obligations as a legally permissible action-despite the fact that such an extinction brings to a close a presumptively cooperative relationship. From the iterative perspective, one should generally be quite cautious about extending an inference about a simultaneous and globally applicable extinction of obligations (through termination) to an inference about the opportunity for a single player to defect unilaterally from the cooperative arrangement (withdrawal or denunciation). Express terms allowing termination should therefore *not*, in the iterative perspective, be equated with implied terms allowing denunciation or withdrawal.

A similar, iteratively induced bias against withdrawal or denunciation should apply when attempting to resolve various ambiguities in situations even where article 56 clearly *does* apply.²⁴⁸ Note, for example, that article 56 allows for "a right of denunciation or withdrawal [to

²⁴⁷ Of course, the consent-oriented view does include the anti-consensual notion of *pacta sunt servanda*. See *supra* part II.B.1.b (discussing logical inconsistency of consent-oriented view). In a consent-oriented view, one might emphasize the binding nature of treaties once they enter into force, and therefore argue that withdrawal or denunciation is disfavored. If each of these (opposite) inferences from the consent-oriented view is plausibly drawn, then the consent-oriented view would presumably be useless in resolving ambiguities in the law of treaties.

²⁴⁸ One commentator has advanced reasons on each side of the general question, resolved in the affirmative by article 56, of whether one can ever infer a right to denunciation or withdrawal:

There are two schools of thought on this question. On the one hand, some jurists consider that where the treaty itself is silent on the point, it is to be presumed that no such right exists, since the parties themselves would have made express provision for it. On the other hand, there are other jurists who take the view that the mere absence of a specific provision of a right of termination or withdrawal in the treaty should not be interpreted to mean that the right is thereby taken away, since, in their view, the right exists under customary international law in any case. The latter is

be implied by the nature of the treaty." As "the nature of the treaty" is not further defined, one is left with an ambiguity as to exactly when, in the absence of express provisions and of strong evidence as to the parties' intentions, treaties are naturally subject to withdrawal or denunciation. Some commentators assert that treaties of alliance, by their nature, allow for denunciation or withdrawal if silent on these matters, whereas peace treaties or treaties establishing territorial boundaries, owing to their impliedly contrary nature, do not allow for such withdrawals.²⁴⁹ I am not sure that I see the grounds on which this distinction rests, but in any event, an iterative perspective would involve a presumption against considering *any* particular class of treaties as naturally subject to denunciation or withdrawal. Treaties are presumptively cooperative arrangements, and thus their denunciation or withdrawal is presumptively a defection. The law of treaties should therefore discourage such defections by inferring rights of withdrawal or denunciation only grudgingly.

2. Tensions Between International Practice and the Law of Treaties

Despite significant support from commentators, the two concepts of *rebus sic stantibus* and *jus cogens* present a mixed record of application in international legal practice. Both doctrines have been explored elsewhere in great depth, but an analysis of these doctrines from an iterative perspective can nonetheless yield two insights. First, from the iterative perspective, the tension between these doctrines and international practice is predictable, and indeed, desirable. Second, an iterative interpretation of the concept of *jus cogens* both provides some guidance in determining its applicability and demonstrates the infrequency with which the concept should be applied.

to be preferred, as it is consistent with principle and makes for a certain degree of flexibility....

ELIAS, *supra* note 40, at 105. Note that this passage might support a legitimacy-oriented view in favor of allowing denunciation or withdrawal. To Elias, at least, allowing such local terminations is "consistent with principle" (and thus "coherent" in the legitimacy-oriented view) as well as being a right extant under customary international law (and thus, in the legitimacy-oriented view, possessed of greater symbolic validation, via its pedigree, than the alternative). *Id.*

One might also view this question as another example of the difficulty in applying the legitimacy-oriented framework to produce a clear answer. *Prohibiting* denunciation or withdrawal in this situation is also "consistent with principle"-the principle of *pacta sunt servanda*. The legitimacy-oriented criterion of determinacy does not seem to help much here, as either alternative involves the inference of what seem equally determinate rules ("do not allow denunciation or withdrawal" and "do allow denunciation or withdrawal") from the same indeterminate, express rule set forth in article 56. Nor does the adherence criterion of legitimacy-oriented analysis help much, as either alternative would place the resulting rule in the same general framework of interpretation shared by all the express rules of the Vienna Convention.

²⁴⁹ ELIAS, *supra* note 40, at 106.

The English-language version of the Vienna Convention translates *rebus sic stantibus* as a "fundamental change in circumstances." Article 62 allows fundamental changes to serve as grounds for termination of a treaty under certain exceptional circumstances:

A fundamental change of circumstances which has occurred with regard to those existing at the time of the conclusion of the treaty, and which was not foreseen by the parties, may not be invoked as a ground for terminating or withdrawing from the treaty unless:

- a. The existence of those circumstances constituted an essential basis of the consent of the parties to be bound by the treaty; and
- b. The effect of the change is radically to transform the extent of obligations still to be performed under the treaty.²⁵⁰

This presumption against *rebus sic stantibus*—"A fundamental change of circumstances ... may *not* be invoked ... *unless*"—is quite proper from an iterative perspective.²⁵¹ When applicable, the doctrine allows a party to defect from a treaty without legal penalty and without requiring any prior act of defection, such as breach or fraud, by another party to the treaty. The doctrine of *rebus sic stantibus* thus effectively shortens the shadow of the future, because a party successfully invoking the doctrine can defect without fear of legally authorized punishment in a future interaction. Therefore, the resistance of nations to most applications of this doctrine²⁵² is, from an iterative perspective, eminently justified.

Like *rebus sic stantibus*, the doctrine of *jus cogens* ("peremptory norms") allows a party to terminate its treaty obligations in the absence of any particular fault by non-terminating parties. The Vienna Convention addresses the *jus cogens* issue in article 53: "A treaty is void if, at the time of its conclusion, it conflicts with a peremptory norm of general international law."²⁵³ The Convention also attempts to give some further definition to the concept:

For the purposes of the present Convention, a peremptory norm of general international law is a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a

²⁵⁰ Vienna Convention, *supra* note 35, art. 62(1).

²⁵¹ Further reducing its availability, the Vienna Convention makes the doctrine unavailable with respect to treaties establishing boundaries, or if invoked by a party whose breach of any international obligation caused the changed circumstances. Vienna Convention, *supra* note 35, art. 62(2).

²⁵² See also Sinclair, *supra* note 42, at 192-96 (arguing that doctrine presents serious dangers to security of treaties). But See Athanassios Vamvoukos, Termination of Treaties in International Law 61-125 (1985) (discussing instances in which states have cited doctrine).

²⁵³ Vienna Convention, *supra* note 35, art. 53; See also *Id.* at art. 64 (declaring treaty terminated if conflicting peremptory norm arises after treaty's entry into force).

subsequent norm of general international law having the same character.²⁵⁴

A large number of commentators have argued for the acceptance of *jus cogens* as a valid concept in the law of treaties, despite the fact that *jus cogens* has not been recognized by nation-states as a viable doctrine.²⁵⁵ To some extent, as with *rebus sic stantibus*, the resistance of nations to *jus cogens* is justified when viewed from the iterative perspective. Applying *jus cogens* results in termination of cooperatively oriented treaty provisions despite the fact that neither party has defected from its obligations to the other party.

The iterative perspective, however, may also provide a rationale for applying *jus cogens* to terminate a treaty. Analysts typically assume the treaty process is cooperative.²⁵⁶ Ordinarily, there seems to be a close correspondence between the goals of treaties, which set forth rules for those agreeing to them, and the assumed goals of the international community. Defensive alliances, a well-defined end to hostilities, freer trade, a cleaner environment—all these seem to be both the ultimate and laudable ends of many treaties. If only some nations sign treaties related to these ends, we may excuse non-signatories as having bowed to the difficulties of collective action or public-goods production, or we may condemn those non-signatories for laxity or a lack of faith. We are unlikely, however, to criticize those who *do* consent to such agreements.

