

**Responses to Breach of a Treaty
and Rationalist IR Theory:
The Rules of Release and Remediation
in the Law of Treaties and of State Responsibility**

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Introduction

A dozen nations sign and ratify a regional nuclear non-proliferation treaty in which they promise not to build or operate breeder-type reactors. Two years after the treaty enters into force, commercially available satellite imagery reveals that one of the signatories has begun construction of a containment vessel associated only with breeder reactors. What responses to this breach of an international treaty does international law authorize? May one of the other eleven signatory nations begin to build a breeder reactor of its own? Sever its diplomatic ties with the offending nation? Sue for damages? Impose a unilateral trade embargo? Launch an air strike against the construction site before the arrival of any nuclear materials?

This Article examines the international legal rules governing responses to breach of an international treaty from the perspective of various rationalist theories of international relations (“IR”) developed by political scientists. The relevant international legal rules consist of two broad categories. One such category, which this Article calls the “rules of release,” governs responses to breach of a treaty that involve a decision by the victim to cease performing its own obligations under the breached treaty. The other such category, which this Article calls the “rules of remediation,” governs all other responses to breach of a treaty, such as the victim’s decision to pursue political, economic, or military sanctions against the breaching party, or to sue the breaching party for damages. Article 60 of the Vienna Convention on the Law of Treaties codifies the rules of release; the currently uncodified “law of state responsibility” is the source of the

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rules of remediation relevant to treaty breaches.¹

The relevant theories of IR consist of a suite of concepts used by those political scientists who typically call themselves “neorealists”² or “neoliberal institutionalists.”³ These theories are

¹ The focus of this Article on treaty law implies a focus on “public” international law, which typically involves the actions of governments, in contrast to “private” international law, which typically involves the actions of corporations or individuals. See Barry E. Carter & Phillip R. Trimble, *International Law* 1-2 (2d ed. 1995) (discussing distinction and noting that dividing line has become increasingly blurred “as the norms of traditional public international law also purport to regulate or affect private conduct”).

² Realism has been the dominant school of thought in IR theory since World War II. See Anne-Marie Slaughter Burley, *International Law and International Relations Theory: A Dual Agenda*, 87 *Am. J. Int’l L.* 205, 207, 214 (1993). The realists believe that international relations is a ceaselessly competitive struggle among nations to effectuate relative gains in their national security. For (an updated version of) the seminal work of post-World War II realism, see Hans J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace* (Kenneth W. Thompson ed., 6th ed. 1985).

The “neorealist” or “structural realist” variant of classical realism, developed in the past few decades and now probably the leading school of IR theory, employs the tools of economics in the service of the classical realist vision. Neorealists also emphasize that external interactions among nations—variously denominated “systemic” factors, the “third image” of international relations, or “geopolitical” considerations—are the crucial determinant of outcomes in international affairs. Such an emphasis contrasts with a focus on human nature (as the classical realists do) or such “unit-level” or “national” characteristics as whether a nation is a democracy (as the “neoliberals” do, see *infra* note 4) as the driving force in international politics. The seminal work of neorealism is unquestionably Kenneth N. Waltz, *Theory of International Politics* (1979). For some more recent and briefer discussions of the relevant tenets, see John J. Mearsheimer, *The False Promise of International Institutions*, *Int’l Sec.*, Winter 1994/95, at 9-12 (summarizing the main assumptions of realism); Christopher Layne, *Kant or Cant: The Myth of the Democratic Peace*, *Int’l Sec.*, Fall 1994, at 10-12 (1994) (emphasizing anarchy, concerns with security, and primacy of systemic factors).

³ “Neoliberal institutionalism,” *nee* regime theory, bears some definite similarities to “neorealism,” though neoliberal institutionalists have always been more optimistic about the likelihood of international cooperation effectuated through “regimes.” See Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* 7-10, 85-109 (1984) [hereinafter Keohane, *After Hegemony*]. Keohane’s is the seminal institutionalist work. For briefer descriptions of neoliberal institutionalism or its immediate antecedents by international lawyers, see Kenneth W. Abbott, *Modern International Relations Theory: A Prospectus for International Lawyers*, 14 *Yale J. Int’l L.* 335, 342-54 (1989) [hereinafter Abbott, *IR Prospectus*] (outlining the fundamental concepts of institutionalism); Burley, *supra* note 2, at 217-19 (describing Waltz’s work and modifications of it); John Setear,

“rationalist” in the sense that they largely adopt the model of rational, unitary actors so relentlessly propagated by economists; these theories involve IR because the neorealists and neoliberal institutionalists have, to some extent, contextualized these theories as they have used them to conceptualize IR.⁴ Neoclassical economics, especially the theory of public goods, is the wellspring of rationalist IR theory, but rationalist IR theorists also draw their insights and arguments from game theory, decision theory, and cybernetics.

Why use IR theory to analyze international law? Mostly because international law is a part of international politics.⁵ Indeed, in light of the radical decentralization of the international

An Iterative Perspective on Treaties: A Synthesis of International Relations Theory and International Law, 37 Harv. Int'l L.J. 139, 180-85 (1996) [hereinafter Setear, Iterative Perspective] (describing development of institutions). See also *id.* at 142-46 (describing some international legal scholarship that makes use of neoliberal institutionalism).

⁴ For my purposes, neorealism and neoliberal institutionalism—with their mutual reliance on structural or systemic analysis and their free use of methodologies drawn from neoclassical economics and game theory—are sufficiently similar that I am willing to aggregate them into “rationalist IR theory.” This conflation is especially defensible because this Article does not employ the recent methodological advances in formal game theory that some neorealists, but almost no neoliberal institutionalists, have embraced. See *infra* note 6 (describing recent uses of formal game theory in writings of neorealists). Other schools of thought in IR theory certainly differ from these two rationalist schools. For a survey of both rationalist and several other schools of thought from the perspective of an international legal scholar, see Burley, *supra* note 2, at 207-08 (discussing classical “Morganthau” realism); *id.* at 215-16 (systems theory); *id.* at 217 (neorealism); *id.* at 217-19 (institutionalism); *id.* at 222 (constructivism); *id.* at 227-28 (liberalism). See also *infra* notes 8 (discussing liberalism) and 9 (discussing the relationship of neoliberal institutionalism to neorealism).

⁵ Indeed, the realists believe that there is no real line between international politics and international law at all. They believe that international law or international institutions simply reflect politics, especially power relationships, rather than exerting any independent effect on relations among nations. See Mearsheimer, *supra* note 2, at 13-14; see also Burley, *supra* note 2, at 217, 218 (stating that leading neorealists “left no room whatsoever for international law” and that “[r]ealists, both traditional and structural, had explained the existence of [international] institutions as a corollary of dominant U.S. power”). The neoliberal institutionalists (and the neoliberals and the classical liberals), in contrast, all believe that certainly international institutions, and probably even international law, can have some independent effect on international affairs. See Burley, *supra* note 2, at 219-24 (describing neoliberal institutionalists’ view of international law, and identifying joint agenda for pursuit by institutionalists and international lawyers).

This Article is of course based on the assumption that international legal rules can have some independent effect on international affairs: Why bother to

dispute-resolution system—in which there is no international executive branch, no police, no prisons, no standing army, no real international legislature, and only the rudiments of an authoritative system of international adjudication—the line between international politics and international law is much more difficult to draw than the similar line between domestic politics and domestic law. International lawyers might benefit from the accumulated wisdom of political scientists who, after all, have thought about international politics (or, as they tend to call it, international relations) for some time.⁶

examine international legal rules at all if those rules are nothing more than epiphenomenal reflections of underlying power relationships? Certainly it would be difficult to examine international law in any fashion—except to dismiss it—unless one believed that the rules of international law had some effect on national behavior. This Article therefore employs some of the conceptual apparatus of neorealism to analyze the problem of international cooperation, without subscribing to the neorealists' conclusions about international law—much as the neoliberal institutionalists use much of the neorealist apparatus but reach a different conclusion about the independent utility of international institutions more generally. See *infra* note 9.

⁶ Several scholars of international law have previously examined international law in the light of IR theory. See Abbott, *IR Prospectus*, *supra* note 3 (surveying rationalist IR theory and examining its potential applicability to various problems in international law); 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) [hereinafter Abbott, *Trust But Verify*] (examining game-theoretical implications of rationalist IR theory for rational design of arms-control agreements); Burley, *supra* note 2 (surveying histories of ideas in IR theory and international law since World War II and proposing "dual agenda" involving use of both IR Liberalism and rationalist IR theory—especially "institutionalism"—in examining international law); Setear, *Iterative Perspective*, *supra* note 3 (arguing that law of treaties governing validity of, and degree of obligations in, treaties reflects extensive concern with prominent rationalist IR concept of iteration); G. Richard Shell, *Trade Legalism and International Relations Theory: An Analysis of the World Trade Organization*, 44 *Duke L.J.* 829 (1995) (applying both neoliberal institutionalism and two strands of liberalism to analysis of World Trade Organization, especially its system of dispute resolution); Edwin M. Smith, *Understanding Dynamic Obligations: Arms Control Agreements*, 64 *S. Cal. L. Rev.* 1549 (1991) (using rationalist IR theory, especially "regime theory," to explain lack of legalistic formalism in U.S.-Soviet relationship involving arms-control treaties). See generally Setear, *Iterative Perspective*, *supra* note 3, at 142-47 (summarizing and briefly analyzing works of Abbott, Burley, and Smith).

A few political scientists, for their part, have noted the potential relevance of international law to their own work. See Robert O. Keohane, *Compliance with International Commitments: Politics Within a Framework of Law*, 86 *Proc. Am. Soc'y Int'l L.* 176 (1992) (noting critical importance of international legal rules in determining whether nations obey principles and rules of international regimes); Charles Lipson, *Why Are Some International Agreements Informal?*, 45 *Int'l Org.* 495 (1991) (noting that various

The primary goal of this Article is therefore to examine the consistency of the rules of release and remediation with what this Article calls the “rational-design hypothesis.”⁷ The conceit of the rational-design hypothesis is to ask a central question that is part *gedanken* experiment and part doctrinal empirics: If a single individual were to have designed a system of international legal rules governing responses to the breach of a treaty in accordance with the tenets of rationalist IR theory, would the resulting rules closely resemble the actual rules of international law on release and remediation? International law, like other institutions, has not of course actually sprung from a conscious design, but the rational-design hypothesis is not intended as a literal inquiry into the history of the relevant institution. If the answer to the question asked by the rational-design hypothesis is “yes,” then rationalist IR theory has some predictive power: One may use that theory to predict the actual rules of international law governing responses to breach of a treaty. Those who examine international law could then use rationalist IR theory as a useful framework for explaining and predicting the rules governing response to a treaty breach, while those who explore the predictive power of rationalist IR theory across the range of IR could then put a tally in the column of successes. If the answer to this question is “no,” then those seeking a theory to explain the rules of release and remediation should look elsewhere, and those keeping track of rationalist IR theory’s predictive power more generally should remember to tote up the negative outcome resulting from this specific example.⁸

constraints imposed by formality of treaty process may make informal agreements useful in situations requiring flexibility or minimal publicity).

⁷ For brief discussions of issues of “organizational design,” which is essentially equivalent to the rational-design hypothesis, see Abbott, *Trust But Verify*, *supra* note 6, at 2-3; Burley, *supra* note 2, at 223 n.90; Setear, *Iterative Perspective*, *supra* note 3, at 146; see also *infra* note 36 (quoting Abbott at some length on the rational-design hypothesis).

⁸ Those still interested in using *some* IR theory to explain international legal rules might turn to non-rationalist IR theories. Adherents of classical “liberalism” or “idealism” believe that the international system tends strongly towards cooperation, encouraged by the economic interdependence resulting from free trade. To liberals, pervasive wars result from human ignorance or folly, including the failure to erect viable collective security arrangements. This optimism, with its prospective or reformist flavor, plainly distinguishes classical liberalism from the as-it-was-and-ever-shall-be pessimism of the realists. For some contemporary works that possess at least some of the flavor of classical liberalism but that are frequently willing to incorporate pieces of the realist argument, see Dale C. Copeland, *Economic Interdependence and War: A Theory of Trade Expectations*, *Int’l Sec.*, Spring 1996, at 16-25 (fusing liberal and realist traditions to argue that economically interdependent states are unlikely to go to war if they expect that trade will continue at high levels but are very likely to go to war if they expect that trade will soon be restricted); Charles A. Kupchan & Clifford A. Kupchan, *Concerts, Collective Security, and the Future of Europe*, *Int’l Sec.*, Summer 1991, at 115-16 (arguing for the merits of a collective-security system while incorporating balance-of-power arguments traditionally identified with realism); see also Richard Rosecrance, *The Rise of the Trading State*:

Commerce and Conquest in the Modern World (1986) (arguing that economic trade offers states in the modern world better opportunities for gain than does pursuit of military ends, especially territorial conquest).

An offshoot of liberalism known as "neoliberalism" emphasizes the impact of national political characteristics on international affairs and, while neoliberals are not averse to statistical analysis, typically shies away from neoclassical economics and from game theory. The neoliberals assert that cooperation among democracies is quite possible—even inevitable—and focus their analysis around the validity and implications of this central assertion. For a relatively recent statement of the hypothesis concerning the "democratic peace"—the idea that democracies do not fight one another very often, even though democracies are not generally more pacific than non-democracies—and its policy implications, see Bruce Russett, *Grasping the Democratic Peace: Principles for a Post-Cold War World* (1993); see also Jack S. Levy, *Domestic Politics and War, in The Origin and Prevention of Major Wars* 79, 88 (Robert I. Rotberg & Theodore K. Rabb eds., 1989) (calling the democratic peace hypothesis "as close as anything we have to an empirical law in the study of international relations"). For efforts at explaining *why* democracies do not fight one another, see William J. Dixon, *Democracy and the Peaceful Settlement of International Conflict*, 88 *Am. Pol. Sci. Rev.* 14 (1994) (arguing that leaders in democracies favor peaceful dispute resolution and that democracies are thus especially likely to settle disputes between themselves peacefully); John M. Owen, *How Liberalism Produces Democratic Peace*, *Int'l Sec.*, Fall 1994, at 93 (arguing that polities in democracies favor peaceful resolution of disputes and that influence of polity constrains even a war-oriented leader in a crisis threatening war); William R. Thompson, *Democracy and Peace: Putting the Cart Before the Horse?*, 50 *Int'l Org.* 141, 142 (1996) (arguing that current democracies were beneficiaries of regional dominance that allowed both democratization and subsequent pacifism). For writings of some who believe that the democratic-peace hypothesis is incorrect or overblown, see Henry S. Farber & Joanne Gowa, *Polities and Peace*, *Int'l Sec.*, Fall 1995, at 124 (arguing that democratic-peace hypothesis is analytically weak, that pairs of democracies are more likely to become involved in non-war disputes than other pairings, and that democratic-peace hypothesis only holds statistically in period since 1945); David E. Spiro, *The Insignificance of the Liberal Peace*, *Int'l Sec.*, Fall 1994, at 51 (arguing that, owing to small number of democracies as proportion of all states throughout history, the democratic peace is not a statistically significant phenomenon); see also Layne, *supra* note 2, at 6-7 (arguing that close examination of four case studies in which democracies almost went to war shows that a democracy does not treat a rival any differently than a non-democracy would treat the same rival); cf. Edward D. Mansfield & Jack Snyder, *Democratization and the Danger of War*, *Int'l Sec.*, Summer 1995, at 6 (arguing that logic and statistical analysis both support the assertion that a state moving towards a democratic form of government is likely to engage in war with a democracy, even though conflict between mature democracies is unlikely). For applications of neoliberal theories to international legal issues, see Anne-Marie Burley & Walter Mattli, *Europe Before the Court: A Political Theory of Legal Integration*, 47 *Int'l Org.* 41 (1993) (examining the European Community); Shell, *supra* note 2 (examining the World Trade Organization).

The actual answer to the question of the rational-design hypothesis proves—of course—to be something other than a simple “yes” or “no.” With respect to the rules of release, the broad structure of the relevant international law is quite consistent with rationalist IR theory involving the theory of public goods and with associated theories concerning the iterated Prisoner’s Dilemma and the theory of collective action. Many of the details of the rules of release, however, display substantially less consistency with rationalist IR theory, and indeed the theoretical lens itself requires some extra grinding to give it sufficient resolution to examine much in the way of legal details. With respect to the rules of remediation, even the most fundamental of the relevant international law principles are inconsistent with basic IR theory—unless one deploys a particular segment of IR theory that, in its emphasis on misperception, is only marginally “rationalist.” Finally, an examination of how (or even whether) one broad category of responses to breach constrains the other set of responses produces further evidence that the rules of international law are not especially consistent with the implications of rationalist IR theory. This examination also reveals that the semi-rationalist segment of IR theory that was able to explain the rules of remediation is quite inconsistent with the rules of release. After reaching the conclusion that the (fountain)head of rationalist IR theory is, metaphorically, bloodied but unbowed by its encounter with the international law governing release and remediation, the Article then explores the plausibility and utility of treating rationalist IR theory as a source of normative, rather than positive, analysis. Using rationalist IR theory to generate proposals for reform of the relevant international law proves quite possible across a broad range of doctrines—although those possessed of a rationalist bent should perhaps be more sober than most about the chances that such reforms will insinuate themselves into the rules of an international legal system that moves forward slowly and sometimes inconsistently.

Readers scanning the introductions to articles in the growing tide of pieces on international law might reasonably hope to glean at least a summary answer to two questions concerning the pages to follow: “So what?” and “What’s new?” One might less concisely reformulate the “So what?” question as, “If we accept all of your arguments, what will we (or should we) do differently?” This Article provides a somewhat modulated response. This Article does not offer up rationalist IR theory as some social-science version of the Theory of General Relativity, able to explain untold (or even unfathomable) mysteries of the universe while preserving the validity

Proponents of yet another, “constructivist” school emphasize the degree to which international relations is constructed by its participants—that is, the degree to which international relations lacks phenomena of any inherent content but is rather a human activity conducted in a complex and puzzling world. See, e.g., Alexander Wendt, *Constructing International Politics*, *Int’l Sec.*, Summer 1995, at 72-75 (1995). This group has its roots in the larger movement of deconstructionism but, bucking the trends of nomenclature in IR theory, eschews calling itself “neo-deconstructionism.” I do not know whether they do so because deconstruction is itself too new for there to be a “neo-deconstructionism,” because they recoil from multiple prefixes, or because they wish to separate themselves from the “critical studies” field, which was not nearly as popular in IR theory as it has proven to be in legal analysis.

of our common experiences. Nor does this Article argue that rationalist IR theory is irrefutable, whether in terms of the power of its arguments or by way of casting deep suspicion (derived from the theory itself) on the motivations of skeptics. This Article instead argues that rationalist IR theory is useful in explaining some phenomena in international law, but not so useful in explaining some other phenomena. One may thus feel free to reject rationalist IR theory entirely, if one is inclined to absolutes. Or, if one is inclined instead to incrementalism, the conclusions of this Article can be used to lend rationalist IR theory some qualified support or to attempt future development of the theory.⁹

⁹ Such "development" might of course include merely employing a finer grain of analysis with respect to the underlying rationalist IR theory. Neorealism and neoliberal institutionalism are arguably distinct despite certain similarities.

On the one hand, neoliberal institutionalism began as "regime theory," and the seminal work in regime theory expressly locates itself in the realist tradition:

I propose to show, *on the basis of their own assumptions*, that the characteristic pessimism of Realism does not follow. I seek to demonstrate that *Realist assumptions* about world politics are consistent with the formation of institutionalized arrangements, containing rules and principles, which promote cooperation.

Keohane, *After Hegemony*, supra note 3, at 67 (emphasis added). A recent article by Keohane and another neoliberal institutionalist begins by noting the similarities between that school and realism:

[L]iberal institutionalists treat states as rational egoists operating in a world in which agreements cannot be hierarchically enforced, and... institutionalists only expect interstate cooperation to occur if states have significant common interests. Hence institutionalist theory does not espouse the concept of collective security ...Nor does institutionalism embrace the aspirations to transform international relations put forward by some critical theorists. Like realism, institutionalist theory is utilitarian and rationalistic.

Robert O. Keohane and Lisa L. Martin, *The Promise of Institutional Theory*, *Int'l Sec.*, Summer 1995, at 39 (footnotes omitted).

In addition, when some clearly neorealist theorists criticized regime theorists for inadequate attention to the notion of "relative gains"—the idea that a nation measures its benefits from a given course of action only in comparison to the benefits obtained by other nations, rather than solely in terms of the absolute benefits to the nation—the regime theorists were quick to acknowledge, and virtually to apologize for, their inattention to the relative-gains gospel. See *id.* at 44-46; John C. Matthew III, *Current Gains and Future Outcomes: When Cumulative Relative Gains Matter*, *Int'l Sec.*, Summer 1996, at 116-21 (arguing that absolute-and relative-gains arguments have played an important but diminishingly discordant role in debates between realists and liberals).

On the other hand, neorealists and neoliberal institutionalists certainly have their differences. Compare Mearsheimer, *supra* note 2, at 15-26 (arguing that liberal institutionalism does a poor job, logically and in terms of available historical evidence, of trying to explain how institutions might push states away from war) with Keohane & Martin, *supra*, at 40-42 (arguing that realism is based on fallacious logic and gives rise to vague or already-disproved predictions, and that institutionalism is carefully reasoned and empirically supported). See Robert O. Keohane, *International Institutions and State Power* 7-8 (1989) [hereinafter Keohane, *International Institutions*] (comparing and contrasting broad outlines of neorealism and neoliberal institutionalism); cf. Robert Powell, *Anarchy in International Relations Theory: The Neorealist-Neoliberal Debate*, 48 *Int'l Org.* 313 (1994) (reviewing *Neorealism and Its Critics* (Robert O. Keohane ed., 1986) and *Neorealism and Neoliberalism: The Contemporary Debate* (David A. Baldwin ed., 1993)) (noting multiple opposition in neorealism and institutionalism, but arguing that some of the "debate" stems from underspecification of the structure of international relations under consideration). The neorealists clearly consider themselves opposed to straightforward neoliberals, yet the currently preferred self-designation of the former regime theorists as "neoliberal institutionalists" implies that such institutionalists pitch their tents closer to the neoliberal than to the neorealist camp. See *id.* (discussing debate between neorealists and neoliberals while drawing almost exclusively upon institutionalists to represent non-neorealist view); cf. Keohane, *International Institutions*, *supra*, at 10-11 (emphasizing differences between neorealism and neoliberal institutionalism and then comparing and contrasting neoliberal institutionalism with liberalism).

In addition, realists tend to focus on security issues and on competition among nations, while institutionalists tend to examine issues of international political economy and on the cooperation made possible by institutions—foci hardly foreign to the classical liberals. See James D. Fearon, *Rationalist Explanations for War*, 49 *Int'l Org.* 379, 380 (1995) ("[T]he dominant paradigm in international relations theory, neorealism, is thought to advance or even to depend on rationalist arguments about the causes of war."); Mearsheimer, *supra* note 2, at 16 (criticizing institutionalism for paying so little attention to security issues); Setear, *Iterative Perspective*, *supra* note 3, at 184 (listing individual works on regime theory that, in the aggregate, reveal more exploration of non-security issues than of security issues). But cf. Charles L. Glaser, *Realists as Optimists: Cooperation as Self-Help*, *Int'l Sec.*, Winter 1994/95, at 51-54 (advancing theory of "contingent realism" in which cooperation, though not necessarily institutionalized cooperation, is frequently rational in security matters despite adopting many assumptions of neorealism). Institutionalists are also more open than realists to the idea that intra-national political phenomena (known sometimes as "unit-level" phenomena) influence international relations (while realists hew to the primacy of systemic considerations) and to the idea that ideas influence outcomes in international politics (while realists remain firm materialists). See Burley, *supra* note 2, at 225-26 (describing interest, albeit limited interest, of neoliberal institutionalists in unit-level analysis); Judith Goldstein, *Ideas, Interests, and American Trade Policy* (1993) (explaining the "enigma" of U.S. trade policy by reference to significance of ideas about trade and government protection); Keohane & Martin, *supra*, at 39 n.2 (stating that "the work of 'constructivist' theorists such as Alexander Wendt

Such is the somewhat complex answer to the “So what?” question as it relates to what one might call the “positivist” portion of this Article—that is, the portion concerned with whether theory and doctrine mesh according to the rational-design hypothesis. The answer is less ambiguous to the “So what?” question regarding the normative portion of this Article, which makes some arguments about what doctrine should be regardless of what doctrine is. If one accepts the (contestable) notion that principles of rationalist IR theory provide useful guidance for the advancement of normative reforms, then one can quite easily generate a lengthy to-do list of legal reforms. For example, the central formulation of the rules of release—the definition of material breach—should be significantly reshaped to focus upon the impact of the breach rather than upon the importance of the breached treaty provision. The rules of release relating specifically to multilateral treaties similarly require reformulation (along similar lines), as well as some additional work. The rules of remediation contain two fundamental principles: necessity and proportionality. The normative view of rationalist IR theory implies that both need retooling. The principle of proportionality, by its very name, constrains remediation even though, according to the implications of rationalist IR theory, barriers to the reliable imposition of sanctions for breach, such as the difficulty of detecting treaty violations, suggest that *disproportionate* remediation is the proper response to breach. The necessity principle likewise implies an ignorance of important arguments from rationalist IR theory that also suggest the need to curtail the reach of that principle. The normative implications of IR theory also suggest a need to make at least some international legal rules governing responses to breach *more* constraining: There should be, but are not currently, rules constraining release when measures of remediation are used.

These conclusions all flow from examining the relevant doctrines in the light of rationalist IR theory—a methodological approach that is the answer to the second imputed question, “What’s new?” The intellectual innovations of this Article stem chiefly from its use of abstract, rationalistic IR theory to examine in detail those legal doctrines in the law of treaties and the law of state responsibility that govern responses to breach of a treaty. The delicate nature of “international law” as “law” without any centralized authoritative lawmakers has led to three main approaches by international legal scholars. The most common and most traditional approach is simply to consider international law *sui generis*, and thus to examine international law in isolation from domestic law and from other disciplines in the modern academic arsenal.¹⁰ More innovative scholars have taken one of two tacks in examining international law. One tack emphasizes the “law” in international law by examining how institutions that are part and parcel of our traditional, domestically-oriented notions of law—e.g., the U.S. Supreme Court—use

eloquenty makes a number of arguments that many institutionalists would accept”).

¹⁰ See, e.g., J.L. Brierley, *The Law of Nations* (Sir Humphrey Waldock ed., 6th ed. 1963).

international law in their decisions.¹¹ Another tack emphasizes the “international” in international law by examining how international politics shapes the use of “law.” This piece takes the tack that bears towards international politics. More specifically, this Article attempts, as do a handful of other pieces, actually to employ the IR theory developed by political scientists in the analysis of international law. Most specifically, this Article (in addition to an earlier piece)¹² attempts this combination of IR theory and international law with respect to the system of international treaties as a whole—as contrasted with a handful of articles that either apply IR theory to the more abstract notion of international law as a whole,¹³ or apply IR theory to some particular subset of treaties.¹⁴

The first three Parts of this Article examine responses to breach of a treaty in terms of the broad dichotomy between release and remediation in the relevant international legal rules. These Parts all use rationalist IR theory as a positive theory—that is, to ask whether the rules of international law are consistent with the rules that rationalist IR theory would predict as elements of a rational institutional design.

Part I of this Article focuses a set of lenses from rationalist IR theory—public goods, collective action, and the iterated Prisoner’s Dilemma—on the rules of release codified in Article 60 of the Vienna Convention on the Law of Treaties (“Vienna Convention”).¹⁵ The broad structure of Article 60—its use of release as a legally authorized response to a breach, and the fact that release from multilateral agreements is more difficult to obtain than release from bilateral agreements—is in fact consistent with the analysis of these rationalist IR theories. A closer look at some of the details of Article 60—its particular definition of material breach and the specifics of the special treatment accorded multilateral agreements—reveals significant dissonance between the tenets of rationalist IR theory and the actual rules of release. Switching the focus to “transaction costs”—though in a fashion not typically undertaken in the analysis of public goods and collective action—produces a more satisfactory fit between theory and the specifics of actual rules, however.

Part II focuses on the rules of remediation, which are contained in the (uncodified) law of

¹¹ See, e.g., Louis Henkin, *How Nations Behave* (2d ed. 1979).

¹² See Setear, *Iterative Perspective*, *supra* note 3.

¹³ See Burley, *supra* note 2; Abbott, *IR Prospectus*, *supra* note 3.

¹⁴ See Abbott, *Trust But Verify*, *supra* note 6; Smith, *supra* note 6; see also Burley & Mattli, *supra* note 8 (applying liberal theory to European politico-legal integration); Shell, *supra* note 2 (applying neoliberal institutionalism and neoliberalism to the rules and role of the World Trade Organization).

¹⁵ Vienna Convention on the Law of Treaties, *opened for signature* May 23, 1969, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980) [hereinafter Vienna Convention].

state responsibility. Two main principles, necessity and proportionality, constitute the relevant portion of the law of state responsibility. What I call “optimal-deterrence theory”—a combination of elementary deterrence theory and economic theory derived from the analysis of externalities—reveals some fairly dramatic differences between the predictions of rationalist IR theory and the actual rules governing responses to breach of a treaty. A slight adaptation of “misperceptions-spiral theory” seems to do a better job than deterrence theory of predicting the institutional design that actually constitutes the law of state responsibility as it applies to treaty breaches, but this theory is only partly “rationalist” (and also proves eventually to be *inconsistent* with the rules of release).

While Parts I and II each focus on a single aspect of the rules governing responses to breach—the rules of release in Part I and the rules of remediation in Part II—Part III focuses on the relationship *between* the rules of release and the rules of remediation. No set of rules specifically and exclusively governs this relationship, but the rules of remediation do imply a certain relationship to the rules of release: The availability or exercise of a release option appears to constrain the availability of remediation measures. The rules of release do not appear to contain an analogous principle: The availability of remediation measures does *not* appear to constrain the availability or exercise of release. This one-way limitation is not consistent with the optimal-deterrence theory discussed in Part II. Some practical aspects of a typical response to a breach, however, tend to mitigate this theoretical imperfection. The simultaneous consideration of the rules of release and remediation proves to yield some insights not only into the rules themselves but also into at least one theory used to explain those rules in Part II. Although the misperceptions-spiral theory may be used to justify the rules of remediation, the rules of release are quite inconsistent with the implications of that theory. Part III closes by attempting to unify the theoretical frameworks of Parts II and III after eliminating misperceptions-spiral theory from the available palette. Such an attempt proves useful chiefly to point out the limitations of rationalist IR theory, but at least the attempt does so in the context of a sustained analysis of a particular problem rather than in the abstract.

Part IV transmogrifies the positivist approach of the first three Parts into a normative, reform-oriented approach. Where the first three Parts identify inconsistencies between the rational-design hypothesis and the actual rules of release and remediation, Part IV of the Article proposes to use those inconsistencies as the starting point for reshaping international law along more rationalistic lines. The definition of material breach, in this view, should be modified to focus on the breach itself, not on the role of the breached provision in the treaty; the rules specially applicable to multilateral agreements should become more sensitive to this same principle. The rules of remediation need a thorough overhaul oriented towards allowing freer punishment of treaty breachers. A two-way (rather than merely one-way) constraint between rules of release and rules of remediation is in order as well.

The Article concludes with a brief discussion of the implications of its analysis for the relationship between IR theory and international law more generally. With the hindsight of this analysis, one may suggest fairly specific paths for future empirical or theoretical work. The

Conclusion also suggests that, in light of the extensive overlap between rationalist IR theory and economic analysis (and the arguably higher state of development of law and economics theory compared to rationalist IR theory), some combination of IR theory and the law and economics analysis of contracts may be a fruitful approach to pursue in future analysis of treaties and of the rules that govern their validity and implementation.

I. Rules of Release: Article 60 of the Vienna Convention

This Part analyzes the “rules of release” described in Article 60 of the Vienna Convention. These rules revolve around the concept of “material breach,” which is defined as “the violation of a provision essential to the accomplishment of the object or purpose of the treaty.”¹⁶ With respect to *bilateral* treaties, a material breach is both necessary and sufficient to give the victim of that breach the option to release itself from all of its obligations under the breached treaty. With respect to *multilateral* treaties, a material breach is a necessary but *not* a sufficient condition to give rise to the release option; the material breach must also *either* lead all non-breaching parties to agree that their simultaneous release is appropriate, *or* specially affect a party seeking release only from its obligations to the breaching state, *or* radically affect the future performance obligations of all parties. Section A describes these various rules in more detail.