Where *jus cogens* is involved, however, the goals of the agreement by definition run counter to the opinion of the State community as a whole. In such a case, the behavior of two parties through the treaty process may be cooperative from their perspective, but a *defection* from the international system as a whole.²⁵⁷ One should, therefore, be willing to invert the usual

²⁵⁴ Vienna Convention, *supra* note 35, art. 53.

²⁵⁵ See SINCLAIR, *supra* note 42, at 18 (stating that "it is striking that a concept so widely supported in doctrine and in the writings of jurists has found so little application in practice"); See also JANIS, *supra* note 4, at 54 ("There Seems to be no example in modern international practice of a treaty being voided by a peremptory norm."). One might also note that the doctrine is inherently of limited application, as it comes into play only when two (or more) states agree to obligations violating the peremptory norm despite the opinion of the "international community of States as a whole." This latter group presumably constitutes a very large percentage of states, leaving few non-believers as candidates to be parties to the offending treaty.

²⁵⁶ See *supra* part III.A, note 163.

²⁵⁷ Janis summarizes the assertions by others of various *jus cogens*:

[T]here have been frequent assertions by states and others that certain principles of law are so fundamental as to be considered *jus cogens*. Probably the least controversial claim is that made for the basic principle, *pacta sunt servanda*, that international agreements are binding. Also well agreed upon in theory, if not so definitely in practice, are those principles in Articles 1 and 2 of the Charter of the United

recommendations of the iterative perspective and allow invalidation on grounds of *jus cogens*. Shortening the shadow of the future is, in this narrow set of cases, a *good* thing, because the international community does not desire the "cooperation" that would result from the usual application of the law of treaties. In this highly exceptional situation, the doctrine of *jus cogens* is quite defensible.

V. AN ITERATIVE PERSPECTIVE ON PROVISIONS IN PARTICULAR TREATIES

Thus far, I have examined the utility of the iterative perspective only with respect to the largely procedural law of treaties, rather than also delving into the substantive provisions of particular treaties. I have done so partly because a general consideration of individual treaties is a daunting task. The Vienna Convention is one agreement; there are literally thousands of others. I have also confined my focus to the law of treaties because to do otherwise would take consent-oriented theories, and to some extent legitimacy-oriented theories, further afield than they can comfortably go. The particular provisions of various treaties are, in the consent-oriented view, the result of consent and therefore binding. Their content, however, is otherwise indeterminate. Legitimacy-oriented theorists focus upon evaluating the "compliance pull" of whatever rules of international law confront them, rather than upon predicting what sorts of rules nations will seek. One might pursue the hypothesis that nations will tend to choose treaty provisions likely to produce compliance, but I do not develop or examine that hypothesis here.

Instead, I focus in this portion of the analysis on the utility of the iterative perspective in predicting rules beyond those contained in the law of treaties. As discussed above, the iterative perspective predicts a deep concern with promoting iteration in international cooperative efforts, and the law of treaties reflects that concern in many ways. Other cooperative efforts, namely the specific provisions of particular treaties, should also reflect an abiding concern for the promotion of iteration. An examination of virtually any treaty text shows that national governments do in fact include iterative obligations among their general treaty obligations. Almost every treaty includes some provisions governing "*intra-instrument iteration*"—that is, a promise by national governments in a particular treaty to undertake repeated meetings respecting the obligations of *that* treaty, involving either general meetings of the parties or specific efforts to resolve disputes. A smaller subset of treaties also includes provisions governing "*inter-instrument iteration*"—that

Nations, which guarantee the sovereignty of states Some human rights, too, are claimed to be protected by rules of *jus cogens*.

JANIS, *supra* note 4, at 54. Janis' discussion of *jus cogens* as applied to *pacta sunt servanda* seems superfluous. If two nations sign a pact declaring agreements invalid, one faces a sort of Cretan paradox: how do you enforce an agreement declaring that agreements are unenforceable? However, another possibility mentioned by Janis—that of radically undermining the notion of sovereignty—clearly serves as a useful example of a *jus cogens* which, if undermined, would constitute a defection from the international community. See *supra* notes 36, 83 (discussing importance of nation-state in international system).

is, a promise by national governments in one treaty to meet with one another regarding obligations to be contained in a *subsequent* treaty. Together, and in conjunction with the law of treaties, these treaty-specific iterations create a web of iterative interactions among nations in the creation of individual treaties, in the obligations of those treaties themselves, and in the meta-iterations of a whole series of treaties in a particular subject area.

A. *Intra-Instrument Iteration*

Intra-instrument iteration, as I define it, consists of promises, whether mandatory or contingent, to interact repeatedly in some fashion with respect to the subject matter of the instrument containing those promises. Devices of intra-instrument iteration include meetings, organizations, and dispute-resolution procedures.²⁵⁸

1. Meetings and Organizations

One can find treaty obligations relating to intra-instrument iteration in virtually any treaty.²⁵⁹ A common form of such iteration is a promise by the parties to meet periodically (often annually) to discuss matters relating to the treaty, and to constitute an organizational umbrella (typically with procedural rules specified by the treaty) under which to do so. That prescription for iteration exists in such disparate organizations and treaties as the European Parliament constituted by the Treaty of Rome,²⁶⁰ the Amazonian Cooperation Council set up by the Treaty for Amazonian Cooperation,²⁶¹ the General Assembly instituted by the Charter of the Organization of American States,²⁶² the Canada-U.S. Trade Commission inaugurated by the Canada-U.S. Free Trade Agreement,²⁶³ and the Assembly established by the United Nations Convention on the Law of the Sea (UNCLOS).²⁶⁴ Other treaties, however, use open-ended

²⁵⁸ Below, I discuss the particular provisions of particular treaties. The Vienna Convention specifies a default dispute-resolution procedure. See *supra* part IV.A.2.

²⁵⁹ A few treaties, however, simply effect a transfer of a claim to sovereignty over particular territory in exchange for a monetary payment, as in two 19th-century purchases by the United States Government. See *Cession of Louisiana*, Apr. 30, 1803, U.S.-Fr., 8 Stat. 200; *Cession of Alaska*, Mar. 30, 1867, U.S.-Russia, 15 Stat. 539. Treaties of this kind do not contemplate any ongoing relationship between the parties and thus lack obligations to engage in intra-instrument iterations.

²⁶⁰ Treaty of Rome, *supra* note 62, art. 139.

²⁶¹ Treaty for Amazonian Cooperation, *supra* note 50, at art. XXI.

²⁶² Charter of the Organization of American States, Apr. 30, 1948, art. 55, 2 U.S.T. 2394, 119 U.N.T.S. 3.

²⁶³ CUSFTA, *supra* note 38, art. 1802(3).

²⁶⁴ United Nations Convention on the Law of the Sea, art. 159(2), opened for signature Dec. 10, 1982, U.N. Doc. A/Conf 62/122, 21 I.L.M. 1261 [hereinafter UNCLOS]. The interval is not always an annual one. See U.S.-Egypt BIT, *supra* note 92, art.

language that simply mandates meetings "periodically" or "at regular intervals."²⁶⁵

Treaties may supplement these iterations with a largely ministerial organization, known as a secretariat, to assist with the iterative process by calling and administering meetings, preparing periodic reports for treaty members, and so forth.²⁶⁶ Some treaties also supplement the iterations conducted by a broadly empowered international organization (and supported by an administratively oriented secretariat) with meetings of organizations with a narrower focus or membership. Such organizations frequently meet more often than their larger counterparts. For example, UNCLOS requires its Council, consisting of 36 nations chosen from the general membership, to meet at least three times a year.²⁶⁷ Similarly, the United Nation's 15-member Security Council, which "shall be organized as to be able to function continuously," is much smaller than the all-member General Assembly, which "shall meet in regular annual sessions and in such special sessions as occasion may require."²⁶⁸

Although the implicit purpose of these meetings is to improve the functioning of the

VI(2) (stating that meetings between parties are to occur every two years); Convention on International Civil Aviation, Dec. 7, 1944, art. 48(a), 61 Stat. 1180, 15 U.N.T.S. 295 (stating that meetings among parties are to occur not less often than once every three years).