Section B argues that the broad structure of Article 60 is entirely consistent with the rational-design hypothesis as derived from rationalist IR theory. IR theorists commonly conceive of international cooperation as an “iterated Prisoner’s Dilemma” (“IPD”) that in turn arises from an underlying assumption that international cooperation is a “public good.” This Article argues that such a conception implies that rational rules of release in treaty law should possess two characteristics. First, those rules should balance preservation of the gains possible from continued enforcement of a treaty with the need to reassure non-breaching parties that they may exercise a release option to prevent their exploitation by the breaching party. Second, those rules should make release from agreements involving a small number of parties easier to obtain than release from agreements involving a large number of parties. Section B argues that Article 60’s broad structure reflects precisely these two characteristics: Article 60 allows some but not all breaches to release a party from its obligations under the breached agreement, and Article 60 imposes different—and less stringent—standards for release from bilateral, *vice* multilateral, obligations. The fit between rationalist IR theory and international law is therefore, at the broad structural level of Article 60, a good one.

The relationship between Article 60 and rationalist IR theory is not infinitely harmonious, however. Section C notes the various difficulties that arise when one attempts to demonstrate the consistency of the rational-design hypothesis with three more particular aspects of Article 60. First, Article 60’s definition of material breach is only rather roughly tailored to the criteria that

¹⁶ Vienna Convention, *supra* note 15, at 346.

the relevant IR theory on the IPD and public goods would predict are important. The definition of material breach focuses upon the importance of the breached provision to the goals of the treaty. The relevant IR theory implies, however, that this definition should focus instead upon the deprivation of benefits inflicted upon the victims by the particular breach and upon the costs that the breacher avoids through its breach. The match between the actual definition of material breach and the definition predicted by the relevant IR theory based on the IPD and a public goods model therefore proves rather imperfect. One may nevertheless advance a closely-related IR theory, based on a “transaction-costs” analysis, that does offer at least some additional consistency between Article 60’s definition of material breach and rationalist IR theory. This analysis focuses on the difficulties of applying fact-intensive rules in the international legal system and concludes that one may view Article 60’s definition of material breach as an effort to economize on highly costly factual determinations by substituting relatively cheaper legal determinations.

The second topic of Section C involves those provisions of Article 60 that set forth the additional requirements for obtaining a release option from a multilateral agreement. On the positive side of the ledger for the rational-design hypothesis, there are certain aspects of public goods theory that do provide partial justification for some of the particulars of the additional-requirements provisions. The relevant rules focus on differential impacts of breach among the various parties to a multilateral agreement and attempt to cabin release to the relationship with the breaching party. These foci are consistent with the implications of rationalist IR theory. Nonetheless, there are a number of ways in which the implications of rationalist IR theory are *not* consistent with the particulars of Article 60’s additional requirements for release from a multilateral treaty. As with Article 60’s definition of material breach, the additional-requirements provisions fail in important ways to enforce a close relationship between the likelihood of granting a release option and the deprivation of benefits suffered by the victims of that breach. Furthermore, the transaction-cost explanation that one may offer in partial support of Article 60’s definition of material breach does *not* provide any such support for the particulars of Article 60’s definition of the additional requirements for multilateral release. This portion of Section C concludes by noting that the additional-requirements provisions of Article 60 prove to be particularly problematic in the context of the “singular promise,” which is the primary kind of obligation in a wide range of treaties (and especially likely to be crucial in those treaties most clearly involving public goods).

The third particular aspect of Article 60 examined in Section C is the use of only two categories of treaty (“bilateral” and “multilateral”) keyed to the number of parties to a treaty. The broad structure of Article 60 in this respect—rules that make a release option more difficult to obtain when there are three or more parties to a treaty than when there are only two parties to a treaty—is consistent with rationalist IR theory under the analysis developed in earlier parts of the Section. Nonetheless, rationalist IR theory holds that the number of parties to an agreement is a crucial variable in determining the problems of “collective action” likely to occur in making and monitoring the relevant agreement, and the rational-design hypothesis thereby implies that Article 60 should incorporate some standard that accounts more precisely for the resulting

differences in the difficulties of implementing treaties among, e.g., three, thirty, and one hundred and thirty parties. The transactions-cost argument that partly justified Article 60's actual definition of material breach, but failed to justify the shortcomings of the additional-release provisions, also fails to justify the use in Article 60 of just two categories to distinguish among treaties according to the number of parties.

A. Article 60 of the Vienna Convention: The Rules of Release in Treaty Law

When one nation breaches a treaty, must other nations initially governed by that treaty continue to adhere to their obligations under the now-breached treaty? The "law of treaties" addresses this question in Article 60 of the Vienna Convention.¹⁷ Article 60 focuses on two factors in determining whether a breach relieves a non-breaching party of its treaty obligations: whether a breach is "material" or not, and whether the treaty at issue is bilateral or multilateral. With respect to a *bilateral* treaty, the essential rule releases the victim of a breach from its obligations only upon a "material" breach of the treaty,¹⁸ and defines a "material" breach as "the violation of a provision essential to the accomplishment of the object or purpose of the treaty."¹⁹ Note that, as written, the focus of the inquiry is upon whether the provision is an essential one.²⁰

¹⁷ The law of treaties is codified in the Vienna Convention. For a discussion of the exact status of this Convention in the eyes of the United States Government, see Setear, *Iterative Perspective*, *supra* note 3, at 148 n.35 (noting that the United States recognizes the Vienna Convention as "authoritative guide to current treaty law and practice") (citation omitted).

¹⁸ Article 60(1) of the Vienna Convention provides: "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." Vienna Convention, *supra* note 15, at 346.

¹⁹ Article 60(3) of the Vienna Convention provides in full: "A material breach of a treaty, for the purposes of this Article, consists in: (a) A repudiation of the treaty not sanctioned by the present Convention; or (b) The violation of a provision essential to the accomplishment of the object or purpose of the treaty." *Id.*

²⁰ According to the commentary provided by the International Law Commission on Article 60(3), the concept of essential provisions should not be read in narrow terms:

The word "fundamental" might be understood as meaning that only the violation of a provision directly touching the *central* purposes of the treaty can ever justify the other party in terminating the treaty. But other provisions considered by a party to be essential to the effective execution of the treaty may have been very material in inducing it to enter into the treaty at all, even although [sic] these provisions may be of an ancillary character.

No adjectives like “substantial” or “fundamental” or “material” modify the word “violation.” Thus, on its face, Article 60(3) is equivalent to stating that “*any* violation of a provision essential to accomplishment of the object or purpose” of a treaty is a material breach.²¹ Conversely, if

Report of the International Law Commission on the Work of Its Eighteenth Session, U.N. GAOR, 21st Sess., Supp. No. 9, at 83, U.N. Doc. A/6309/Rev. 1 (1966).

²¹ This Article adopts the position that the Vienna Convention accurately states the relevant rule, a position that draws significant support not only from the text of the Vienna Convention, but also from commentators. See, e.g., 1 L. Oppenheim, *International Law* s 547, at 756 (Arnold D. McNair ed., 4th ed. 1928); see also Omer Yousif Elagab, *The Legality of Non-Forcible Counter-Measures in International Law* 163-64 (1988) (noting Article 60’s “implicit recognition of the right to resort to counter-measures for less serious breaches”); Egon Schwelb, *Termination or Suspension of the Operation of a Treaty as a Consequence of its Breach*, 7 *Indian J. Int’l L.* 309, 314-15 (1967) (arguing that the Convention deems material the violation of a provision essential to accomplishment of any object or purpose of the treaty).

Nonetheless, there are those who believe that the face of the Vienna Convention does not state the true meaning of the rule. Kirgis argues that “minor” violations of an essential provision are not material breaches. Frederic L. Kirgis, Jr., *Some Lingered Questions about Article 60 of the Vienna Convention on the Law of Treaties*, 22 *Cornell Int’l L.J.* 549, 572 (1989). The Restatement (Third) asserts:

Not every breach of an agreement is material. This section applies only to a significant violation of a provision essential to the agreement. Each party may determine whether there has been a breach by another party and whether it is material, except when the agreement provides some other mechanism for doing so. However, suspension or termination of an agreement on the ground of another party’s breach would itself constitute a violation of the agreement if the other party’s breach were found not to have been material.

Restatement (Third) of the Foreign Relations Law of the United States s 335, cmt. b (1987) [hereinafter Restatement (Third)].

Greig reads Article 60 to define any breach of an essential provision as material, but is unsure that such a meaning is consistent with preexisting international law on the subject:

[A]rticle 60 of the Convention is defective in two principal ways and may not reflect the actual state of international law. First, article 60 bestows a power upon the innocent party to terminate or suspend a treaty, in whole or in part, in response to a breach. In other words, it appears that proportionality plays no role in limiting this act of discretion. Second, although the International Law Commission referred to the need to limit the right of termination or suspension to breaches of a “serious character,” article 60 defines materiality not in terms of the degree of breach but instead in terms of the importance of the *provision* broken. Thus, a minor breach of an important provision can give rise to the right

Article 60(3) is the exhaustive definition of a material breach—and no other section or Article in the Vienna Convention discusses material breach—then *no* breach can be material if that breach is of a provision *not* essential to the accomplishment of the object or purpose of the treaty, regardless of how completely the breach in question violates the relevant (inessential) provision of the particular treaty.²²

of termination, whereas a serious breach of a provision not essential to the accomplishment of the object and purpose of the treaty does not do so.

D.W. Greig, *Reciprocity, Proportionality, and the Law of Treaties*, 34 Va. J. Int'l L. 295, 342-43 (1994). One might also note the views of Lori Damrosch:

By reading between the lines of the International Law Commission's commentary [to Article 60], it is fortunately possible to conclude that the Commission did not intend to foreclose appropriate responses to breaches not covered by Article 60's materiality standard. The Commission indirectly recognized that rights of reprisal would be available under international law wholly apart from any codification of the law of treaties In view of the sound policy reasons for preserving a deterrent to minor as well as major treaty breaches, the references to materiality in the text should be read not as excluding entirely the right to respond to minor breaches, but simply as a means to ensure that minor breaches are not used as a pretext for denouncing a treaty which has become inconvenient or for suspending performance of more than proportional obligations.

Lori Fisler Damrosch, *Retaliation or Arbitration—Or Both? The 1978 United States-France Aviation Dispute*, 74 Am. J. Int'l L. 785, 790-91 (1980) (footnotes omitted).

Many of the arguments made in this Article support the proposition that one should read Article 60 to define as immaterial those breaches that one might characterize as "minor" or "trivial"—and thus support the arguments of those commentators cited immediately above who argue that the face of Article 60 does not or should not reflect the proper definition of "material breach." See *infra* text accompanying notes 68-75 (arguing that face of Article 60's definition of material breach is inconsistent with implications of rationalist IR theory); text accompanying notes 215-216 (reformulating definition of material breach to require substantial deprivation of benefits to victim).

²² For example, Article 6 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal would be considered an essential provision. *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, done March 22, 1989, U.N. Doc. UNEP/IG.80/3 (1989), 28 I.L.M. 657, 664-65 (1989). Article 6 concerns the transboundary movement of hazardous waste between parties. *Id.* at 664-5. In contrast, Article 14 might not be considered an essential provision. But see *supra* note 20 (noting that International Law Commission stated concept of essential provisions not to be read in narrow terms). Article 14 establishes centers for training and technology transfer and authorizes the parties to consider the establishment of a revolving fund to finance emergency

With respect to *multilateral* treaties, a material breach is a necessary but *not* a sufficient condition for release. A material breach of a multilateral treaty relieves a given non-breaching party of its obligations only when at least one of three other criteria is also satisfied: (i) the non-breaching parties have unanimously decided that the treaty's obligations are to be treated as inoperative; (ii) the particular nation seeking release has been "specially affected" by the breach and seeks release only from "the operation of the treaty . . . in the relations between itself and the defaulting State"; or (iii) the breach "radically changes the position of every party with respect to the further performance of its obligations under the treaty."²³ The scope of the release option also differs as between bilateral and multilateral agreements. The release option available upon material breach of a *bilateral* treaty may be used to suspend the relevant obligations temporarily or to terminate those obligations permanently.²⁴ With respect to *multilateral* treaties, in contrast, a material breach also meeting at least one of the three additional criteria set forth just above gives rise to an option only of suspension, not of termination.²⁵ The victim of the breach of a

responses to accidents arising from transboundary movements. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, *supra*, at 670.

²³ Article 60(2) of the Vienna Convention provides in full:

A material breach of a multilateral treaty by one of the parties entitles:

(a) The other parties by unanimous agreement to suspend the operation of the treaty in whole or in part or to terminate it either:

(i) In the relations between themselves and the defaulting State, or

(ii) As between all the parties;

(b) A party specially affected by the breach to invoke it as a ground for suspending the operation of the treaty in whole or in part in the relations between itself and the defaulting State;

(c) Any party other than the defaulting State to invoke the breach as a ground for suspending the operation of the treaty in whole or in part with respect to itself if the treaty is of such a character that a material breach of its provisions by one party radically changes the position of every party with respect to the further performance of its obligations under the treaty.

Vienna Convention, *supra* note 15, at 346.

²⁴ See *supra* note 18.

²⁵ Thus, a careful reading of Article 60(2) indicates that an innocent party to a multilateral treaty only has the option to suspend performance under the agreement. However, the other parties to the multilateral treaty, by unanimous agreement, may suspend or terminate the agreement. As indicated, Article 60(2) provides:

multilateral treaty thus has a greater obligation to stand prepared to resume its obligations in the event that a (formerly) breaching party resumes its compliance with the treaty's obligations.²⁶

The other rules set forth in Article 60 are worthy of mention but receive little attention in this Article. The declaration by a party that some procedural flaw makes the treaty inapplicable in its entirety is, if such an assertion is incorrect, a material breach.²⁷ This is not surprising. The triggering "repudiation" involves a statement that the whole treaty no longer binds the repudiating party.²⁸ The interesting question thereby raised is obviously whether that assertion

A material breach of a multilateral treaty by one of the parties entitles:

(a) The other parties by unanimous agreement to *suspend* the operation of the treaty in whole or in part or to *terminate* it either:

(i) In the relations between themselves and the defaulting State, or

(ii) As between all the parties;

(b) A party specially affected by the breach to invoke it as a ground for suspending the operation of the treaty in whole or in part in the relations between itself and the defaulting State;

(c) Any party other than the defaulting State to invoke the breach as a ground for *suspending* the operation of the treaty in whole or in part with respect to itself if the treaty is of such a character that a material breach of its provisions by one party radically changes the position of every party with respect to the further performance of its obligations under the treaty.

Vienna Convention, *supra* note 15, at 346 (emphasis added).

²⁶ Suspension places the operation of the treaty in abeyance. According to Chinkin, Article 60:

[a]llows the injured party to suspend its own performance, presumably for the duration of the breach or of its consequences, upon material breach by the other party. Suspension may be chosen as a method of persuading the other party to recommence or improve its own performance—if the breaching party is deprived of the values it expected to achieve from the performance of the agreement, it may conclude that its own actions have become too costly.

Christine Chinkin, *Nonperformance of International Agreements*, 17 *Tex. Int'l L.J.* 387, 427 (1982) (footnotes omitted). In contrast, termination ends all formal and informal obligations under a treaty.

²⁷ See *supra* note 18.

²⁸ Chinkin notes that "[a] denunciation of the policies in the agreement or a refusal to accept its binding force is incompatible with the expectation of

is justified (a matter taken up elsewhere in the Vienna Convention),²⁹ rather than whether such a thoroughgoing abandonment of treaty obligations is sufficient to be material.

The victim of a releasing breach has an option, not a duty, to release itself from the obligations of the relevant treaty.³⁰ The optional nature of release is important here mostly by way of negative implication: The Article need not consider situations in which the victim of a breach is *forced* to terminate its obligations, so the Article focuses on when the victim of a breach wants to exercise that option. The Article similarly assumes that situations will arise in which the breacher benefits from a breach that does not give rise to a release option for the victims of that breach but loses from a breach that gives rise to such a release option—that is, the Article simply assumes that the analysis of Article 60 is important to the breacher as well as to the victim.

Likewise, the Article undertakes no express analysis of when the victim of a treaty breach might prefer to be released from some, rather than all, of its obligations. This power to pick and choose which obligations will remain in force is presumably of some benefit to the victim of a breach, who could thereby abandon those provisions that have proven most burdensome and preserve the obligations that it considers most beneficial. Nonetheless, the Article undertakes no further explicit discussion of the benefits of such selectivity.

Article 60 specifies that its rules are what might be thought of as “default” rules: the parties are free to override the rules of Article 60 in a particular treaty by express provision.³¹ The Vienna Convention generally specifies “default” rules, so Article 60 provides no exceptional

stability grounded in the agreement and creates uncertainty regarding the likelihood of its performance. A party can repudiate an agreement through a formal declaration or an action” Chinkin, *supra* note 26, at 397. According to Villiger, “[t]his encompasses unjustified denunciations or excessive retaliatory measures, but not legitimate reprisals or courses of action under Art. 60.” Mark E. Villiger, *Customary International Law and Treaties* 371-72 (1985) (footnote omitted); see also Schwelb, *supra* note 21, at 313-14 (discussing examples of legitimate repudiation of treaties).

²⁹ For a discussion of this portion of the law of treaties, see Setear, *Iterative Perspective*, *supra* note 3.

³⁰ Article 60 does not require termination or suspension following a material breach. Rather, such action “entitles” the victim of the breach to certain action. See Vienna Convention, *supra* note 15, art. 60(1)-(2), at 346.

³¹ Article 60(4) of the Vienna Convention provides: “The foregoing paragraphs are without prejudice to any provision in the treaty applicable in the event of a breach.” *Id.* at 346; cf. Quincy Wright, *The Termination and Suspension of Treaties*, 61 *Am. J. Int’l L.* 1000, 1000 (1967) (discussing practice and proposing right of unilateral suspension of treaty’s operation, in whole or in part, on notice charging violation, but without right of termination or withdrawal absent agreement or adjudication by International Court of Justice).

interest on this score.³² More importantly, there do not seem to be very many particular treaties in which the parties *have* overridden the default rules of Article 60.³³ The treaties associated with General Agreement on Tariffs and Trade (“GATT”) and the World Trade Organization (“WTO”) are the only prominent exception of which this author is aware; these treaties state that parties may not exercise any release option under Article 60 until the conclusion of the (sometimes lengthy) dispute-resolution procedures set forth in the GATT and WTO.³⁴

B. The Consistency of the Broad Structure of the Rules of Release

³² The Vienna Convention provides numerous rules that set forth explicit default procedures but allow the parties to establish their own rules. For example, Article 40 provides that “[u]nless the treaty otherwise provides, the amendment of multilateral treaties shall be governed by the following paragraphs.” Vienna Convention, *supra* note 15, at 341. There are nonetheless certain provisions from which the parties may not deviate. For example, Article 53 provides that “[a] treaty is void if, at the time of its conclusion, it conflicts with a peremptory norm of general international law.” *Id.* at 344.

³³ The Restatement (Third) section on the termination and suspension of treaties follows Article 60(1) and 60(2) of the Vienna Convention. It notes, however, that:

While Subsection (2)(a) provides that unanimous action by the other parties is required to suspend or terminate a multilateral agreement for material breach by one or more parties, it is not uncommon for an agreement to provide otherwise.... Thus, Article 5 of the United Nations Charter authorized the General Assembly, upon the recommendation of the Security Council, to suspend the membership of a member against whom enforcement action has been taken under Chapter VII; Article 6 permits expulsion for persistent violation. Similarly, the International Monetary Fund Agreement permits expulsion for persistent failure to comply. The agreements creating such organizations will normally specify the procedures to be followed and the majorities required for such action.

Restatement (Third), *supra* note 21 s 335, cmt. d (citations omitted).

³⁴ For example, the Dispute Settlement Understanding adopted during the Uruguay Round Agreements requires member states to adhere to its dispute settlement procedures in the event of a perceived violation. Understanding on Rules and Procedures Governing the Settlement of Disputes, *done* Apr. 15, 1994, 33 I.L.M. 112 (1994) (entered into force Jan. 1, 1995). Article 23 of the Dispute Settlement Understanding provides, “[w]hen Members seek the redress of a violation of obligations or other nullification or impairment of benefits under the covered agreements or an impediment to the attainment of any objective of the covered agreements, they shall have recourse to, and abide by, the rules and procedures of this Understanding.” *Id.* at 128; see also William J. Aceves, *Lost Sovereignty? The Implications of the Uruguay Round Agreements*, 19 *Fordham Int’l L.J.* 427, 436-43 (1995) (discussing details of Dispute Settlement Understanding).

with the Basic Theories of Rationalist IR Theory

The Section above sets forth the rules of release for treaty law, as set forth in Article 60 of Vienna Convention. Are they good rules? This Section attempts to answer this question by recounting and extending the work of certain political scientists specializing in IR theory. One could, of course, ask whether the textual statement of rules of international law are good rules by asking about their internal consistency, or about their consistency with the true intentions of their drafters, or about their adherence to principles of natural law, or about their utility in promoting a political cause.³⁵ This Article, however, asks whether the rules of Article 60—or at

³⁵ Thomas Franck has blended several of these elements with a four-part test to determine the legitimacy of any rule:

These indicators of rule-legitimacy in the community of states are: *determinacy, symbolic validation, coherence, and adherence*....The hypothesis 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.

Thomas M. Franck, *The Power of Legitimacy Among Nations* 49 (1990); see also Thomas M. Franck, *Legitimacy in the International System*, 82 *Am. J. Int'l L.* 705 (1988) (arguing that the extent to which nations obey a rule depends on their perception of its legitimacy). For an extensive application of Franck's theory in the context of the Vienna Convention, see Setear, *Iterative Perspective*, supra note 3, at 162-73. The author has elaborated on these elements in another article:

"Determinacy" is that which makes [a rule's] message clear...."Symbolic validation" is the procedural use of ritual and historical pedigree in connection with the perpetration of a substantive rule....Coherence is the degree of connection between rational principles on the one hand, and a rule...on the other....[Finally,] [a]dherence is the depth and breadth of the system used to interpret the relevant rules.

Id. at 163 (footnotes omitted).

Some scholars of international law have specifically examined the concept of material breach. See Kirgis, supra note 21; Chinkin, supra note 26; Schwelb, supra note 21; see also Richard B. Bilder, *Address, Breach of Treaty and Response Thereto*, 61 *Proc. Am. Soc'y Int'l L.* 193 (1967) (discussing legal, political, and other considerations affecting decisions on treaty compliance); Albert J. Esgain, *The Spectrum of Responses to Treaty Violations*, 26 *Ohio St. L.J.* 1 (1965) (examining factors and circumstances motivating the decision to choose a specific response to breach of treaty). For an article that incorporates some rationalist elements into the study of breach, but without a great deal of consideration of the special aspects of the international legal system, see Richard Morrison, *Efficient Breach of International Agreements*, 23 *Denv. J. Int'l L. & Pol'y* 183 (1994).

least that portion of those rules that is, as discussed above, the focus of this piece—are consistent with the *Weltanschauung* of “rationalist” IR theorists.³⁶

Rationalist IR theorists, like other IR theorists, take as the subject of their study that subset of human behavior known as international relations (or international politics, if one prefers). International law is a subset of international relations.³⁷ Indeed, in the absence of centralized authorities for interpreting and enforcing international law, the rules of international law are inextricably bound up with international politics—even more directly than domestic law is a matter of domestic politics.³⁸ The question of how international cooperation occurs is one of the questions asked by IR theorists, and international law is clearly one possible method for promoting international cooperation.³⁹ “Rationalist” IR theorists view the world through roughly

³⁶ Kenneth Abbott applies a comparable “rational design hypothesis” to the study of arms control agreements:

Rationalist IR theory assumes that states act as rational entities pursuing their national interests as they see them. In situations of interdependence, the 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, *Trust But Verify*, supra note 6, at 1 (footnotes omitted). According to Abbott, the rational-design hypothesis has important implications for the study of international relations:

[I]t suggests that scholars can reason backward from the provisions of international agreements and the procedures and institutions they establish to conclusions about the strategic relationships of the parties to those arrangements....

Conversely, the rational design hypothesis suggests that scholars can reason forward from a theoretical understanding of particular issue areas to richer explanations of the meaning and function of international agreements, procedures and institutions.

Id. at 2 (footnotes omitted).

³⁷ Scholars disagree however, as to the exact definition of international relations. See James E. Dougherty & Robert L. Pfaltzgraff, Jr., *Contending Theories of International Relations* 12-30 (3d ed. 1990). According to Viotti and Kauppi, international relations is “[t]he total of political, social, economic, cultural, and other interactions among states (and even nonstate) actors.” Paul R. Viotti & Mark V. Kauppi, *International Relations Theory* 595(1987).

³⁸ Setear, *Iterative Perspective*, supra note 3, at 139; Burley, supra note 2, at 205-06.

³⁹ As noted by Burley, “if law—whether international, transnational or purely domestic—does push the behavior of states toward outcomes other than those predicted by power and the pursuit of national interest, then political

the same clear if narrow lens used by those other scholars who might challenge the notion that “social science” is an oxymoron—some sociologists, a few historians or anthropologists, many (other) political scientists, and virtually every economist.⁴⁰ “Reflectivist” IR theorists are less concerned with intrinsic structure and regularity, and more concerned with ideation and particularism, than rationalist IR theorists.⁴¹ The labels of “neoliberal institutionalism” (or simply “institutionalism” or “regime theory”) and “neorealism” (or “realism”) are frequently attached to the two leading schools of rationalist IR theory. These two schools differ significantly in their view of the utility of international law,⁴² but they use quite similar tools to

scientists must revise their models to take account of legal variables.” Burley, *supra* note 2, at 206.

⁴⁰ The assumption of rationalism among certain IR theorists assumes that nations “have consistently ordered preferences and choose among alternative courses of action so as to further those preferences.” Abbott, *IR Prospectus*, *supra* note 3, at 350. Abbott adds:

The rationality assumption is essential to structural theory. It allows the analyst to interpret the actions of states as meaningful, purposive conduct, and—together with the assumption of unity—to reason directly from structural incentives to state responses without considering internal decision-making processes. For precisely these reasons, the assumption of state rationality has also been a “cornerstone of Realism.”

Id. at 350–51 (quoting Duncan Snidal, *The Game Theory of International Politics*, 38 *World Pol.* 25, 38 (1985)) (other citations omitted).

⁴¹ Rationalist theories assume fixed preferences by states. In contrast, reflectivist theories recognize that preferences vary and change. For the distinction between rationalist and reflectivist schools of thought in IR theory, see Robert O. Keohane, *International Institutions: Two Approaches*, 32 *Int’l Stud. Q.* 379, 382 (1988); see also *infra* note 8 (discussing “constructivist” IR theory).

⁴² Neorealists emphasize the anarchic nature of the international system and argue that systemic factors influence state action. While neoliberal institutionalists recognize the anarchic element of international relations, they are more sanguine about the prospects of international cooperation. Specifically, they argue that institutions can induce cooperative behavior among states. See generally David A. Baldwin, *Neoliberalism, Neorealism, and World Politics in Neorealism and Neoliberalism* 3 (David A. Baldwin ed., 1993) (describing key disagreements between neorealists and neoliberals); Keohane & Martin, *supra* note 9 (1995) (arguing that international institutions complement power realities in encouraging state cooperation); Mearsheimer, *supra* note 2 (arguing against neoliberal institutionalism but more or less fairly describing it). Realism has typically denied the relevance of international law. In contrast, institutionalists recognize the possible relevance of international law—at least if one recognizes “law” in the broader context of regimes or institutions. For a more elaborate discussion of the distinctions between neorealism and neoliberal institutionalism, see *supra* note 9.

draw their very different conclusions.⁴³ Holding the subtleties of the two theories considered separately, I now simply press on to try to use the often-abstract tools of rationalist IR theory to produce concrete implications for the particular rules of international law.⁴⁴

1. The Iterated Prisoner's Dilemma and Its Application to the Existence of the Release Option

The dominant theoretical characterization of international cooperation in rationalist IR theory is as an iterated "Prisoner's Dilemma." The Prisoner's Dilemma ("PD") is a game-theoretical construct, loosely based on a story involving two prisoners offered a particular plea bargain by a prosecuting attorney, in which each individual faces a difficult choice.⁴⁵ If both individuals cooperate with one another, for example, by refusing to "squeal" on each other, then they will both be better off than if both individuals refuse to cooperate with one another. If only one individual takes steps to cooperate with the other, however, the *uncooperative* individual will benefit more than the cooperative individual. Indeed, this exploitation in fact gives the uncooperative individual his highest possible payoff from the interaction with his fellow prisoner. (See Figure 1.)

FIGURE 1: THE PRISONER'S DILEMMA

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

⁴³ See *supra* note 11.

⁴⁴ For a comparable effort focusing on the role of "iteration" in the law of treaties, see Setear, *Iterative Perspective*, *supra* note 3.

⁴⁵ The Prisoner's Dilemma ("PD") is a well-known model used to describe how the actions of rational actors can lead to suboptimal behavior. The Prisoner's Dilemma is typically modeled as a 2 x 2 matrix. See Eric Rasmusen, *Games and Information: An Introduction to Game Theory* 16-18, 30 (2d ed. 1994). The Prisoner's Dilemma is widely used in political science and economics. See generally Duncan Snidal, *The Game Theory of International Politics*, 38 *World Pol.* 25 (1985) (applying game models to range of international political, military, and economic issues); John A.C. Conybeare, *Public Goods, Prisoners' Dilemmas and the International Political Economy*, 28 *Int'l Stud. Q.* 5 (1984) (using theory of public goods and PD to examine incentives for cooperation in international trade). For an application of the PD to issues of civil procedure and international relations simultaneously, 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).

The simultaneous possibility that an uncooperative individual can exploit a cooperative individual *and* that mutual cooperation will benefit both parties more than mutual uncooperativeness strikes IR theorists as an accurate description of many situations in international relations.⁴⁶ Consider two rival nations pondering a military build-up. An arms race may make both nations worse off than if both had spent the money on domestic investments. Mutual cooperation, i.e., mutual restraint in military expenditures, benefits both nations more than mutual defection, i.e., high mutual expenditures on weaponry. Yet there is a danger of exploitation facing a cooperative nation if its rival does not also cooperate. If one nation refuses to cooperate (and obtains militarily useful weaponry) while the other nation cooperates (and so does not obtain such weaponry), then the cooperative nation may find itself worse off than if both nations had defected: The cooperative nation faces a better-armed rival, whereas mutual defection would at least have led to equally matched (if otherwise impoverished) rivals.

The “iterated” version of a Prisoner’s Dilemma involves multiple opportunities for interaction (“iterations”) between the involved parties.⁴⁷ The iterated Prisoner’s Dilemma (“IPD”) not only seems to many to bear a closer resemblance to international politics than the

⁴⁶ See generally Joseph M. Grieco, *Realist Theory and the Problem of International Cooperation: Analysis with an Amended Prisoner’s Dilemma Model*, 50 *J. Pol.* 600 (1988) (using “Amended” Prisoner’s Dilemma to depict relative-gains element of state preferences and the relative-gains problem for cooperation); Charles Lipson, *International Cooperation in Economic and Security Affairs*, 37 *World Pol.* 1 (1984) (arguing that repetition and other situational factors induce cooperation despite Prisoner’s Dilemma); Arthur A. Stein, *Coordination and Collaboration: Regimes in an Anarchic World*, 36 *Int’l Org.* 299 (1982) (examining nature of international cooperative regimes, their formation, maintenance, and dissolution).

⁴⁷ The iterated Prisoner’s Dilemma (“IPD”) is, as presented here and as typically presented elsewhere, a game of common knowledge—that is, both players have exactly the same knowledge about the payoffs, and about how many moves have occurred, and about what each player’s move during each previous iteration was, and so forth. The PD is also typically presented as a game involving the simultaneous, rather than sequential, choice of moves by the players (and thus is typically presented as a game of “imperfect” information). The absence of any actions by “Nature,” such as a random variance in the payoffs, means that the typical Prisoner’s Dilemma is also a game of “complete” and “certain” information. See Rasmusen, *supra* note 45, at 45 (presenting one-shot PD as involving common knowledge, and imperfect and symmetric information with certainty); *id.* at 121-23 (presenting IPD as structurally identical to one-shot PD except for its repetitions). For similar presentations of the PD and IPD, see Drew Fudenberg & Jean Tirole, *Game Theory* 9-10, 110-12 (1991); Douglas G. Baird et al., *Game Theory and the Law* 33-34, 166-67 (1994). See generally Rasmusen, *supra* note 45, at 44-48 (discussing various structures of knowledge and information in games).

one-shot PD, but also offers a greater opportunity for rational cooperation.⁴⁸ The analysts of various computer simulations have argued that the most effective strategy for encouraging (and benefiting from) cooperation is a “tit-for-tat” strategy in which an individual party cooperates as a matter of initial policy and then, in each subsequent iteration, adopts whatever policy—cooperation or defection—that its rival used in the immediately previous iteration.⁴⁹ If the rival cooperated in the previous iteration, then a nation using the tit-for-tat strategy cooperates in the current iteration; if the rival defected in the previous iteration, then a nation using a tit-for-tat strategy defects in the current iteration.