²⁶⁵ See Ozone Convention, *supra* note 45, art. 6(1) ("at regular intervals"); See also Treaty for Amazonian Cooperation, *supra* note 50, art. XX (ministers of foreign affairs may meet "when deemed opportune or advisable"); Antarctic Treaty, Dec. 1, 1959, art. IX(1), 12 U.S.T. 794, 798, T.I.A.S. No. 4780, 402 U.N.T.S. 71, 78 ("at suitable intervals"); European Convention for the Protection of Human Rights and Fundamental Freedom, Nov. 4, 1950, art. 35, 213 U.N.T.S. 221 ("as the circumstances require").

²⁶⁶ See, e.g., Ozone Convention, *supra* note 45, art. 7; UNCLOS, *supra* note 264, art. 166; U.N. CHARTER arts. 97-101. For an example of a secretariat with more substantive functions, See CITES, *supra* note 45, art. XII(2)(c) (permitting secretariat to undertake scientific and technical studies).

²⁶⁷ UNCLOS, *supra* note 264, art. 161(1), (5).

²⁶⁸ See U.N. CHARTER art. 23, ¶ 1 (listing five permanent members and stating that total members shall number 15); *Id.* art. 28, ¶ 1 ("The Security Council shall be organized as to be able to function continuously."); *Id.* art. 9, ¶ 1 ("The General Assembly shall consist of all the Members of the United Nations."); *Id.* art. 20 ("The General Assembly shall meet in regular annual sessions and in such special sessions as occasion may require."). Currently, the General Assembly has more than ten times as many members as the Security Council. Compare U.N. Charter, *supra* note 42, art. 23(1) (setting membership of Security Council at 15 nations) with 2 COUNTRIES OF THE WORLD AND THEIR LEADERS YEARBOOK 1902 (Thomas F. Bowen & Kelly S. Bowen eds., 1994) (listing 178 members of United Nations).

substantive regulations in the underlying treaty,²⁶⁹ nations also sometimes commit themselves in advance to a later iteration involving a general, express evaluation of the cooperative effort. The Basel Convention,²⁷⁰ which regulates international transport of hazardous wastes, mandates meetings devoted specifically to an "evaluation of [the treaty's effectiveness]" at six-year intervals.²⁷¹ Other treaties expressly commit the parties to iterations to consider revisions to the treaty's text. The Single European Act, for example, binds the parties not only to various annual meetings but also to meet five years after the treaty's entry into force specifically in order to discuss textual revisions,²⁷² and UNCLOS imposes a similar obligation upon the parties after observing a particular portion of the treaty's provisions in action for 15 years.²⁷³ The Nuclear Non-Proliferation Treaty specifies two iterative intervals: the parties are to meet every five years "to review the operation of [the Treaty with a view to assuring that the purposes of ... the Treaty are being realized,"²⁷⁴ and the parties are to meet 25 years after the treaty's entry into force to "decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods."²⁷⁵

2. Dispute Resolution

Treaties may not only mandate meetings among all the parties to a treaty but may also direct efforts by particular parties embroiled in specific disputes. The provisions of treaties often include specific mechanisms for dispute resolution,²⁷⁶ which typically set up a series of iterative

²⁶⁹ Some treaties specify this purpose of annual meetings expressly rather than implicitly. See Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, art. 10, T.I.A.S. No. 10541, 18 I.L.M. 1442, 1447 (1979) [hereinafter LRTAP Convention] (obliging parties to meet at least annually to "review the implementation of the present Convention"); CITES, *supra* note 45, at art. XI(3) ("At meetings, whether regular or extraordinary, the Parties shall review the implementation of the present Convention").

²⁷⁰ Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, U.N. Doc. UNEP/IG 80/3 (1989), S. TREATY DOC. NO. 5, 102d Cong., 1st Sess. (1991), 28 I.L.M. 657 [hereinafter Basel Convention].

²⁷¹ *Id.* art. 15(7).

²⁷² Single European Act, Feb. 17-28, 1986, art. 30(12), U.K.T.S. 31 (requiring parties to determine whether any revision of Title III is necessary).

²⁷³ UNCLOS, *supra* note 264, art. 155(1) (requiring Assembly to "convene a conference" to review treaty provisions relating to exploration and exploitation of the seabed and of the ocean floor beyond the limits of national jurisdiction).

²⁷⁴ NPT, *supra* note 42, art. VIII(3).

²⁷⁵ NPT, *supra* note 42, art. X(2). The NPT was recently extended indefinitely. Final Document on Extension of the Non-Proliferation of Nuclear Weapons, 34 I.L.M. 959 (1995).

²⁷⁶ For a description of the default rules of dispute resolution set forth by the Vienna Convention, See *supra* part

interactions between the parties to the dispute. A common scheme in international treaties concluded in the 1980s and 1990s mandates a three- iteration process for resolving disputes and can be found in UNCLOS,²⁷⁷ the UN Framework Conventions on Climate Change (Climate Change Convention)²⁷⁸ and on Biodiversity (Biodiversity Convention),²⁷⁹ and in the treaties regulating ozone-depleting substances.²⁸⁰ The first iteration typically involves an attempt to resolve the dispute on an unmediated, state- to-state basis, an effort usually referred to as "negotiation" or "consultation."²⁸¹ If this effort fails to resolve the dispute, the next iteration, often referred to as "conciliation" or "mediation," introduces an outside party to render non-binding recommendations or assistance.²⁸² If this second iteration also fails, the parties usually promise to consider, and sometimes actually promise to undertake, binding themselves to a third party's decision. The organizational forum for the third party may be an arbitral tribunal,²⁸³ the International Court of Justice,²⁸⁴ or an organization created by the treaty

IV.A.2. The Vienna Convention states that the rules for resolving disputes apply when a party "invokes either a defect in its consent to be bound by a treaty or a ground for impeaching the validity of a treaty, terminating it, withdrawing from it or suspending its operation." Vienna Convention, *supra* note 35, art. 65(1). If two parties to a treaty dispute the proper interpretation of its terms, but neither party attempts to terminate, withdraw from, or suspend its obligations under that treaty, then the Vienna Convention's dispute-resolution provisions would presumably not be triggered. The dispute-resolution procedures set forth in specific treaties, in contrast, typically govern all disputes. See, e.g., UNCLOS, *supra* note 264, art. 279 (treating "any dispute"); *Id.* art. 280 and *passim* (referring to "a dispute ... concerning the interpretation or application of this Convention"); Ozone Convention, *supra* note 45, art. 11 (setting forth procedures "[i]n the event of a dispute between Parties concerning the interpretation or application of this Convention").

²⁷⁷ UNCLOS, *supra* note 264, arts. 279-99.

²⁷⁸ Framework Convention on Climate Change, art. 14, June 4, 1992, 31 I.L.M. 849, 867 (1992) [hereinafter Climate Change Convention].

²⁷⁹ Convention on Biological Diversity, art. 27, June 5, 1992, 31 I.L.M. 818, 834 (1992) [hereinafter Biodiversity Convention].

²⁸⁰ Ozone Convention, *supra* note 45, art. 11. Subsequent protocols regulating ozone-depleting substances incorporate the dispute-resolution procedures of this convention.

²⁸¹ See, e.g., Ozone Convention, *supra* note 45, art. 11(1) ("negotiation"); UNCLOS, *supra* note 264, art. 283(1) ("parties ... shall proceed expeditiously to an exchange of views regarding [a dispute's] settlement by negotiation or other peaceful means").

²⁸² See, e.g., Ozone Convention, *supra* note 45, art. 11(2) ("mediation"); *Id.* art. 11(5) ("conciliation"); UNCLOS, *supra* note 264, art. 284(1) ("conciliation").

²⁸³ See, e.g., Ozone Convention, *supra* note 45, art. 11(3)(a); UNCLOS, *supra* note 264, art. 287(1)(c),(d). For discussions of private international arbitration, See Allesandra Carella, Arbitration in International Trade (working paper, Center for International and Development Economics Research, University of

especially and exclusively to resolve such disputes.²⁸⁵

Older treaties typically display less complex, less richly iterative dispute-resolution mechanisms, as one might expect from early efforts in any endeavor. The International Convention for the Regulation of Whaling (ICRW), signed in 1946, fails to mention dispute resolution at all.²⁸⁶ Subsequent treaties seeking to preserve biodiversity display a progressively more detailed and iterative specification of dispute-resolution mechanisms. The Convention on International Trade in Endangered Species (CITES), signed in 1973, advances a two-stage process but omits the non-binding, mediated stage of dispute resolution.²⁸⁷ The Biodiversity Convention, signed, along with the Climate Change Convention, at the "Earth Summit" in 1992, adopts the three-stage dispute-resolution scheme in all its glory.²⁸⁸

California, Berkeley, 1992); Parker School of Foreign and Comparative Law, *International Commercial Arbitration and the Courts* (1990).