If we extend the view of international cooperation as an IPD to the question of treaty law, then the general idea behind Article 60—the release of parties from their treaty obligations after certain kinds of important breaches—is perfectly sensible in light of the utility of the tit-for-tat strategy in promoting cooperation.⁵⁰ Suppose that the goal of a treaty is the restriction of a

⁴⁸ In the IPD, the long-term benefits of cooperation can outweigh the short-term benefits of defection. See Robert Axelrod, *The Evolution of Cooperation* 20 (1984) (explaining reasons for consistent success of tit-for-tat strategy); James D. Morrow, *Game Theory for Political Scientists* 262-68 (1994); Gary Bornstein, Ido Erev & Harel Goren, *The Effect of Repeated Play in the IPG and IPD Team Games*, 38 *J. Conflict Resol.* 690 (1994) (discussing different outcomes between intergroup public goods game and intergroup prisoner’s dilemma game); Jean-Francois Mertens, *Repeated Games*, in *The New Palgrave: Game Theory* 205 (John Eatwell et al. eds., 1987) (describing different types of iterative games and their respective outcomes). For a discussion of iteration in the context of the law of treaties, see Setear, *Iterative Perspective*, *supra* note 3.

⁴⁹ Robert Axelrod conducted a computer-moderated Prisoner’s Dilemma tournament to determine the best strategy in an IPD. Numerous entries of varying complexity were run against each other. The most successful strategy was tit-for-tat. The tit-for-tat strategy required an individual to cooperate in the first round of interaction and thereafter match their opponent’s moves in the subsequent rounds. Axelrod, *supra* note 48, at vii-viii.

⁵⁰ The tit-for-tat strategy has generated a good deal of attention in terms of its potential applicability to international relations. Axelrod and Keohane have discussed in the abstract its potential utility in international politics. See Robert Axelrod & Robert O. Keohane, *Achieving Cooperation Under Anarchy: Strategies and Institutions*, 38 *World Pol.* 226 (1986); Robert O. Keohane, *Reciprocity in International Relations*, 40 *Int’l Org.* 1 (1986) (discussing “reciprocity” in international relations and its relationship to tit-for-tat strategy); cf. Alan O. Sykes, “Mandatory” Retaliation for Breach of Trade Agreements: Some Thoughts on the Strategic Design of Section 301, 8 *B.U. Int’l L.J.* 301, 309, 320 (1990) (discussing tit-for-tat strategy in Axelrod’s tournament and arguing that section 301 of U.S. trade act has requirements that make it “very much a ‘tit for tat’ policy”); J. Mark Ramseyer, *Legal Rules in Repeated Deals: Banking in the Shadow of Defection in Japan*, 20 *J. Legal Stud.* 91, 110 n.63 (1991) (reaction of Japanese banks to certain defaults “much like the tit-for-tat strategy so successful in evolutionary game theory research”). See generally Marc L. Busch & Eric R.

costly arms race that, if unrestricted, is likely to produce only greater insecurity and ruinous military expenditures. If cooperation on this matter generally presents parties with an IPD, then cooperation on this matter through the specific medium of an arms-control treaty is similarly likely to present the parties with an IPD. Adherence by a party to its obligations under such a treaty would naturally seem to be the “cooperative” strategy, while a breach would seem to be the “defecting” strategy.⁵¹ Article 60 thus gives legal blessing to an essential part of the tit-for-tat strategy: If one party defects (i.e., breaches materially in a bilateral agreement) in a given iteration, then the other party may legally defect (i.e., is released from its own obligations) in the next iteration. This alignment of international law and the teachings of rationalist IR theory seems laudable. If a breach by one party never released other parties from their obligations, then the victims of a breach would need to choose between obeying international law and protecting themselves against repeated exploitation by the breacher. Removing parties from the horns of such a dilemma creates a system, i.e., treaty law, that is more likely to encourage cooperation to evolve between parties faced with an IPD.⁵²

Reinhardt, *Nice Strategies in a World of Relative Gains, The Problem of Cooperation Under Anarchy*, 37 *J. Conflict Resol.* 427 (1993) (presenting theoretical and simulation-oriented argument that cooperation can emerge even when the realists’ strong concern for relative gains is warranted); Stephen J. Majeski & Shane Fricks, *Conflict and Cooperation in International Relations*, 39 *J. Conflict Resol.* 622 (1995) (presenting experimental evidence that availability of communication increases likelihood of cooperation when each “player” is actually a team). There have been a number of more specific applications to international relations as well. For discussions relating to World War I or its origins, for example, see Axelrod, *supra* note 48, at 73-87 (discussing “live and let live” norm in quiet sectors of trenches in World War I); John H. Maurer, *The Anglo-German Naval Rivalry and Informal Arms Control, 1912-1914*, 36 *J. Conflict Resol.* 284 (1992) (arguing that Winston Churchill devised successful tit-for-tat strategy to allow restraint of naval arms race between Great Britain and Germany); Stephen Van Evera, *Why Cooperation Failed in 1914*, 38 *World Pol.* 80, 81-83 (1985) (arguing that tit-for-tat strategy could not by itself have overcome barriers to cooperation existing before World War I due to a half-dozen widely shared misperceptions of military and political realities). See generally Frank C. Zagare, *The Dynamics of Deterrence* 27 n.22 (1987) (stating that “in mutual deterrence situations that share the structural characteristics of this particular game, tit-for-tat strategies are necessary for deterrence stability”). Further afield from the topic of this Article, there have been some fascinating examinations of biological behavior consistent with the “adoption” of tit-for-tat strategy. Manfred Milinski, *Tit for Tat in Sticklebacks and the Evolution of Cooperation*, *Nature*, Jan. 1987, at 433; Gerald S. Wilkinson, *Reciprocal Food Sharing in the Vampire Bat*, *Nature*, Mar. 1984, at 181. See generally Robert Axelrod & William D. Hamilton, *The Evolution of Cooperation*, 211 *Science* 1390 (1981) (analyzing implications of tournament results for biology, especially evolutionary biology).

⁵¹ See Setear, *Iterative Perspective*, *supra* note 3, at 37-38.

⁵² A good deal of work focused on simulations rather than on international relations (or biology) has also sprung up concerning whether the tit-for-tat

strategy that proved so successful in Axelrod's tournaments is an equally advantageous approach in game-theoretical tournaments operating under a different set of assumptions. See, e.g., Jack Hirshleifer & Juan Carlos Martinez Coll, *What Strategies Can Support the Evolutionary Emergence of Cooperation?*, 32 *J. Conflict Resol.* 367 (1988) (arguing that comparative utility of tit-for-tat strategy depends on, inter alia, whether tournament involves elimination of initially unsuccessful strategies); Per Mollander, *The Prevalence of Free Riding*, 36 *J. Conflict Resol.* 756 (1992) (stating that prevalence of cooperation declines significantly when one moves from two-person iterated IPD to n-person IPD). The topic of "noise"—the degree to which players misinterpret the actions of others or fail to effectuate their own choices—constitutes a sub-literature of its own. See, e.g., Hirshleifer & Coll, *supra* (arguing that level of noise significantly affects comparative success of tit-for-tat strategy); David Kraines & Vivian Kraines, *Evolution of Learning Among Pavlov Strategies in a Competitive Environment with Noise*, 39 *J. Conflict Resol.* 439 (1995) (exploring success of learning-oriented "Pavlov" strategies in noisy IPD); Curtis S. Signorino, *Simulating International Cooperation Under Uncertainty: The Effects of Symmetric and Asymmetric Noise*, 40 *J. Conflict Resol.* 152 (1996) (examining effects of various kinds of noise and concluding that contrite tit-for-tat strategy is generally one of the best performers); Jianzhong Wu & Robert Axelrod, *How to Cope with Noise in the Iterated Prisoner's Dilemma*, 39 *J. Conflict Resol.* 183 (1995) (presenting theoretical and simulation-oriented argument that tit-for-tat strategy, or a "contrite" modification that does not counter-counter-defect when the opponent's counter-defection is caused by own erroneous defection, is highly effective in an environment involving "noise" in effectuation of strategies); cf. John Shepard Wiley, Jr., *Reciprocal Altruism as a Felony: Antitrust and the Prisoner's Dilemma*, 86 *Mich. L. Rev.* 1906, 1916-28 (1988) (exploring applicability of "reciprocity" and tit-for-tat strategy to antitrust law and canvassing various difficulties in applying Axelrod tournaments to real-life marketplace). The so-called "Folk Theorem," which predates Axelrod's work, holds that a nearly infinite variety of strategies exists that satisfy reasonable "equilibrium" conditions for judging the strategy successful. See Rasmusen, *supra* note 45, at 124-29 (discussing Folk Theorem and its component assumptions); Fudenberg & Tirole, *supra* note 47, at 150-60; see also Rasmusen, *supra* note 45, at 142, 395-96 (showing that so-called "grim strategy," which defects forever after any defection by opponent, is a "perfect" equilibrium in an infinitely repeated game and that tit-for-tat strategy is not a perfect equilibrium); Baird et al., *supra* note 47, at 171-73 (discussing tit-for-tat strategy and other strategies that make for symmetric subgame perfect Nash equilibria in infinitely repeated game with sufficiently high discount factor). Axelrod appears to have been well aware of this implication of the Folk Theorem for his own work. See Axelrod, *supra* note 48, at 15 ("It is the sad news that if the future is important, there is no one best strategy.").

As one might expect, therefore, there are situations in which the tit-for-tat strategy is not the most advantageous strategy to adopt. Indeed, Axelrod himself noted that the tit-for-tat strategy would not have prevailed in the first of his own tournaments if certain other, equally simple strategies had been entered. Axelrod, *supra* note 48, at 39.

2. The Theory of Public Goods and the Variations in the Release Option According to the Number of Parties to the Breached Treaty

The story of the IPD is quite consistent with—indeed, is often presented in the IR-theory literature as a result of—the problem of “public goods” or “collective action.”⁵³ In situations involving the production of public goods, the participants ponder the production of some “public” good that will yield more in aggregate benefits than it will cost in aggregate production expenditures.⁵⁴ The “public” aspect of the good is that, once produced, it will be difficult to prevent the general public from enjoying the benefits of the good, regardless of whether those parties contributed to the costs of its production.⁵⁵ The Cold War notion of “flexible-response deterrence” or the more modern goal of a “thicker ozone layer” are examples of such “public” goods in international relations. When the United States pledged to use its own nuclear weapons

One might also note that the tit-for-tat strategy typically does *not* meet one popular characterization of a desirable “equilibrium”—the “evolutionarily stable strategy,” which is a strategy proof to invasion by other (mutant) strategies—in an infinitely repeated game. See Robert Boyd & Jeffrey P. Lorberbaum, *No Pure Strategy Is Evolutionarily Stable in the Repeated Prisoner’s Dilemma Game*, *Nature*, May 1987, at 58 (arguing that no “pure” strategy—that is, a strategy that determines its action without reference to some random factor—is evolutionarily stable in an IPD with a fixed change of ending after each round); cf. Elliott Sober, *Stable Cooperation in Iterated Prisoners’ Dilemmas*, 8 *Econ. & Phil.* 127 (1992) (discussing IPD in context of various definitions of dynamic stability). See generally, Rasmusen, *supra* note 45, at 110-15 (discussing evolutionarily stable strategies).

The tit-for-tat strategy is therefore an intriguing and frequently successful approach to an IPD, but it is not the only possible successful approach to the IPD in either theory or (simulated) practice.

⁵³ See Conybeare, *supra* note 45; Keohane, *After Hegemony*, *supra* note 3, at 67-69; Bruce M. Russett & John D. Sullivan, *Collective Goods and International Organization*, 25 *Int’l Org.* 845 (1971); Stein, *supra* note 46, at 307-08. But see Duncan Snidal, *Relative Gains and the Pattern of International Cooperation*, 85 *Am. Pol. Sci. Rev.* 701, 720 (1991) (suggesting that unanswered questions—whether the relevant international goods are truly public and why relative decline of the largest state does not always result in the collapse of public goods provision—raise difficulties with the public goods analysis).

⁵⁴ See John Head, *Public Goods and Public Policy*, 17 *Pub. Fin.* 197 (1962); Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 *Rev. Econ. & Stat.* 387 (1954).

⁵⁵ Jointness of supply and non-excludability are the principal components of a public good. William J. Baumol & Alan S. Blinder, *Economics: Principles and Policy* 543-44 (3d ed. 1985). Each element is relevant in the context of international public goods. Abbott, *IR Prospectus*, *supra* note 3, at 377-78.

against the Soviet Union if the latter were to invade western Europe with purely conventional forces, Belgium was likely to reap any benefits from such a promise by the United States whether or not Belgium paid for the relevant nuclear forces of the United States. The Soviets, after all, would have found it difficult to leap-frog the Federal Republic of Germany and conquer Belgium even if the United States, in retaliation for Belgian intransigence, had restated its promise as “the United States will launch nuclear weapons against the invasion of non-Belgian territory in western Europe.” An increase in the thickness of the ozone layer is another example of a public good in international relations. The ozone layer circulates above national boundaries without restriction, and so a reduction in the production of ozone-depleting substances benefits all nations whether they have made a contribution to that reduction or not. No fence in the sky can contain the benefits of a thicker ozone layer to those nations that “produce” that thicker ozone layer by reducing their own production or consumption of ozone-depleting substances.

Because a party can benefit from production of a public good without paying for that good, *each* party has an incentive to withhold its contribution to that good’s production of the good in hopes of obtaining a “free ride” on the benefits of the eventually produced good. If *all* parties act in accord with this hope, however, there will be no contributions made at all, and thus no public good will actually be produced.⁵⁶

Efforts to produce the international equivalent of a public good may nonetheless go forward with some cooperative scheme, such as a treaty, that involves collective action.⁵⁷ Participants will still have an incentive to shirk their promises and to conceal their shirking in hopes of obtaining a free ride, but monitoring and sanctioning by other parties can reduce these difficulties. What is important for present purposes, however, is the belief of economists (and IR theorists in their wake) that the difficulties of producing a public good increase as the number of parties

⁵⁶ The problems of producing public goods were identified by Olson in the domestic setting:

[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.

Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* 13 (1965); see also Jon Elster, *The Cement of Society: A Study of Social Order* (1989) (discussing free-rider problem as main obstacle to cooperation).

⁵⁷ See also Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* 2-7 (1990) (arguing that assumptions of models explaining free-rider problems should not be taken as fixed); Garrett Hardin, *The Tragedy of the Commons*, 162 *Science* 1243 (1968).

necessary to produce the good increases.⁵⁸ Problems of collective action,⁵⁹ such as negotiating the terms of production or monitoring those terms for compliance, are thought to rise more than

⁵⁸ According to Olson, "the larger the group, the farther it will fall short of providing an optimal amount of a collective good." Olson, *supra* note 56, at 35 (emphasis omitted). Olson provides three explanations for this phenomenon:

First, the larger the group, the smaller the fraction of the total group benefit any person acting in the group interest receives, and the less adequate the reward for any group-oriented action, and the farther the group falls short of getting an optimal supply of the collective good, even if it should get some. Second, since the larger the group, the smaller the share of the total benefit going to any individual, or to any (absolutely) small subset of members of the group, the less the likelihood that any small subset of the group, much less any single individual, will gain enough from getting the collective good to bear the burden of providing even a small amount of it; in other words, the larger the group the smaller the likelihood of oligopolistic interaction that might help obtain the good. Third, the larger the number of members in the group the greater the organization costs, and thus the higher the hurdle that must be jumped before any of the collective good at all can be obtained. For these reasons, the larger the group the farther it will fall short of providing an optimal supply of a collective good, and very large groups normally will not, in the absence of coercion or separate, outside incentives, provide themselves with even minimal amounts of a collective good.

Id. at 48 (footnote omitted). But see Russell Hardin, *Collective Action* (1982) (asserting collective action problem is fallacious when analysis is iterated rather than static); Miles Kahler, *Multilateralism With Small and Large Numbers*, 46 *Int'l Org.* 681 (1992) (examining multilateralism and suggesting more efficient designs drawn from domestic politics for large-number cooperation); Michael Taylor, *The Possibility of Cooperation* (1987) (critiquing public goods provision rationale for the existence of the state and offering detailed study of cooperation in absence of state or other forms of "coercion"). The literature on "k-groups" also suggests the possible emergence of cooperation even in large groups. See James A. Caporaso, *International Relations Theory and Multilateralism: The Search for Foundations*, 46 *Int'l Org.* 599 (1992).