²⁸⁴ See, e.g., Ozone Convention, *supra* note 45, art. 11(3)(b); UNCLOS, *supra* note 264, art. 287(1)(b).

²⁸⁵ See, e.g., UNCLOS, *supra* note 264, art. 287(1)(a) (mentioning International Tribunal for the Law of the Sea, to be established in accordance with Annex VI of UNCLOS). For an argument that, at least in the context of arms-control treaties, resort to a neutral third party is not especially likely to affect compliance, See Chayes, *supra* note 64, at 964-67.

²⁸⁶ See ICRW, *supra* note 45.

²⁸⁷ CITES, *supra* note 45, art. XVIII. A number of other treaties adopted roughly in the same period as CITES adopt a two-stage process. See, e.g., Antarctic Treaty, *supra* note 265, art. 11 (specifying as dispute-resolution procedures any peaceful means chosen by parties and failing that, referral to ICJ with consent of parties); Convention on the International Liability for Damage Caused by Space Objects, Mar. 29, 1972, art. XIV, 24 U.S.T. 2389, 2398, 1971 U.N. JurId. Y.B. 111, 114 (specifying diplomatic negotiations followed by a claims commission); *Id.* art. XIX (commission's ruling binding if parties so agree); International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, art. 10, I.M.C.O. Doc MP/CONF/WP 35, 12 I.L.M. 1319, 1326 (1973) (specifying diplomatic negotiations followed by arbitration); See also U.S.-Egypt BIT, *supra* note 92, art. VIII (requiring parties first to attempt negotiation, then either to proceed to the International Court of Justice, if both parties so agree, or to submit the dispute to an arbitral tribunal).

²⁸⁸ The relevant article specifies:

1. In the event of a dispute between Contracting Parties concerning the interpretation or application of this Convention, the parties concerned shall Seek solution by negotiation.

2. If the parties concerned cannot reach agreement by negotiation, they may jointly Seek the good offices of, or request mediation, by, a third party.

B. *Inter-Instrument Iteration*

In addition to the intra-instrument iterations described above, nations may undertake "*inter-instrument iterations*," which are promises in one treaty to engage in the subsequent set of iterations involved in *another* treaty. Although such provisions are typically not as extensive or common as those mandating intra-instrument iteration, they are noteworthy nonetheless. Two general approaches to inter-instrument iteration exist, although only one has received much attention. The "convention-protocol" approach to inter-instrument iteration involves an initial agreement with specific organizational provisions, vague substantive promises, and implicit or explicit promises to take on more focused substantive obligations in a future agreement. A less well-known approach, which I call the "linear" approach, attempts to guide future negotiations by specifically narrowing the scope of substantive obligations to be delineated in subsequent rounds and pays little attention to organizational provisions.

1. The Convention-Protocol Approach

In the "convention-protocol" approach, an initial "convention" identifies the subject matter of the relevant discussions, creates an administrative and procedural machinery, and sets forth vague substantive principles to guide future negotiations.²⁸⁹ In later treaties (the "protocols"), the parties, under the general framework erected by the convention, undertake the specific obligations that constitute significant limits on their behavior. This phenomenon echoes the progressive increase in obligations set forth with respect to all treaties in the phases of the law of treaties,²⁹⁰ although in the convention-protocol approach the later iterations involve entire treaties, not deeper obligations respecting the same treaty. This deepening of obligations with

Biodiversity Convention, *supra* note 279, art. 27(1)-(2). Paragraph 3 of article 27 gives parties, upon ratification, the option to accept either arbitration or submission to the ICJ as "compulsory," and paragraph 4 sets conciliation as the default procedure if none is specified upon ratification. *Id.* art. 27(3)-(4). Annex I to the treaty sets forth 16 articles describing arbitration procedures and six articles on conciliation. *Id.* annex I, pts. 1 (arbitration) & 2 (conciliation).

²⁸⁹ Neither the term "convention" nor the word "protocol" is limited to such instruments, however. In fact, the ICJ Statute refers to treaties as the law of "international conventions." I.C.J. STATUTE, art. 38(a)(a). The Vienna Convention, to take one example, contemplates no protocols, despite being styled a convention. Conversely, the START I treaty includes a half-dozen protocols but is not styled a convention, and the protocols were signed simultaneously with each other and with the main body of the treaty. See START I Letter of Submittal, *supra* note 47, at vii.

²⁹⁰ See *supra* part II.A (discussing progressive obligations).

further iteration, as discussed above,²⁹¹ displays a great deal of consistency with the iterative perspective.

The series of treaties governing the production and consumption of ozone-depleting substances provides an example of the convention-protocol approach. The Vienna Convention on Protection of the Ozone Layer (Ozone Convention) does not even expressly acknowledge that anthropogenic substances cause damage to the ozone layer,²⁹² and the only provision that one could possibly interpret as requiring parties actually to protect the ozone layer is vague indeed:

The Parties shall take appropriate measures in accordance with the provisions of this Convention and of those protocols in force to which they are party to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.²⁹³

The Convention does not further define "appropriate measures,"²⁹⁴ and the only obligations that it does create with any specificity involve the coordination of research efforts.²⁹⁵ Consistent with the convention-protocol approach, however, the Ozone Convention deals with matters of inter-instrument iteration in some detail. The Convention designates a conference of the parties, creates a secretariat, specifies dispute-resolution mechanisms, clarifies voting rights, and sets forth the usual provisions governing signature, ratification or accession, and entry into force.²⁹⁶

²⁹¹ See *supra* part IV.A.3 (discussing iterative rationale for progressive obligations).

²⁹² See RICHARD ELLIOT BENEDICK, *OZONE DIPLOMACY* 45 (1991) ("[N]owhere did the Vienna Convention specifically identify any chemical as an ozone-depleting substance."); See also Ozone Convention, *supra* note 45, art. 2(1) (describing "human activities which modify or are likely to modify the ozone layer") (emphasis added); *Id.* art. 2(2)(b) (describing coordination of efforts to be undertaken "should it be found that human activities have or are likely to have adverse effects" on the ozone layer) (emphasis added).

²⁹³ Ozone Convention, *supra* note 45, art. 2(1); See also *Id.* art. 2(2)(b) (stating that parties shall "[a]dopt appropriate legislative or administrative measures and cooperate in harmonizing appropriate policies ... should it be found that [human] activities have or are likely to have adverse effects" on the ozone layer).

²⁹⁴ See BENEDICK, *supra* note 292, at 45.

²⁹⁵ Ozone Convention, *supra* note 45, art. 2(2)(a) ("the Parties shall ... [c]ooperate by means of systematic observations, research and information exchange"); See also *Id.* art. 3 (describing relevant research); *Id.* art. 4 (encouraging exchange of "scientific, technical, socio-economic, commercial and legal information relevant to this Convention").

²⁹⁶ Ozone Convention, *supra* note 45, art. 6 (entitled "Conference of the Parties"); *Id.* art. 7 ("Secretariat"); *Id.* art. 9 ("Amendment of the Convention or Protocols"); *Id.* art. 11

In addition, and of crucial importance in the context of inter-instrument iteration, the Convention expressly contemplates follow-on protocols—"The Conference of the Parties may at a meeting adopt protocols pursuant to article 2"²⁹⁷—and makes many of its procedural rules expressly applicable to such protocols.²⁹⁸

In contrast to the Ozone Convention, the follow-on Montreal Protocol on Substances that Deplete the Ozone Layer²⁹⁹ commits the parties to highly specific obligations respecting ozone-depleting substances, such as:

Each party shall ensure that for the period 1 July 1993 to 30 June 1994 and in each twelve-month period thereafter, its calculated level of consumption of the controlled

("Settlement of Disputes"); *Id.* art. 12 ("Signature"); *Id.* art. 13 ("Ratification, Acceptance or Approval"); *Id.* art. 14 ("Accession"); *Id.* art. 15 ("Right to Vote") (stating that each party shall have one vote); *Id.* art. 17 ("Entry into Force"); d. art. 18 ("Reservations") (barring reservations); *Id.* art. 19 ("Withdrawal"); *Id.* art. 20 (governing depositary).