⁵⁹ The collective action problem has been identified in numerous settings. Olson's is the seminal work. See Olson, *supra* note 56; see also, e.g., Elster, *supra* note 56, at 17 (describing structure of problem and why cooperation may nonetheless be rational); Walter Nicholson, *Microeconomic Theory* 612 (2nd ed. 1978) (noting impossibility of excluding individuals from deriving benefits from a public good); R.H. Coase, *The Lighthouse in Economics*, 17 *J.L. & Econ.* 357 (1974) (examining and critiquing history of the lighthouse as economists' favored example of a public good); Russett & Sullivan, *supra* note 53, at 847 (using air pollution control as example of positive externality or "free ride").

proportionally with the number of parties involved.⁶⁰

What are the implications of the problem of collective action for Article 60 of the Vienna Convention? Article 60 gives parties an option to release themselves from their treaty obligations—that is, gives them legal grounds for withdrawing from their obligations to produce whatever “good” is the subject matter of the treaty.⁶¹ If treaties involve the production of public goods, and if the difficulties of collective action described above apply, then treaties with large numbers of parties should generally be more difficult to create (and to monitor) than treaties with small numbers of parties. If Article 60 were consistent with these rationalist IR theories, then international law should hesitate longer before releasing parties from multilateral obligations than from bilateral obligations; if multilateral treaties require a larger per-party investment to create, then release from a multilateral (*vice* bilateral) treaty represents the abandonment of a greater per-party investment in the creation and monitoring of the obligations.⁶²

⁶⁰ For some, an example from domestic relations may be useful. Imagine a simple agreement among housemate—“let’s take turns taking out the kitchen trash”—and assume that the health and olfactory benefits of taking out the trash regularly will accrue to all parties in the house equally and non-excludibly. If such an agreement is reached between two roommates, the transaction costs associated with making and monitoring the agreement are low. One night at dinner, someone says, “let’s alternate taking out the trash every night.” If problems develop, the two parties talk them over. A given party need only keep one other party in line to have a smoothly functioning agreement. The situation is different in a house with, say, ten roommates. There will be significantly greater inconvenience in getting all ten together to make the agreement and modify it; a list will need to be made of whose turn it is on each night to take out the trash; people may neglect their obligations two nights in a row, presenting some difficulty in determining the exact party responsible; a fastidious or rule-oriented roommate must now keep track of nine other people and their garbage-related activities; and so forth.

In contrast to the taking out of trash, a good such as a sandwich would be a private good. One person’s consumption of the sandwich prevents others from consuming the good, so consumption of the sandwich is rivalrous. One may also effectively bar others from access to the good (at least with a private refrigerator and a lock), so the good is excludible.

⁶¹ See *supra* text accompanying notes 16-34.

⁶² Those fearful that the formulation of the previous sentence breaks the taboo against giving weight to “sunk costs” in a marginalist framework may reformulate that sentence as stating that abandonment of a multilateral treaty will force higher per-party reconstitution costs on the parties than abandonment of a bilateral treaty and thus involves a sacrifice of future opportunities that, properly discounted by the likelihood of reconstitution and the relevant time-discount rate, is a cost to parties that flows from the possibility that some parties will take advantage of their release option.

For a discussion of sunk costs, see Arthur L. Stinchcombe, *Constructing Social Theories* 120-21 (1968) (“When an action in the past has given rise to a

Is Article 60 in fact stingier in granting the release option to parties in multilateral treaties than in bilateral treaties, as consistency with the rational-design hypothesis would predict? The answer is "yes," for two reasons. The first reason is that meeting the conditions for obtaining any release option are more difficult for parties to multilateral agreements, and the second reason is that the release option obtained is of narrower scope for parties to multilateral agreements than for parties to bilateral agreements. This Article briefly takes up each reason in turn.

What are the differences between the conditions of obtaining some release option in bilateral *vice* multilateral agreements? Materiality of the breach *is* a sufficient condition for granting a release option to the victims of a breach of a bilateral agreement, but is *not* a sufficient condition for granting a release option to the victims of a breach of a multilateral agreement. Parties to a multilateral agreement therefore face some extra hurdles to obtaining the release option. In addition, materiality of breach is the *only* condition *necessary* for obtaining a release option regarding bilateral obligations, and *remains* only a *necessary* condition for obtaining a release option regarding multilateral obligations.⁶³ Parties seeking release from a multilateral agreement therefore inevitably face more hurdles than parties seeking release from a bilateral agreement. One can therefore conclude quite unequivocally that release from a bilateral obligation is easier to obtain than release from a multilateral obligation, just as the rational-design hypothesis would predict.

What is the scope of the release obligation obtained once the conditions relevant to each kind of agreement (bilateral and multilateral) are met? For bilateral agreements, the release option allows for either suspension or termination, while the release option obtained with respect to multilateral agreements allows only for suspension.⁶⁴ Parties to multilateral agreements must therefore continue to invest resources in standing ready to perform their obligations—if the breacher recants, as it were, then even the victims who obtained and exercised their release option must return to the fold.⁶⁵ Refusing to invest those resources risks the costs associated with being

permanently useful resource, we speak of this resource as a 'sunk cost.'" Because sunk costs cannot be recovered, they should "not enter into current calculations of rational policy.").

⁶³ See *supra* text accompanying notes 17-18, 24-25.

⁶⁴ See *supra* text accompanying notes 24-26.

⁶⁵ See *supra* text accompanying notes 25-26. Some have argued that an aggrieved party may suspend provisionally its own performance of a treaty, notwithstanding the strictures of Article 60. Eduardo Jimenez de Arechaga, *International Law in the Past Third of a Century*, 159 *Rec. des Cours* 1, 81 (1978). However, it was also recognized that such action is done at a party's own risk because the act of unilateral suspension could itself constitute a breach. See also *Case Concerning the Air Service Agreement of 27 March 1946 (U.S. v. Fr.)*, 18 *R.I.A.A.* 417 (Arbitral Tribunal Award of Dec. 9, 1978)

judged a breaching party oneself—if the initial breacher later resumes compliance.⁶⁶ Parties to a bilateral agreement, in contrast, may immediately terminate the agreement and move on without taking that risk. Release from a multilateral *vice* bilateral agreement is therefore both more difficult to obtain and less valuable once obtained.

C. The (In)consistency of the Finer Structure of the Rules of Release with Extensions of Rationalist IR Theory

The previous Section examined the consistency of well-established IR theory with the two broad contours of Article 60—the availability of release as a result of breach, and the differences in the rules of release based on the number of parties to the breached agreement—and concluded that the fit between those contours and the predictions of the rational-design hypothesis is a good one. While IR theorists are often content to operate at the high level of abstraction manifest in the theories of IPDs and public goods described above or in the description of Article 60 in terms of its broadest contours, it is the lot of the international lawyer to be concerned with details. It is of course comforting, from the perspective of exploring the rational-design hypothesis, to know that both the general concept of the release option and the differential treatment of bilateral and multilateral treaties are consistent with fundamental principles of rationalist IR theory. Nonetheless, many more detailed rules reside in the text of Article 60. What of the consistency of its *particular* standards regarding the definition of material breach with the rational-design hypothesis, or of the fit between that hypothesis and the additional criteria that must be met to obtain a release option in a multilateral agreement? Are the details of Article 60 consistent with the implications of viewing international legal cooperation as an IPD or a problem of collective action?

This Section undertakes an examination of those details in light of rationalist IR theory. It divides its inquiry into three subsections, each based on a particular aspect of the actual rules of Article 60: the definition of material breach, the additional criteria necessary to obtain release from the breach of a multilateral agreement, and the division of Article 60 into just two categories of treaty (“bilateral” and “multilateral”) keyed to the number of parties to the breached agreement. With respect to each of these three particular aspects of the rules of Article 60, the analysis examines whether those rules are consistent with rationalist IR theory concerning the related concepts of the IPD, public goods, and transaction costs. For better or worse, some of these inquiries into the details of international law also require some extension of IR theory. The abstract notions of “cooperation,” “defection,” “iteration,” and so on, which characterize IR theory in its typical high-concept state, do not

(holding that the U.S. government could deny certain rights under the agreement pending resolution of the dispute).

⁶⁶ See *supra* text accompanying note 26.

always immediately provide useful guidance for evaluating the specifics of Article 60's (or any other) rules. One may view this abstraction either as a shortcoming of existing IR theory or as an opportunity to extend the state of the art, but, in either event, the pursuit of the rational-design hypothesis in the context of Article 60's specific rules does require a bit of theorizing beyond that undertaken in the previous analysis of the general structure of Article 60 in this Part.

1. Article 60's Definition of "Material Breach"

The general notion of release in connection with a breach is, as discussed above, consistent with the rationalist IR view of international cooperation as an IPD, and with the implication thereof that the law of treaties should bless release as a retaliatory defection. Article 60 does not, however, define a material breach as "a defection in a previous iteration." Article 60 defines a material breach as "the violation of a provision essential to the accomplishment of the object or purpose of the treaty."⁶⁷ Can we discover the detail of that definition with the compass of rationalist IR theory? This Section of the Article argues that such a journey is something of an orienteering challenge: Article 60's definition of material breach focuses on the importance of the breached provision to the goals of the breached treaty, while rationalist IR theory implies that Article 60's definition of material breach should focus on the benefits and costs gained and avoided by the breacher through its breach.

a. The IPD and Material Breach

The IPD involves a dichotomous choice for each party: defection or cooperation. Article 60, if we ignore the complexities of multilateral release for the moment, involves a dichotomous characterization of each breach: material or immaterial. There is a temptation to match up the two pairs: Material breaches are defections, and immaterial breaches are cooperations. This makes sense as a starting point (although one must also remember that complete adherence to a treaty is also obviously cooperation),⁶⁸ and that starting point was enough to reach some of the conclusions of the previous Section. But such an approach does not directly assist with the question of defining what a material breach should be under the rational-design hypothesis. *Any* dichotomous definition of material breach, after all, would be consistent with this general approach so long as some breaches gave rise to the release option.

How can we give more definition to IR theory and thereby enable an evaluation of Article 60's definition of material breach? The basic mechanism adopted here for bringing IR theory a

⁶⁷ Vienna Convention, *supra* note 15, at 346.

⁶⁸ Abbott examines a coordination game with three possible choices for each player. Abbott, *IR Prospectus*, *supra* note 3, at 371-72.

little closer to the real world is to focus upon what sort of line one would want to draw in order to capture the difference between “cooperation” and “defection.”⁶⁹ What implications of a party’s actions should lead another party to characterize that action as a defection rather than as cooperation? In the IPD, one can distinguish a defector from a cooperator by the impact of one party’s action on the *benefits* that the *other* party receives⁷⁰ and, at least when the IPD springs from production of a costly public good, by the impact of the choice on the costs faced by the choosing party.⁷¹ One must, if one retains the dichotomous structure of releasing breach/not-a-releasing-breach or defect/cooperate, draw a line somewhere. And though the exact placement of the line may always be somewhat arbitrary, one should at least try to draw the line with respect to the relevant dimension, i.e., benefits and costs to the parties.⁷² A definition of material breach

⁶⁹ Cf. Setear, *Iterative Perspective*, supra note 3, at 193-201 (discussing correlation between dichotomies in law of treaties and actions in prisoner’s dilemma).

⁷⁰ See supra text accompanying notes 45-48.

⁷¹ See supra text accompanying notes 54-58; see also Jack Hirshleifer & Juan Carlos Martinez Coll, *What Strategies Can Support the Evolutionary Emergence of Cooperation?*, 32 *J. Conflict Resol.* 367, 371 (1988) (“the COOPERATE strategy (C) is strictly dominated by the DEFECT strategy (D)—that is, DEFECT yields a higher payoff regardless of what the opponent does”); Jack Hirshleifer, *Economic Behaviour in Adversity* (1987) (making a similar argument).

⁷² For example, a party would want to be especially worried by whichever actions available to the other party deprived the first party of a huge amount of benefits, and only a little worried by whichever actions available to the other party deprived the first party of only a small amount of benefits. See Axelrod, supra note 48, at 133-34; Anatol Rapoport & Melvin Guyer, *A Taxonomy of 2x2 Games*, 11 *Gen. Sys.* 203 (1966) (describing possible structures of incentives in the prisoner’s dilemma games). The huge-deprivation action seems a “bigger” defection than a small-deprivation action. Studies clearly show that the payoff structure for the game affects the level of cooperation. See generally Robert Axelrod & Robert O. Keohane, *Achieving Cooperation Under Anarchy: Strategies and Institutions*, 38 *World Pol.* 226, 228-32 (1985) (noting that the greater the conflict of interest, e.g., payoff structures, the greater the likelihood of defection); Robert Jervis, *Cooperation Under the Security Dilemma*, 30 *World Pol.* 167 (1978) (discussing permutation of prisoner’s dilemma most likely to bring about cooperation). One might reason similarly with respect to costs saved (and thus benefits garnered) by a party: A larger savings of costs seems consistent with a larger break from the cooperative scheme of the treaty.

Alternatively, one might abandon the characterization of a situation as a discrete and dichotomous-action IPD giving each player one of exactly two choices, and imagine instead that the situation is a “continuous” IPD in which parties had a whole range of actions at their disposal. Robert Jervis criticized the use of the Prisoner’s Dilemma for its insistence on restricting the number of choices each party has. Robert Jervis, *Realism, Game Theory, and Cooperation*, 40 *World Pol.* 317, 329-32 (1988). Jervis suggested that states

consistent with the IPD so often deployed by practitioners of rationalist IR theory⁷³ should, therefore, focus on the degree to which the breach imposes harms upon the victims and saves costs for the breacher compared to continuing adherence with the public goods production scheme of the treaty.

In fact, in the world of largely independent utility evaluations that characterize the world of rational actors who inhabit the Axelrod tournaments, one might even be inclined to ignore the cost savings to the breacher. The victim of the breach suffers no direct harm from the savings of the breacher in the Axelrod tournaments,⁷⁴ and a tolerance for the affirmative gains of others is in fact

often have many more options than cooperation and defection and that such choices should be viewed as a continuum rather than as a dichotomy. *Id.* at 329. I do not take such an alternative approach here, however.

⁷³ This approach thus attempts to refine the IPD as a tool for examining international legal rules affecting cooperation. An alternative approach would be to examine the implications of treating international legal cooperation as something other than an IPD. After all, the PD is an interesting game and, for many, a powerful metaphor for interesting problems of cooperation, but the IPD is not the only game in existence and is not necessarily the best way to describe every situation in international relations. See, e.g., James D. Morrow, *Modeling the Forms of International Cooperation: Distribution versus Information*, 48 *Int'l Org.* 387 (1994) (examining various non-PD games of coordination in international relations); Catherine C. Langlois & Jean-Pierre P. Langlois, *Rationality in International Relations: A Game-Theoretic and Empirical Study of the U.S.-China Case*, 48 *World Pol.* 358 (1996) (deriving class of game theoretic strategies described as "countervailing" and then combining empirical data with assumption that U.S. and China adopted countervailing strategies to conclude that China's payoffs in U.S.-China relations were similar to a "Deadlock" game from 1972 to 1978 but similar to a PD game from 1979 to 1988); cf. R. Harrison Wagner, *The Theory of Games and the Problem of International Cooperation*, 77 *Am. Pol. Sci. Rev.* 330 (1983) (arguing that PD and "Stag Hunt" games are insufficiently rich metaphors to represent security-oriented cooperation by nations). The issue of whether a game is a PD or the game of "Chicken" has generated significant controversy. See, e.g., Michael Taylor & Hugh Ward, *Chickens, Whales, and Lumpy Goods: Alternative Models of Public-Goods Provision*, 30 *Pol. Stud.* 350 (1982) (arguing that a variety of public-goods problems, especially involving the environment, actually present a game of Chicken rather than a PD); Zagare, *supra* note 50, at 36-37 (concluding, after extensive analysis, that typical situation in deterrence is a PD, and citing some similar conclusions, while noting that "deterrence theorists [have] almost uniformly gravitated toward the Chicken analogy"). This Article examines the tit-for-tat strategy in connection with the rules on material breach of treaties because the game-theoretical strategy and legal rules prove so closely parallel to one another, and because no single strategy for playing the IPD has garnered nearly the attention of the tit-for-tat strategy.

⁷⁴ Axelrod recognized the importance of focusing on absolute gains rather than relative gains: "Asking how well you are doing compared to how well the other player is doing is not a good standard unless your goal is to destroy

an important part of successful strategies in such tournaments. Nonetheless, there is some danger in ignoring cost savings by the breacher in terms of larger issues of IR theory. The best-established branch of rationalist IR theory (realism) assumes that nations measure their satisfaction with a particular outcome relative to the effect of that outcome on other nations.⁷⁵ This relative-gains view implies that savings by a long-term competitor—and long-term competition is the posture of one nation to another in the neorealist view of how nations calculate their utility—are harmful to other nations, because the breaching nation will be able to use the saved resources for some other purpose that benefits the breacher. There is significant controversy in IR theory about the relative-gains assumption and its implications,⁷⁶ and this Article could hardly hope to resolve that controversy. Instead, the Article simply takes the more inclusive view and evaluates the consistency of Article 60's definition of material breach against its impact *both* upon the direct reduction in absolute benefits imposed upon the victim by the breach *and* upon the savings in costs accruing directly to the breacher.

The characterization of a breach as “material” should therefore be correlated with the degree to which the (breaching) behavior in fact deprives the victim of the benefits of the agreement or saves the breaching party costs. With respect to these criteria, Article 60 deserves a mixture of praise and criticism.

Article 60 requires that a breached provision be “essential to the accomplishment of the object or purpose of the treaty” if a breach of that provision is to be material.⁷⁷ This requirement imposes at least the need to show some plausible correlation between the deprivation of benefits suffered by the victim of a breach and the likelihood that the victim will be released from its obligation to continue cooperating in the production of the international public good at issue in the breached treaty. The “object or purpose of the treaty,” after all, is presumably the area with

the other player.” Axelrod, *supra* note 48, at 111. Indeed, Axelrod noted that the strategy of tit-for-tat won the tournament despite the fact that it never scored better than the other player in any game: “TIT FOR TAT won the tournament, not by beating the other player, but by eliciting behavior from the other player which allowed both to do well. TIT FOR TAT was so consistent at eliciting mutually rewarding outcomes that it attained a higher overall score than any other strategy.” *Id.* at 112.

⁷⁵ For example, according to Joseph M. Grieco, states are positional, not atomistic, in character, and are therefore concerned about relative gains. Joseph M. Grieco, *Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism*, 42 *Int'l Org.* 485, 499 (1988).

⁷⁶ See, e.g., Michael Mastanduno, *Do Relative Gains Matter? America's Response to Japanese Industrial Policy*, 16 *Int'l Sec.* 73 (1991); Robert Powell, *Absolute and Relative Gains in International Relations Theory*, 85 *Am. Pol. Sci. Rev.* 1303 (1991); Duncan Snidal, *Relative Gains and the Pattern of International Cooperation*, 85 *Am. Pol. Sci. Rev.* 701 (1991).

⁷⁷ Vienna Convention, *supra* note 15, art. 60(3)(b), at 346.

respect to which the gains of cooperation are greatest.⁷⁸ Parties would be irrational to focus their goals in a particular treaty on activities promising little gain. Parties may not always be able to reach agreement on the most beneficial end-product of successful cooperation, of course—an agreement to banish war entirely, for example, promises huge benefits, but nations (perhaps sobered by the failure of the Kellogg-Briand Pact)⁷⁹ may currently feel that a treaty could not actually effectuate that promise in light of other features of the international system. The “object or purpose” of a given treaty nonetheless seems plausibly to be the kind of cooperation that promises the best results from *that* treaty. Breaching such a provision, as compared to breaching a provision not essential to accomplishment of the treaty’s object or purpose, would therefore seem more likely to deprive the victim of the benefits of cooperation, and thus should be more likely to excuse the victim from an obligation to continue the cooperative behavior specified in the breached treaty.⁸⁰

⁷⁸ For example, Kirgis examined whether the United States breached the 1981 Algiers Accords:

The Algiers accords provide, *inter alia*, for the settlement of claims of nationals of one party against the other party (with some exceptions, such as claims of the hostages) by submission to the Iran-United States Claims Tribunal; the return to Iran of assets held by U.S. banks and their branches; the funding of a \$1 billion security account for payment of U.S. claims against Iran, with a requirement that Iran maintain a \$500 million balance in it; the nullification of U.S. trade sanctions against Iran; the eventual return of the Shah’s assets to Iran; the withdrawal of U.S. claims against Iran from the International Court of Justice; and the termination of all legal proceedings in the United States involving claims of U.S. nationals against Iran.

In 1981, shortly after the Algiers accords entered into force, President Reagan “suspended” all U.S. claims in U.S. courts insofar as they could be presented to the Iran-U.S. Claims Tribunal. This was a breach of the provision in the Algiers accords requiring termination, not just suspension, of such claims.

Kirgis, *supra* note 21, at 551 (footnote omitted); see also *id.* at 571-73 (describing “suspension” of all U.S. claims as a “nonmaterial breach” of Algiers accords).

⁷⁹ The Kellogg-Briand Pact was signed in 1928 and provided for the renunciation of war as an instrument of national policy. Treaty Providing for the Renunciation of War as an Instrument of National Policy, Aug. 27, 1928, 46 Stat. 2343, 94 L.N.T.S. 57. In practice, the Pact did little to prevent international conflict. See Anthony Clark Arend & Robert J. Beck, *International Law and the Use of Force* 22-24 (1993).

⁸⁰ In the earlier example of essential and non-essential provisions, see *supra* note 22 and accompanying text, a breach of Article 6 of the Basel Convention would clearly bring significant advantages to the breaching state. Article 6 concerns the transboundary movement of hazardous waste between parties. It is an essential provision because it regulates the underlying subject matter of the treaty. It imposes significant obligations on parties.

Another aspect of the rule applicable in the bilateral case does not, however, sufficiently seek to match the dangers of exploitation with the likelihood of release from the breached treaty. The Vienna Convention's definition of a material breach may differentiate among breached provisions according to whether such provisions are essential to the purpose of the treaty or not, but that definition does not differentiate among magnitudes of breach.⁸¹ An infinitesimal breach of an essential provision in a bilateral treaty allows the victim to abandon the entirety of its obligations, just as an unconstrained rule of "perfect tender" in Anglo-American contract law would allow the buyer to abandon the contract upon discovery of the smallest breach of the seller's warranties. An infinitesimal breach is very likely, however, to represent only an infinitesimal reduction in the aggregate benefits of cooperation, and thus to deprive the victim of only an infinitesimal amount of benefits even if that victim continues to cooperate with the treaty's endeavor to produce an international public good. In such a case, the victim should *not* be excused. Article 60's definition of material breach, in contrast, allows the victim to abandon a productive treaty entirely, and thus to reduce to zero its contribution to the production of the public good, even though the breacher's behavior does not significantly reduce the victim's benefits.

The degree to which the *cost* savings from a breach correlate with the essentialness of the breached provision to the object or purpose of the treaty seems even less direct than the correlation between deprivation of benefits to the victim and that essentiality. After all, a rational party certainly should not mind entering an agreement with a purpose that yields cooperation of great benefit at little cost. In fact, such an agreement is just what a rational party should *want*—a great surplus of benefits over costs. One might therefore argue that the focus of Article 60's definition of material breach on the essentiality of the breached provision is unlikely to produce a close correlation between the costs saved by a breacher and the likely materiality of the breach. In many cases, however, one must imagine that benefits and costs will flow from the fulfillment of the same obligations. Each nation will pay a price for its own fulfillment of the obligation and receive a benefit from the fulfillment of that obligation by others. That is the nature of a public good, after all.

In summary, then, the definition of "material breach" in Article 60 appears to be moderately correlated with deprivations of benefits, and only loosely correlated with cost savings, flowing from a breach. Thus, this definition seems at best to represent only a modest correlation between reality and the rational-design hypothesis.

Thus, a breaching state would gain by not complying with its provisions. In contrast, a violation of Article 14 would not bring about significant advantages because it requires the parties only to consider the establishment of a revolving fund to finance emergency responses to accidents arising from transboundary movements.

⁸¹ See *supra* text accompanying notes 18-22.

b. Transaction-Cost Analysis and Material Breach

This Article has just concluded that the details of Article 60's definition of material breach display some, but hardly overwhelming, consistency with the extension of IPD-oriented, rationalist IR theory developed just above. Such a conclusion need not be the final word on the rational-design hypothesis, however. The rational-design hypothesis also allows for the possibility that rationalist phenomena besides the structure of the IPD will affect institutional design.

As described above, public-goods theory rests on the notion that “transaction costs”—the costs of making and monitoring agreements—are an important part of the problem of collective action, and thus of the public goods problem, and thus of an IPD generated by a public goods problem.⁸² In the discussion above (and in much work on collective-action problems), the analysis of transaction costs focuses on the (assumedly positive) relationship between the number of parties participating in production of the public good on the one hand and per-party transaction costs on the other.⁸³ One may, however, also postulate (and then analyze) a relationship between the level of per-party transaction costs and some other variable. This portion of the Article focuses on per-party transaction costs as a function of the political-legal system under scrutiny, with an emphasis on the comparison between the U.S. civil litigation and dispute resolution in the international legal system. This Article argues that per-party transaction costs are higher in the international political system, especially with respect to factual determinations, and that Article 60's definition of material breach is consistent with a rational recognition of that high level of transaction costs.

i. Transaction Costs in the International Political System

Article 60 of the Vienna Convention, like all rules of international law, is embedded not only within the larger context of the international legal system as a whole, but is also in turn embedded within the international political system. These systems present a number of significant barriers to the making and monitoring of international agreements in comparison, say, to the making and monitoring of contractual agreements by two individuals in the United States. The rationalist IR theory discussed above often treats the nation-state as a unified actor, but of course the officials of the nation-state frequently comprise a contentious and diversified lot. The influence of the general polity upon official deliberations can also lead to costs and complexities in the making and monitoring of international agreements.⁸⁴ The transaction costs of reaching agreement *within* a

⁸² See *supra* text accompanying notes 56-60.

⁸³ See *supra* text accompanying notes 61-63.

⁸⁴ Cf. Robert D. Putnam, *Diplomacy and Domestic Politics: The Logic of Two-Level Games*, 42 *Int'l Org.* 427 (1988) (analyzing the implications of domestic

nation-state are therefore significant, but of course an international agreement also involves reaching agreements *between* nations. Officials of different nation-states frequently speak different languages, or interpret translated language through a lens of very different cultural backgrounds. The uses and folkways of negotiations can differ significantly from nation to nation, leading to higher costs in reaching an actual consensus.⁸⁵ In addition, nations have (especially in recent decades) used treaties to pursue solutions to problems of great technical complexity and rapid technological change.⁸⁶ All of these factors lead to higher transaction costs—the costs of making and monitoring agreements.⁸⁷

One reflection of these high transaction costs (or perhaps even one of the causes) is a system of law-oriented international dispute resolution that looks rather underdeveloped in comparison to the system of law-oriented domestic dispute resolution. There are no international jails or sheriffs; there are few international courts of compulsory jurisdiction; there are only the rudiments of an international legislature or an international military force. The costs of interpreting rules and resolving disputes in the international legal system are therefore much higher than the same kind of costs in, say, United States civil legal system. Litigants in U.S. courts frequently (and justifiably) complain about the costs and delays of bringing a civil suit to trial. For their time and money, however, such litigants receive access to a highly developed,

politics for international politics). See generally Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (1971) (discussing influence of organizational and bureaucratic politics on diplomacy); Irving L. Janis, *Groupthink: Psychological Studies of Policy Decisions and Fiascoes* (2d ed. 1982) (examining foreign policy "fiascoes" to identify sources and symptoms of "groupthink").

⁸⁵ See generally James K. Sebenius, *Negotiating the Law of the Sea* (1984) (discussing the Law of the Sea Convention in terms of complex bargaining and negotiation); Glenn H. Snyder & Paul Diesing, *Conflict Among Nations: Bargaining, Decision Making, and System Structure in International Crises* (1977) (analyzing crisis situations through models of bargaining).

⁸⁶ For example, the Vienna Convention for the Protection of the Ozone Layer, *done* Mar. 22, 1985, 26 I.L.M. 1516 (1987), and the subsequent Montreal Protocol on Substances That Deplete the Ozone Layer, *done* Sept. 16, 1987, 26 I.L.M. 1541 (1987) [hereinafter Montreal Protocol], have developed a highly complex regime for the regulation of ozone depleting substances. See, e.g., Richard Elliot Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (1991).

⁸⁷ The transaction-costs literature is very broad. For some of the highlights, see R.H. Coase, *The Nature of the Firm*, 4 *Economica* 386 (1937); R.H. Coase, *The Problem of Social Cost*, 3 *J.L. & Econ.* 1 (1960); Oliver E. Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications* (1975); Benjamin Klein et al., *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 *J.L. & Econ.* 297 (1978). For an application to IR, see Beth V. Yarbrough & Robert M. Yarbrough, *International Institutions and the New Economics of Organization*, 44 *Int'l Org.* 235 (1990).

hierarchical system of dispute resolution that promises a high probability of leading to authoritative factual determinations and a judgment that will actually be enforced. How much, in contrast, would it cost the United States government to bring a suit over the breach of a treaty against another national government and expect to receive access to a highly developed, hierarchical system of international dispute resolution with a high probability of leading to an enforced judgment? The costs are essentially infinite (in the short term): No such opportunity currently exists at *any* price. Certainly, at least, one could characterize transaction costs in the international legal system as relatively high in comparison to many other legal systems.

Indeed, one can see some of the difficulties involved in international legal rule-making in the very doctrines under analysis in this Article: The Vienna Convention was the first authoritative codification of a body of law that had existed in nascent form for centuries, and transaction costs with respect to the law of state responsibility have been so high that centuries of customary-law bantering and decades of actual drafting efforts have yet to produce a treaty for signature!⁸⁸

Despite the difficulties involved in formulating legal rules in the international system, it is probably *factual* determinations that present the highest relative transaction cost barriers in the international legal system. In civil suits in the United States, for example, rules on discovery give litigants a great deal of access to information possessed by one another. Many civil suits involve events to which there are witnesses uniquely qualified to recount those events, and persuading those witnesses to appear in civil court is not typically a challenge once one has located the relevant individuals. In the international legal system, in contrast, the nation-state is essentially more powerful than the court system. That nation is often the only holder of relevant factual information. If other nations possess the relevant information as a result of intelligence-gathering, the question arises as to just which of two potentially quite biased sources one is to believe. A loose community of individuals arguably lacking in nation-specific biases exists to interpret legal principles in light of particular facts, but no such community exists to determine the facts at issue in a particular case. As a result, accurate factual information can be especially difficult to obtain in the international legal system.

ii. Transaction Costs and Article 60's Definition of Material Breach

⁸⁸ Formal efforts to codify the law of treaties were initiated by the International Law Commission at its first session in 1949. These efforts led first to the Draft Convention on the Law of Treaties and subsequently to the Vienna Convention on the Law of Treaties. See Sir Ian Sinclair, *The Vienna Convention on the Law of Treaties* 1-3 (2d ed. 1984).

Similarly, formal efforts to codify the law of state responsibility began in 1949, at the first session of the International Law Commission. While significant work has been completed, a Convention on State Responsibility has yet to be signed. See *United Nations Codification of State Responsibility*, at vii (Marina Spinedi & Bruno Simma eds., 1987).

Viewed against the backdrop of the high transaction costs in the international legal system (especially with respect to factual determinations), the difference between the predictions of rationalist IR theory focused on the IPD and Article 60's actual definition of material breach seems a little less jarring. Rational designers of rules should attempt to economize on the costs of enforcing those rules instead of ruthlessly propagating rules that appear to be consonant with rationalist tenets as more narrowly interpreted. In a system (i.e., the international political-legal system) where factual determinations are very costly to obtain, there is something to be said for a rule that does not require a great deal of inquiry into the particulars of each case presented under that rule.

Article 60's focus upon the importance of the breached *provision* to the treaty's object or purpose, rather than upon the impact of the *breach* on the benefits and costs accruing to the parties as a result, is a rule that economizes on the need to make costly factual determinations. As soon as one can identify which provision is involved in the breach, the inquiry shifts to the role of that provision in the treaty scheme. An inquiry into the treaty scheme involves inferences about the treaty's object or purpose, and about what mechanisms are necessary to accomplish that purpose,⁸⁹ rather than about the particular factual context of the breach. Parties participating in the dispute about the role of the breached provision in the treaty scheme can base their arguments on the already-existing text of the treaty and on the *travaux préparatoires* relating thereto,⁹⁰ rather than upon factually intensive arguments about events occurring in connection

⁸⁹ In examining U.S. compliance with the Algiers Accords, Kirgis referred to the work of the International Law Commission for guidance.

According to the International Law Commission's ... commentary to the draft that became Article 60, such essential provisions are not limited to those directly touching the central purposes of the treaty; "other provisions considered by a party to be essential to the effective execution of the treaty may have been very material in inducing it to enter into the treaty at all, even [though] these provisions may be of an ancillary character." Surely the provision in the Algiers accords requiring termination of the claims in U.S. courts would meet this test.