²⁹⁷ Ozone Convention, *supra* note 45, art. 8(1).

²⁹⁸ Ozone Convention, *supra* note 45, art. 9 (governing "Amendment of the Convention or Protocols") (emphasis added); *Id.* art. 13(1) (stating that "Convention and any protocol shall be subject to ratification, acceptance or approval by States") (emphasis added); *Id.* art. 14 (stating that "Convention and any protocol shall be open for accession") (emphasis added); *Id.* art. 15 (stating that "[e]ach Party to this Convention or to any protocol shall have one vote") (emphasis added).

Two rules state the overarching nature of the Convention with respect to protocols. See *Id.* art. 16(1) ("A State or a regional economic integration organization may not become a party to a protocol unless it is, or becomes at the same time, a party to the Convention."); *Id.* art. 19(4) ("Any Party which withdraws from this Convention shall be considered as also having withdrawn from any protocol to which it is a party."); cf. *Id.* art. 16(2) ("Decisions concerning any protocol shall be taken only by the parties to the protocol concerned."). The rules regarding some procedural aspects of the convention-protocol process are consistent with the possibility that fewer parties will join a given protocol than the (impliedly broader) convention. Compare *Id.* art. 17(1) (convention enters into force 90 days after 20th party's ratification) with *Id.* art. 17(2) (protocols enter into force 90 days after 11th party's ratification). Compare also *Id.* art. 9(3) (requiring three-fourths majority of parties to convention in order to pass amendments to convention) with *Id.* art. 9(4) (requiring two-thirds majority of parties to protocol in order to pass amendments to protocol).

²⁹⁹ Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1550 (entered into force Jan. 1, 1989) [hereinafter Montreal Protocol].

substances in Group I of Annex A³⁰⁰] does not exceed, annually, eighty per cent of its calculated level of consumption in 1986.³⁰¹

The Protocol sets forth a reduction schedule for a variety of substances through 1999, stated in terms of percentage reductions from a 1986 baseline,³⁰² excepts nations with low production levels of regulated substances³⁰³ and developing nations³⁰⁴ from the general timetable of reductions; and sets forth a quantitative, weighted-contribution scheme for determining allowed production within certain broad groupings of ozone-depleting substances.³⁰⁵ The Protocol also incorporates by reference several provisions of the Convention.³⁰⁶

The iterative process set in motion by this convention-protocol scheme has continued with two major, subsequent rounds which have broadened and deepened international cooperation with respect to ozone-depleting substances. Thus, the convention-protocol approach shows that iteration may lead to a cooperative dynamic. Both documents subsequent to the Montreal Protocol are styled as revisions thereto rather than as new protocols. The "London Revisions"³⁰⁷ to the Montreal Protocol lengthened the list of chemicals subject to regulation, and also shortened the timetable for reducing production and consumption of previously regulated chemicals.³⁰⁸ The "Copenhagen Revisions"³⁰⁹ further lengthened the list of regulated chemicals and further shortened the reduction timetables.³¹⁰ The Copenhagen Revisions also led to significant progress in actually financing an international fund for relevant

³⁰⁰ Annex A lists eight regulated substances. Five are chlorofluorocarbons (CFCl₃, CF₂Cl₂, C₂F₃Cl₃, C₂F₄Cl₂, and C₂F₅Cl), while three are halons (CF₂BrCl, CF₃Br, and C₂F₄Br₂). *Id.* annex A.

³⁰¹ *Id.* art. 2(3).

³⁰² *Id.* art. 2(1)-(4).

³⁰³ *Id.* art. 2(5) (allowing nations with production of less than 25 kilotons/year as of 1986 to form a group, within which individual nations may fail to meet reductions schedule, so long as the group considered as a whole meets percentage reductions).

³⁰⁴ *Id.* art. 5(1) (delaying timetable of reductions for developing nations); *See also Id.* art. 19 (setting forth more generous rules for withdrawal for developing nations).

³⁰⁵ *Id.* art. 3 & annex A.

³⁰⁶ *Id.* art. 14 ("Except as otherwise provided in this Protocol, the provisions of the Convention relating to its protocols shall apply to this Protocol.").

³⁰⁷ Adjustments and Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, done June 29, 1990, 30 I.L.M. 537 [hereinafter London Revisions].

³⁰⁸ *Id.* arts. 2C, 2D, 2E; *Id.* annex B, C.

³⁰⁹ Adjustments and Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, done Nov. 25, 1992, 32 I.L.M. 874 (1993) (entered into force June 14, 1994) [hereinafter Copenhagen Revisions].

³¹⁰ *Id.* art. I(EE) (new list of regulated chemicals); *Id.* art. I(D), (G), (H), (I) (shortening timetables).

technology transfers that had first been mentioned in the Montreal Protocol.³¹¹

The Climate Change Convention and Biodiversity Convention show this process at work in other environmental areas, though no follow-on protocols yet exist for these agreements. The participating states in each convention agree upon a common but very general approach to the problem,³¹² undertake reporting obligations,³¹³ imply the likely distribution of the costs across

³¹¹ The evolution of provisions concerning the so-called "financial mechanism" for technology transfers is a good example of increasing specificity with repeated iterations. The Ozone Convention breathes not a word about money. See Ozone Convention *supra* note 45. The Montreal Protocol mentions "funds required for the operation of this Protocol, including those for the functioning of the secretariat." Montreal Protocol, *supra* note 299, art. 13(1). These funds relate to financing the organization, but the Montreal Protocol does not mention transfers of funding among member nations, cf. *Id.* art. 10(2) (mentioning requests by a nation for "technical assistance" from other nations); *Id.* art. 10(3) (mentioning "workplans"). The London Revisions, however, are straightforward and specific about financial matters:

The Parties *shall* establish a mechanism for the purposes of providing financial and technical cooperation, including the transfer of technologies, to [developing nations] to enable their compliance with the control measures set out in [article 2] of the Protocol. The mechanism, *contributions* to which shall be additional to other financial transfers to Parties operating under that paragraph, shall meet all agreed incremental costs of such Parties in order to enable their compliance with the control measures of the Protocol.

London Revisions, *supra* note 307, art. 10(1) (emphasis added); See also *Id.* art. 10(2)-(9) (describing "Multilateral Fund" to be included in mechanism described above). The Copenhagen round of revisions resulted in various specific pledges of contributions to this fund. See Copenhagen Revisions, *supra* note 309; *Terms of Reference for the Multilateral Fund*, in Documents in International Environmental Law 244 (Philippe Sands et al. eds., 1994) (setting forth various financial contributions, and other duties, of nations participating in Multilateral Fund).

³¹² See Climate Change Convention, *supra* note 278, arts. 2-4 (describing goals such as stabilizing greenhouse gasses to prevent dangerous human interference with climate, acting on the basis of equity, taking into account different responsibilities and capabilities of different nations, and taking "appropriate action" such as information exchange and formulation of national programs to mitigate climate change); Biodiversity Convention, *supra* note 279, art. 1 (treaty aims to conserve and promote sustainable use of biological diversity, and to share fairly benefits arising out of use of genetic resources). The Biodiversity Convention's section entitled "Principle" is elastic enough to state both that nations have "the sovereign right to exploit their own resources" and that they have the "responsibility to ensure that activities within their jurisdiction or control do not cause damage to the

broad categories of nations,³¹⁴ and promise to revisit the problem in the near future.³¹⁵ As with the Ozone Convention, the vagueness of the parties' substantive obligations in these conventions leads one to the conclusion that the parties have done little *except* to commit themselves to an iterative process, with little clue as to the ultimate outcome.³¹⁶

Ozone-depleting substances present an example of what might be called a "deep" convention-protocol approach: nations sign a convention contemplating at least one future protocol, and the post-convention documents increase the depth of regulatory detail involved. In other issue areas, documents not formally styled according to a convention-protocol approach serve a similar function. The International Convention for the Regulation of Whaling (ICRW)³¹⁷ sets forth very general principles governing international whaling,³¹⁸ informational

environment of other States," without making any attempt to reduce (or even acknowledge) conflict between the right and the responsibility. *Id.* art. 3.

³¹³ See Climate Change Convention, *supra* note 278, art. 12(1)-(2) (requiring all parties to report on anthropogenic emissions and implementation efforts, and requiring developed nations to provide greater detail and estimate of impact of implementation measures on emissions and absorptions); Biodiversity Convention, *supra* note 279, art. 7 (stating that each "Party shall, as far as possible and as appropriate," identify and monitor biological diversity and human impacts thereon); See also *Id.* art. 26 (requiring parties to present to conference reports on measures taken to implement provisions of treaty and effectiveness of such measures).

³¹⁴ See Climate Change Convention, *supra* note 278, art. 4(2) (setting forth greater responsibilities for developed nations); Biodiversity Convention, *supra* note 279, art. 20(2), (4) (imposing special obligations on developed nations and noting that developing nations' implementation of treaty will depend upon expenditures of developed nations).

³¹⁵ See Climate Change Convention, *supra* note 278, art. 7 (obliging conference of parties to meet within one year of treaty's entry into force); Biodiversity Convention, *supra* note 279, art. 23 (same).

³¹⁶ The vagueness of these obligations, however, may make perfect sense. Previous efforts with respect to climate change and biodiversity were quite piecemeal. In the framework conventions, the parties therefore seek a cooperative solution to a problem with respect to which they have not cooperated much previously. The evolution of cooperation in international relations does not occur overnight, and the unfamiliarity of the issue area may mean that the substantive outlines of a solution are unclear-especially when the scientific or engineering information underlying rational policymaking is absent or rapidly changing.

³¹⁷ ICRW, *supra* note 45.

³¹⁸ The preface of the ICRW sets forth various concerns and hopes, but no binding obligations. ICRW, *supra* note 45, preface. The body of the treaty, however, contains one specific obligation

requirements,³¹⁹ procedural rules regarding organizations and meetings,³²⁰ amendments to the Schedule,³²¹ and the like. The Convention states that parties will undertake their detailed regulation in a "Schedule," governed by the rules of the Convention³²² (and expressly subject to reservations).³²³ The schedules to the ICRW have evolved in a fashion similar to the post-convention documents regulating ozone-depleting substances: both the number of objects of regulation (i.e., species of whales) and the stringency of regulation (i.e., the limits on the allowable catch) have increased over time.³²⁴ In fact, the Convention has become nearly

related directly to whaling itself: "No bonus or other remuneration calculated with relation to the results of their work shall be paid to the gunners and crews of whale catchers in respect of any whales the taking of which is forbidden by this Convention." *Id.* art. IX, para. 2.

³¹⁹ ICRW, *supra* note 45, art. IV (providing that commission established by convention should encourage studies and documentation relating to whales and whaling); *Id.* art. VIII, paras. 3-4 (obliging governments to transmit scientific information about whales and whaling at least annually, and requiring governments to take "all practicable measures" to obtain biological data from whalers).

³²⁰ ICRW, *supra* note 45, art. III (establishing International Whaling Commission); *Id.* art. III(7)-(8) (describing meetings).

³²¹ ICRW, *supra* note 45, art. V (describing justifications and topics for Schedule amendments, as well as entry into force of amendments and rules treating objections). The ICRW does not expressly describe a procedure for amending the Convention itself.

³²² ICRW, *supra* note 45, art. I ("This Convention includes the Schedule attached thereto which forms an integral part thereof."); *Id.* art. V, para. 2 (describing justifications and topics for Schedule).

³²³ ICRW, *supra* note 45, art. V, para. 3.

³²⁴ There is at least one provision in the 1946 Schedule applying to at least one of seven specifically named species of whales: blue, fin, gray, humpback, right, sei, and sperm. ICRW, *supra* note 45, Schedule, paras. 2, 9. By 1972, there is at least one such provision for three additional species: sperm, minke, and Byrde's. Amendments to the Schedule to the International Whaling Convention, London, done on June 30, 1972, para. 8(a), 23 U.S.T. 2820, T.I.A.S. No. 7471 (entered into force Oct. 5, 1972) [hereinafter ICRW, Schedule (1972)]. By the 1980s, there is at least one such provision for another six species: beaked, bottlenose, bowhead, killer, pilot, and pygmy right. Amendments to the Schedule to the International Convention for the Regulation of Whaling, Bournemouth, done on July 19, 1985 (entered into force Jan. 29, 1986), in THE MARINE MAMMAL COMMISSION COMPENDIUM OF SELECTED TREATIES, INTERNATIONAL AGREEMENTS & OTHER RELEVANT DOCUMENTS ON MARINE RESOURCES, WILDLIFE, & THE ENVIRONMENT 1557, 1559-61 (1994) [hereinafter ICRW, Schedule (1986)]. Assessing the stringency of regulation is more complex owing in part to the shifts in regulatory regime, *See infra* note 325, but at least two differences are incontestable. First, takings of blue whales were

sacrosanct while the schedules have proven quite mutable: the "Convention" portion of the ICRW has been amended only once, whereas the schedules have not only been the object of nearly annual tinkering but have also undergone several wholesale shifts in their regulatory approach.³²⁵

In contrast to the "deep" approach to international legal regulation of ozone-depleting substances and international whaling, the Convention on Long-Range Transboundary Air Pollution (LRTAP Convention)³²⁶ employs what might be termed the "broad" convention-protocol approach. As in the case of the Ozone Convention, the LRTAP Convention identifies the general subject matter in its title and text³²⁷ and creates an international organization.³²⁸ In contrast to the Ozone Convention, the LRTAP Convention involves different

allowed in 1946 but banned in 1965 (and not allowed since). Compare ICRW, *supra* note 45, Schedule, para. 9, with Amendments to the Schedule to the International Whaling Convention, London, July 2, 1965, para. 4(1), 17 U.S.T. 35, T.I.A.S. No. 5953 (entered into force Oct. 6, 1965 and Jan. 4 1966). Second, the moratorium on commercial factory-ship whaling in force by 1990 was clearly more stringent than the original scheme, which allowed such whaling. Compare ICRW, *supra* note 45, Schedule, paras. 1-7, with ICRW, Schedule (1986), *supra*, art. II, paras. 2- 3.

³²⁵ The Convention has been amended only once, in a protocol that elaborated on some provisions governing inspections and extended the ICRW's regulations to whaling from helicopters and fixed-wing aircraft. Protocol to the International Convention for the Regulation of Whaling, 10 U.S.T. 952, T.I.A.S. No. 4228 (entered into force May 4, 1959). With respect to the schedules, in contrast, one can identify four quite distinct regulatory approaches over time. The 1946 Schedule uses "Blue Whale Units" (BWUs) as a metric to compare factory-ship catches of blue, fin, humpback, and sei whales. ICRW, *supra* note 45, Schedule, para 8(a)-(b). The total yearly catch for all factory ships in the relevant area is limited to 16,000 BWUs; catching six sei whales, two-and-a-half humpbacks, two fins, or one blue whale each constitutes a BWU. *Id.* By 1972, each species had a separate quota. ICRW, Schedule (1972), *supra* note 324, para. 8. By the 1980s, there was potentially in place a system of quotas striated both by species and by geographical location, ICRW, Schedule (1986), *supra* note 324, paras. 9-12, although for most nations a moratorium on commercial factory- ship whaling was in effect as the (fourth) regulatory approach, *Id.* para. 10(d)-(e).

³²⁶ LRTAP Convention, *supra* note 269.

³²⁷ The parties "shall endeavor to limit and, as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution." LRTAP Convention, *supra* note 269, art. 2.

³²⁸ The Convention creates an Executive Body to overSee implementation. LRTAP Convention, *supra* note 269, art. 10. The Executive Body's membership is drawn from high-level officials in nations party to the agreement. See Amy Fraenkel, *The Convention on Long-Range Transboundary Air Pollution: Meeting the Challenge of International Cooperation*, 30 HARV. INT'L L.J. 447, 456 (1989).

groups of parties propagating different protocols, with each protocol regulating a different pollutant, and with relatively few post-signature changes to each protocol.³²⁹ The Barcelona Convention,³³⁰ which is unusual in requiring parties to the Convention to sign at least one protocol,³³¹ has protocols on oil spills, intentional over-sea dumping of wastes by ships and planes, land-based pollution of the Mediterranean, and specially protected areas.³³²

2. The Linear Approach

The series of agreements between the United States and the Soviet Union governing strategic nuclear weaponry differs in many ways from the convention-protocol approach of the environmental treaties discussed above.³³³ While the ozone treaties begin with a general convention almost entirely lacking in substantive obligations, the first set of strategic

³²⁹ See Sean D. Murphy, *Prospective Liability Regimes for the Transboundary Movement of Hazardous Wastes*, 88 AM. J. INT'L L. 24, 61 n.158 (1994) (describing protocols on monitoring pollutants, and on limiting emissions of sulfur and of nitrogen compounds).

³³⁰ Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution, Feb. 16, 1976, U.N.T.S. Reg. No. 16908, 15 I.L.M. 290 (1976).

³³¹ *Id.* art. 23 (stating that no one may become a contracting party to the Convention unless at same time becoming a contracting party to at least one Protocol).

³³² See Barcelona Protocol Concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, Feb. 16, 1976, U.N.T.S. Reg. No. 16908, 15 I.L.M. 306 (1976); Barcelona Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, Feb. 16, 1976, U.N.T.S. Reg. No. 16908, 15 I.L.M. 300 (1976); Athens Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources, May 17, 1980, U.N.T.S. Reg. No. 22281, 19 I.L.M. 869 (1980); Geneva Protocol Concerning Mediterranean Specially Protected Areas, Apr. 3, 1982, U.N.T.S. Reg. No. 24079. Note that some, but not all, of these protocols were signed contemporaneously with the convention; when a convention and protocol are signed simultaneously, the result is presumably to lessen the iterative nature of the process.

³³³ One observer of the SALT II process did, however, have a view of "cooperation" sufficiently broad to require consideration of whaling as well as arms control:

[U.S. official] Walter Slocombe ... encountered some skepticism when he reported on [a SALT II] meeting to his young daughter, who was then more interested in ecology and saving the whales than in arms control and banning the bomb. "We made some important progress with the Russian foreign minister," Slocombe told the seven-year old. "That's good," she replied, "but when are you going to do something about the whales? The Russians are very bad about the whales, you know."

STROBE TALBOTT, *ENDGAME* 131 (1980).

arms-control agreements was highly specific. While the Ozone Convention sets forth a number of organizational and procedural rules for future agreements, the SALT I agreements make no explicit effort to lay down procedural provisions governing future treaties and specify only a bare minimum of organizational arrangements. While the London and Copenhagen Revisions to the Montreal Protocol make clear their huge debt to the Protocol itself, later strategic arms-control agreements rarely make explicit reference to a previous treaty in the series.

Nonetheless, the SALT and START agreements display inter-instrument iteration, in what I call a "linear" approach. Each major round of agreements attempts to cabin the substance of the next round of treaties. The degree of specificity in these look-ahead provisions varies (as does the amount of attention devoted in each treaty to organizational issues). Nonetheless, all of these agreements at least address future iterations between the parties.³³⁴

The SALT I agreements, signed in May of 1972, banned the deployment of all but a limited number of anti-ballistic missile (ABM) sites and capped the number of offensive strategic weapons that each nation could possess.³³⁵ These agreements paid little attention to organizational considerations.³³⁶ The look-ahead provisions, as perhaps befits the first step in

³³⁴ The series of treaties governing ozone-depleting substances, for all its differences from the approach taken in strategic arms control, also on occasion displays an effort by the drafters of one treaty both to encourage and constrain the drafters of future treaties. The Ozone Convention, adopted in 1985, set a target date of 1987 for the adoption of a protocol (and also provided for a series of workshops and assessment panels to facilitate those protocol negotiations). BENEDECK, *supra* note 292, at 45-50, 109-10. The Helsinki Declaration, which was not a protocol to the Ozone Convention, committed the parties to tighten the deadlines on CFCs. Helsinki Declaration on the Protection of the Ozone Layer, May 2, 1989, 28 I.L.M. 1335. The London Revisions set forth a schedule for reducing non-essential halon production but expressly specified that defining "essential" uses would await a later determination (though not necessarily a full-blown treaty). London Revisions, *supra* note 307, art. 2B(4).

³³⁵ See ABM Treaty, *supra* note 62, arts. I-III (limiting parties to two ABM complexes each with specified numerical limits on anti-ballistic missiles and associated radars); SALT I Interim Agreement, *supra* note 63, arts. I-III (limiting parties to extant completed land-based intercontinental-range ballistic missiles and to submarine-launched ballistic missiles extant or under construction).

³³⁶ The only organizational provisions in SALT I are in article XIII of the ABM Treaty (incorporated by reference into the Interim Agreement by its article VII), which sets forth a list of the sorts of questions that a new organization (the Standing Consultative Commission) was to consider, while expressly leaving to a later date any actual decisions as to related procedural matters:

1. To promote the objectives and implementation of the

bilateral arms control between two deeply suspicious superpowers, are broad and, in fact, arguably seek in part to *loosen* the effect of the adopted agreement upon future negotiations:

The Parties undertake to continue active negotiations for limitations on strategic offensive arms. The obligations provided for in this Interim Agreement shall not prejudice the scope or terms of the limitation on strategic offensive arms which may be worked out in the course of negotiations.³³⁷

Nonetheless, in November of 1974, an *aide-memoire* concluded between President Ford and General Secretary Brezhnev at Vladivostok set forth much more detailed provisions governing a future treaty. The parties agreed that subsequent ("SALT II") negotiations would result in various, highly specific provisions, and the SALT II agreement in fact incorporated these provisions.³³⁸ In its turn, the SALT II treaty looked ahead to yet another round of negotiations:

The Parties undertake to begin, promptly after the entry into force of this Treaty, active negotiations with the objective of achieving, as soon as possible, agreement on other measures for the limitation and reduction of strategic arms. It is also the objective of the Parties to conclude well in advance of 1985 an agreement limiting strategic offensive

provisions of this Treaty, the Parties shall establish promptly a Standing Consultative Commission, within the framework of which they will:

(a) consider questions concerning compliance with the obligations assumed and related situations which may be considered ambiguous; ...

2. The Parties through consultation shall establish, and may amend as appropriate, Regulations for the Standing Consultative Commission governing procedures, composition and other relevant matters.

ABM Treaty, *supra* note 62, art. XIII. Common Understanding D to the ABM treaty (repeated verbatim as Common Understanding B to the Interim Agreement) stated that the agreement actually establishing the SCC would "be worked out early in the follow-on SALT negotiations," with consultations in the interim at the behest of either side.

³³⁷ SALT I Interim Agreement, *supra* note 63, art. VII; See also ABM Treaty, *supra* note 62, art. XI (repeating first sentence quoted above, but not second sentence).

³³⁸ Compare UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY, ARMS CONTROL AND DISARMAMENT AGREEMENTS: TEXTS AND HISTORIES OF NEGOTIATIONS 239 (1982 ed.) [hereinafter ACDA LISTING] (summarizing terms of aide-memoire) with SALT II Treaty, *supra* note 42, art. III(1) (limiting strategic launchers to 2,400); *Id.* art. IV(1) (banning new land-based missile launchers); *Id.* art. IV(4) (limiting modernization and replacement of missile silos); *Id.* art. IV(9) (limiting new ICBM types to one light missile type); *Id.* art. XIX(1) (duration of treaty); *Id.* art. V(1) (limiting multiple-warhead launchers to 1,320).

arms to replace this Treaty upon its expiration.³³⁹

At the signing of the SALT II treaty, the parties also signed a "Joint Statement of Principles" to govern subsequent negotiations.³⁴⁰ This document stated:

The Parties shall pursue in the course of these [future negotiations ... the following objectives:

- 1) significant and substantial reductions in the numbers of strategic offensive arms;
- 2) qualitative limitations on strategic offensive arms, including restrictions on the development, testing, and deployment of new types of strategic offensive arms and on the modernization of existing strategic offensive arms;
- 3) resolution of the issues included in the Protocol to [the SALT II Treaty³⁴¹

President Reagan re-dubbed the SALT talks "START" to emphasize his desire to go beyond the generous ceilings of the SALT treaties and actually reduce the number of nuclear weapons,³⁴² but that change in nomenclature did not reflect any change from the Joint Statement of Principles quoted just above. The START I agreement succeeded in implementing the Joint Statement's goal of "significant and substantial reductions" in existing nuclear weapons.³⁴³

In contrast to previous arms-control treaties, START II expressly incorporates the provisions of a previous treaty (START I) with respect to an important goal (verification).³⁴⁴ Indeed, START II is functionally similar in many ways to a "deep" protocol. The START II Agreement not only incorporates the verification provisions of START I, but also adopts essentially the same regulatory regime as START I (while lowering the allowable numerical

³³⁹ SALT II Treaty, *supra* note 42, art. XIV.

³⁴⁰ Joint Statement of Principles and Basic Guidelines for Subsequent Negotiations on the Limitation of Strategic Arms, June 18, 1979, U.S.-U.S.S.R., reproduced in ACDA LISTING, *supra* note 338, at 275.

³⁴¹ *Id.*

³⁴² "SALT" stands for Strategic Arms Limitations Talks. "START" stands for Strategic Arms Reductions Talks.

³⁴³ For details of the limitations, See Letter of Submittal to U.S. Senate from Secretary of State James A. Baker III, Accompanying START I Treaty (Nov. 20, 1991), S. TREATY DOC. NO. 20, 102d Cong., 1st Sess. ix (1991).

³⁴⁴ Treaty Between the United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms, Jan. 3, 1993, U.S.-Russian Fed., S. TREATY DOC. NO. 1, 103d Cong., 1st Sess., art. V(1) [hereinafter START II Treaty]. For a general summary of this immensely complex agreement, See Letter of Submittal to U.S. Senate from Acting Secretary of State Lawrence S. Eagleburger, Accompanying START II Treaty, Jan. 12, 1993, S. TREATY DOC. NO. 1, 103d Cong., 1st Sess. (1993). For the treaty provisions that constitute the heart of the treaty, See START II Treaty, *supra*, arts. I- II.

ceilings and accelerating the relevant time lines). In addition, START II will stay in force as long as START I is in force.³⁴⁵

VI. CONCLUSION

From the abstractions of fundamental game theory to the grit of particular treaty provisions, this Article has ranged across a good deal of conceptual space. After identifying flaws with two traditional ways of understanding international legal behavior—those focused on "consent" and "legitimacy"—I developed an alternative understanding by focusing Institutional theory through the lens of "iteration." The resulting iterative perspective illuminates several facets of the law of treaties: its general structure, its approach to dispute resolution, its graduated progression of obligations, and its treatment of rules on when those obligations cease. The iterative perspective also provides certain presumptions relating to the resolution of ambiguities about treaty termination, and can partially explain (and dispel) the fog that surrounds discussions of *rebus sic stantibus* and *jus cogens*. The iterative perspective not only aids the analysis of the law of treaties generally, but also of specific provisions in particular treaties, including those provisions that relate one treaty to another within a common subject matter.

The analysis developed in this Article also suggests possible directions for future research. Perhaps, for example, someone will be able to clarify the various conundrums of customary law using Institutional theory as I have attempted in the realm of treaty law. Can Institutional thought help us to resolve the degree to which silent nations are bound by custom? Can Institutionalism provide insights that will clarify exactly when a nation that is "violating" an "old" rule of customary law becomes instead a nation that is creating a new rule of customary law?

In this Article, I have also tried to make explicit the role of iteration within Institutional thought more generally and to elaborate the implications of the crucial concept of iteration for the analysis of international legal issues. Again, these efforts suggest other avenues of inquiry. Is the iterative perspective flexible enough to move from the text-centered realm of treaty law to the behavior-oriented zone that is customary law? One might alternatively continue to pursue an iterative perspective of treaties, but with a tighter focus than that undertaken here. For example, I argued briefly that, at least with respect to nuclear arms control and the regulation of international whaling, successive iterations have led to broader and deeper regulation—that is, to more cooperation.³⁴⁶ Is there a more general relationship between iteration and cooperation in other sorts of treaties?

One might also hope to deepen the interdisciplinary analysis of international law by adding the iterative perspective to those areas of international law, such as arms-control treaties, that have already been subject to analysis with a non-iterative Institutional perspective, such

³⁴⁵ START II Treaty, *supra* note 344, art. VI(1), (3).

³⁴⁶ See *supra* part V.B.1.

as the incentives for the production of information examined by Abbott. Will a view of arms-control treaties that combines analysis of information production with an iterative perspective yield an even richer view of that immensely important subject area?

This piece at a more general level has also endeavored to blend IR theory with international law. In this respect, one should note that those who propagate IR *theory* typically call themselves political *scientists*. Scientific theories presumably have certain characteristics. Such theories should, for example, generate hypotheses that one may test and refute. The interplay between scientific theories and data should lead over time to better theories. The identity of the theorist should have relatively little impact on the conclusions reached. These characteristics have implications for the future examination of international law through the lens of IR theory. If, for example, one were to take Institutionalism seriously as a scientific theory, then future investigation of Institutionalism and international law would proceed along certain lines. One would elaborate upon Institutionalism with an eye towards generating refutable, and preferably quantitative, hypotheses. Does cooperation actually evolve in the international system? How would we know? What threshold number of iterations is sufficient to produce cooperation? How can we use the formal actions of nations in the treaty process to generate relevant data for our analysis? Difficult questions of definition, bound up both in law and politics, will arise along the way. What national policies and behaviors constitute "cooperation"? What exactly is an iteration in the real, as opposed to the game-theoretical, world?

Political science is, of course, a social science, not a physical or natural science. When we apply social science to the law, skepticism about a potentially oxymoronic quality to "social science" is justified—especially given the divergence between modern (or should we say post-modern?) legal argument on the one hand and scientific argument on the other. Legal scholars make arguments, but they do not necessarily generate hypotheses. While scientists generally seek to be as precise in their arguments as they can be, lawyers typically seek only as much precision as is useful: a dash of obfuscation can go a long way towards winning adherents to one's argument. The great conflicts of law—between the individual and the state, between rights and duties—endure. The great conflicts of science—between Darwin and the creationists, between the Copernican and the Ptolemaic view of retrograde motion—have been resolved. Scientists believe their theories to be neutral even if the resulting technologies generate politically charged questions; legal academics suspect that politics lurks behind even the most rigorous theoretical musing.

The divergence between the methodologies of scientific and legal argument may mean that, even if Institutionalism eventually proves rigorous enough to be treated as a scientific theory, any efforts to blend Institutionalism and international law will always be greeted with skepticism by legal scholars. Nonetheless, both portions of this speculation are in some sense premature. Insufficient work on Institutionalism has been done to show that Institutionalism is capable of supporting analysis in the scientific mode. Insufficient work on Institutionalism and international law has been done to allow international legal scholars to judge if any gains in explanatory power outweigh the losses from abstracting history and the subtleties of individual cases.

I therefore close with an emphasis on the present, not the future. Treaties are already a crucial means of international cooperation, and international cooperation is clearly a part of international relations. Explaining and understanding the process by which nations make treaties is therefore an important task. With the use of existing Institutional theory, I have tried to generate a new perspective to use in viewing both the law of treaties and treaties more generally. That perspective explains much of the general characteristics, and some of the specifics, of the procedures and substance of treaties. The iterative perspective can assist us in resolving various ambiguities therein. The iterative perspective lacks some of the logical difficulties of the traditional, consent-oriented view, and some of the subjectivities of the legitimacy-oriented view. Wherever the study of Institutionalism, iteration, and international law may lead, it is my hope that an iterative perspective on treaties has already gotten us somewhere.