Taken literally, Article 60(3)(b) says that *any* violation of a provision essential to the accomplishment of the object or purpose of a treaty is a material breach. Does this mean that the U.S. decision to suspend rather than terminate U.S. claims would have authorized Iran to terminate the Algiers accords, and thus to decline to arbitrate or to pay U.S. claims covered by the accords? If the accords are properly considered as one treaty, and if Article 60 is taken at face value, the answer would be yes.

Kirgis, *supra* note 21, at 551-52 (footnotes omitted).

⁹⁰ Articles 31 and 32 of the Vienna Convention concern the interpretation of treaties. Article 31 provides:

with the breach itself. No inquiry into the exact costs and benefits accruing to each party to the agreement is needed. In cases where the breached provision is clearly essential to the accomplishment of the object or purpose of the treaty, as when a treaty has just a few substantive provisions, the determination will be quite easy. So long as these (unnecessary) factual inquiries would be more expensive to make than the legally oriented inquiries involved in

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.

2. The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes:

(a) Any agreement relating to the treaty which was made between all the parties in connexion with the conclusion of the treaty;

(b) Any instrument which was made by one or more parties in connexion with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.

3. There shall be taken into account, together with the context:

(a) Any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;

(b) Any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;

(c) Any relevant rules of international law applicable in the relations between the parties.

4. A special meaning shall be given to a term if it is established that the parties so intended.

Vienna Convention, *supra* note 15, at 340. Article 32 provides:

Recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31 [concerning the general rule of interpretation], or to determine the meaning when the interpretation according to article 31:

(a) Leaves the meaning ambiguous or obscure; or

(b) Leads to a result which is manifestly absurd or unreasonable.

Id. For a general discussion of the process of treaty interpretation, see T.O. Elias, *The Modern Law of Treaties* 71-87 (1974); Sinclair, *supra* note 88, at 114-54.

judging whether a treaty provision is essential to the accomplishment of the object or purpose of the treaty, then Article 60's focus on the importance of the breached provision to the treaty scheme (rather than upon the impact of the breach itself) is consistent with rationalist IR theory—even if that focus initially appears inconsistent with the emphasis on deprivations of benefit and cost savings that one might otherwise see as the proper yardstick for defining material breach.

Note also that Article 60's rule is consistent with a sensitivity to the transaction costs that accrue in administering a treaty *over time*, not just with respect to a single dispute. Once nations agree that a particular provision is essential to the object or purpose of the treaty containing that provision, then any future breach of that provision is automatically material. A definition of materiality based on the benefits or costs accruing from the particular breach at issue, in contrast, obviously requires a costly determination of those effects for every dispute that arises under the provision.⁹¹

2. The Additional Criteria Applicable to Release from a Multilateral Treaty

For multilateral agreements, the materiality of breach is a necessary, but not a sufficient, condition to give the victim of a breach the legal option to release itself from its treaty obligations.⁹² A party seeking release from its multilateral obligations must also meet (any) one of three additional criteria.⁹³ An examination of these additional release criteria in light of the extension of rationalist IR theory concerning the IPD developed just above, as well as in light of criteria from established IR theory closely related to public-goods theory, is the topic of this Section of the Article. This Section proceeds through each of the additional multilateral-release tests in turn and draws upon the relevant IR theory as necessary, rather than attempting to structure the analysis by the exact variant of IR theory under consideration.

a. The Unanimous Victims Test

The first additional, multilateral release criterion is set forth in Article 60(2)(a) of the Vienna Convention: All non-breaching parties may agree to suspend or terminate a breached obligation by their unanimous agreement.⁹⁴ This condition is sensible for several reasons. First, the “unanimous victims” test is consistent with the rest of the law of treaties. When *all* parties to an

⁹¹ See Chinkin, *supra* note 26, at 403-16 (providing several examples of nonperformance of international agreements).

⁹² See *supra* text accompanying note 23.

⁹³ See *id.*

⁹⁴ See *id.*

unbreached treaty agree that such a treaty is inoperative with respect to some or all of the parties thereto, the Vienna Convention gives effect to that unanimous decision to negate otherwise-binding treaty obligations.⁹⁵ The rule of Article 60(2)(a) in effect simply modifies the rule governing unbreached treaties so that, in the case of a (materially) *breached* treaty, all the *non-breaching* parties may together render the treaty inoperative.⁹⁶

Second, the revocation of the breacher's right to vote on suspension or termination of the treaty also seems a useful (if mild) disincentive to breach—and not an overly hasty revocation, either, given that the breach must at least be material for that revocation of the breacher's rights to occur.

Third, the unanimous victims test also harmonizes the treatment of the breach of bilateral and multilateral agreements in certain circumstances. In a bilateral breach, a material breach automatically gives the victim a release option. In a two-party breach, the victim is the only non-breaching party—and thus the victim is “all” of the non-breaching parties left in the arrangement. In a multilateral breach, materiality of breach is not by itself sufficient to give rise to a release option, but the unanimous victims test does give all of the non-breaching parties left in the arrangement the ability to grant themselves a release option.

For the law of treaties to operate otherwise would not only be somewhat logically inconsistent but also, in the view of rationalist IR theory, would be dangerous. To retain a materially breaching party in the set of those whose unanimous consent is necessary to suspend or terminate the breached treaty's operation would allow a materially breaching party to block a decision by all the non-breaching parties to suspend or terminate the treaty. This seems an excessive degree of power to give a nation that has acted inconsistently with the object or purpose of the agreement at issue.

Indeed, in some circumstances, the inclusion of the breaching party in the set of those who must unanimously approve suspension or termination would give a party an affirmative incentive to breach. In circumstances where continued adherence to the treaty by other parties would still

⁹⁵ Article 54 of the Vienna Convention provides: “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 15, at 344-45. Similarly, Article 57(b) provides that the operation of a treaty may be suspended at any time by consent of all the parties. *Id.* at 345.

⁹⁶ Article 60(2)(a) provides that a material breach of a multilateral treaty by one of the parties entitles: “*The other parties* by unanimous agreement to suspend the operation of the treaty in whole or in part or to terminate it either: (i) In the relations between themselves and the defaulting State, or (ii) As between all the parties.” Vienna Convention, *supra* note 15, at 346 (emphasis added).

provide some benefits to a breaching party even after its breach—as is clearly true with respect to treaties governing the provision of international public goods—a party could breach and then veto the termination of the treaty. As a result, it would reap continuing benefits from the treaty without having to incur any costs of compliance. Article 60(2)(a) sensibly guards against such an occurrence.

b. The Special Effects Test

With respect to the other two additional, alternative grounds for releasing victims of a breach from their multilateral obligations—the “special effects” test and the “universal radical effects” test—there are significant grounds on which to criticize Article 60 of the Vienna Convention. The “special effects” test, set forth in Article 60(2)(b), allows release of a non-breaching party from its treaty obligations “in the relations between itself and the defaulting State” when the breach “specially affect[s]” the non-breaching party.⁹⁷ There are two main difficulties with the “special effects” test: one of general applicability treated immediately below, and one (concerning a special class of treaty obligations that this Article terms “singular promises”) that is deferred until the final portion of my treatment of the additional multilateral-release criteria.⁹⁸

If the action of the breaching party does *not* specially affect a particular victim state, Article 60(2)(b) does not release a victim nation from its obligations.⁹⁹ Such a rule means that parties will frequently be held to a treaty even when the breaching party’s action sharply reduces the benefits received by the victim(s) of the breach. Even a very substantial exploitation by the breaching party of the other parties to the treaty will continue to bind all the victim states—so long as the distribution of the diminished benefits is uniform enough not to “specially” affect a state.¹⁰⁰ An outcome of substantial deprivation of benefits without release, however, is inconsistent with the extension of IR theory concerning the IPD developed above in connection with the definition of material breach.¹⁰¹

⁹⁷ See *supra* text accompanying notes 17, 23.

⁹⁸ See *infra* text accompanying notes 125-126.

⁹⁹ Article 60(2)(b) provides that a material breach of a multilateral treaty by one of the parties entitles: “A party *specially affected by the breach* to invoke it as a ground for suspending the operation of the treaty in whole or in part in the relations between itself and the defaulting State. . . .” Vienna Convention, *supra* note 15, at 346 (emphasis added).

¹⁰⁰ See *supra* note 19. Under Article 60(3), however, (examined below) a substantial but uniform diminution of benefits *will* create a release option if it is so substantial as to be a “radical” diminution of benefits.

¹⁰¹ See *supra* text accompanying notes 68-80.

Nonetheless, there *is* a possible justification for a standard that can be derived in straightforward fashion from rationalist IR theory that is concerned with public goods. In a multilateral breach, there is more than one victim. A particular victim exercising a release option affects the interests not only of the breaching party, but also of all those who might wish to continue to adhere to the treaty despite the breach. A victim exercising a release option, after all, reduces the benefits to remaining adherents in a fashion quite similar to the reduction of benefits that results from the initiating breach; a nation dropping out of the agreement affects the nations still complying whether the drop-out nation is the initial breacher or a subsequently released nation. In the language of economists, release creates a “negative externality”—a cost that one party (i.e., the released party) imposes upon others (i.e., those continuing to adhere) by its actions, rather than exclusively upon itself.¹⁰² Parties left to their own devices will, from the point of view of the group as a whole, undertake an excessively high level of activities causing negative externalities.¹⁰³ The group will find it in its aggregate interest to impose some sort of penalty upon those contemplating actions involving a negative externality—ideally, a penalty equal in its impact on the decisionmaker to the cost of the decision upon the rest of the group.¹⁰⁴

The special effects test effectively sets such a penalty for committing the action giving rise to the externality—a penalty equal to whatever the price of dropping out of the underlying treaty in violation of the Vienna Convention proves to be—because the special effects test prohibits release in the absence of a special effect.

The special effects exception is in one sense a good rule under the criterion, discussed above,

¹⁰² Abbott notes that the standard illustration of a negative externality is the pollution emitted by a factory.

The firm that owns the factory need not consider the costs borne by its neighbors when it decides at what level to operate. It is therefore likely to engage in more of the externality-producing activity than is socially optimal. Beautification of the factory grounds, on the other hand, benefits the neighbors, creating a positive externality. Since the owner captures only part of the total social benefit, it is likely to invest in this activity at a less than optimal level.

Abbott, *IR Prospectus*, *supra* note 3, at 389 (footnotes omitted). For a general discussion on externalities, see William H. Riker & Peter C. Ordeshook, *An Introduction to Positive Political Theory* 256-59 (1973); Hal R. Varian, *Intermediate Microeconomics* 537-57 (2d ed. 1990).

¹⁰³ See generally John A.C. Conybeare, *International Organization and the Theory of Property Rights*, 34 *Int'l Org.* 307 (1980) (discussing “property rights” approach to addressing negative externalities).

¹⁰⁴ For discussions on taxing or regulating activities that produce negative externalities, see Coase, *The Problem of Social Cost*, *supra* note 87, at 1-2; Carl J. Dahlman, *The Problem of Externality*, 22 *J.L. & Econ.* 141, 156-57 (1979); Candice Stevens, *Interpreting the Polluter Pays Principle in the Trade and Environment Context*, 27 *Cornell Int'l L.J.* 577 (1994).

of attempting to equate loss of benefits with likelihood of release.¹⁰⁵ The special effects test overrides Article 60's general presumption against release from multilateral obligations, inferentially stemming from a concern with externalities, when a failure to allow release would especially harm a particular party. A great deal of harm (to one party) therefore results in a release option for that party, while a lesser degree of harm (to those parties not specially affected) does not result in a release option for them. The differences in harm involve different parties suffering from the same breach rather than different harms to the same party from different breaches, but the principle should still be the same: A large deprivation of benefits should give rise to a release option, while a small deprivation of benefits should not. Of course, as discussed above, the "specialness" of the harm is not necessarily correlated directly with the degree of harm measured in an absolute sense because the harm must simply be special, not substantial. Nonetheless, the "specialness" of the harm is at least correlated with the degree of harm as measured relative to other victims.

One might also wonder if the transaction-cost analysis that helped reconcile Article 60's definition of material breach with the rational-design hypothesis¹⁰⁶ might mitigate some of the inconsistency between the special effects test and the rational-design hypothesis respecting the possibility of a substantial but evenly distributed deprivation of treaty benefits. With respect to Article 60's definition of material breach, this Article argued above that the dissonance of Article 60's rule with the implications of the rationalist IR theory derived from the IPD is muted by the consonance of that rule with a reasonable desire to avoid high transaction costs in administering the rule.¹⁰⁷ Article 60's definition of material breach avoids factually intensive determinations and is thus useful even though the definition itself does not correlate perfectly with the deprivation-of-benefit test suggested by rationalist IR theory.

Unfortunately, the argument that was so helpful in the context of material breach does not translate well into support for Article 60's special effects test. While Article 60's definition of material breach obviates the need for factual determinations related to the specific breach at issue, the special effects test requires just such a determination. One must, in each case, make a factual determination about whether the effects of a particular breach are special, although one avoids determining whether the breached provision is essential to the treaty scheme. The breach-specific special effects test is thus not easily justifiable as a rational response to the high transaction costs inherent in the international legal system. Note also that to the degree that a characterization of an impact as "special" means that a party seeking release can demonstrate a "special" effect on itself only by examining the effects of the breach upon others, the inquiry must involve factual determinations of the impact of the breach not only on the party seeking release but also on other parties. If a nation could only show a special effect on itself by showing that a majority of

¹⁰⁵ See *supra* text accompanying notes 99-101.

¹⁰⁶ See *supra* text accompanying notes 89-91.

¹⁰⁷ See *supra* text accompanying notes 68-91.

nations suffered less from the breach than that nation, for example, then the inquiry would require a determination of the impact of the breach on at least half of the parties to the treaty. To the extent that the special effects test requires factual determinations about a broad range of parties, the special effects test is thus even less justifiable on transaction-cost grounds than in the absence of a transaction-cost analysis.

c. The Universal Radical Effects Test

The “universal radical effects” test, embodied in Article 60(2)(c) of the Vienna Convention, is the third alternative, additional condition associated with multilateral treaties.¹⁰⁸ Under this rule, the victim of a breach must not only show materiality, as in the bilateral case, but must also show a *radical* impact from the breach on *every* party to the treaty.¹⁰⁹ This test operates in conjunction with the special effects test of Article 60(2)(b) to shape the availability of release whenever all non-breaching parties fail to agree to grant a release option: A breach must either *specialy* affect *one* victim, or *radically* affect all victims, if release is to occur.

As discussed at various points above, the standard for granting a release option with respect to breaches of a multilateral agreement is, and according to rationalist IR theory, should be, more stringent than the standard for granting a release option with respect to breaches of a bilateral agreement.¹¹⁰ The universal radical effects test is certainly an example of a profound difference in the likelihood of granting release from multilateral rather than bilateral treaties. For a non-breaching party to a bilateral treaty, a tiny deviation from a single essential provision of the treaty leads to a judgment of materiality and thus release of the non-breaching party, even if that breach has only a tiny impact upon its victim.¹¹¹ The party to a multilateral treaty, in contrast, is released under the universal radical effects test only if the material breach in question has a *radical* impact upon that party—indeed, only if the breach has a radical impact upon *every* other party to the treaty.¹¹²

¹⁰⁸ See *supra* text accompanying note 23.

¹⁰⁹ See *id.*

¹¹⁰ See *supra* text accompanying notes 23-26 and 56-66.

¹¹¹ See *supra* text accompanying notes 17-22.

¹¹² Article 60(2)(c) of the Vienna Convention allows a state to invoke a material breach of a multilateral treaty:

as a ground for suspending the operation of the treaty in whole or in part with respect to itself if the treaty is of such a character that a material breach of its provisions by one party radically changes the position of *every party* with respect to the further performance of its obligations under the treaty.

By requiring a “radical” impact on all remaining parties, the universal radical effects test obviously exposes signatories to a significant possibility of exploitation by a breaching nation. So long as the breach does not have a radical impact on every victim, a breacher can release itself from the strictures of a treaty through its breach, but continue to garner the benefits of the treaty. The victims of the breach remain bound to their obligations (including, it should be noted, their obligations to the breaching party).¹¹³

Nonetheless, the universal radical effects test does at least impose a greater correlation between exploitative diminution of benefit and the likelihood of release than does Article 60(2)(b). A “radical” effect presumably diminishes the benefits of exchange significantly, while a less-than-radical effect results in some less significant diminution of benefits. A test of “special” effects, in contrast, does not tie the likelihood of release to the deprivation of benefits at all.

As to the issue of whether a universal “radical effect” standard is better than a universal “substantial effect” standard, one is hard-pressed to make such fine distinctions on the basis of rationalist IR theory, even as extended above. As to the requirement of a “radical effect” on *every* party before *any* party can obtain a release option under this test, there remains the possibility of a decoupling between the deprivation of benefits to the victims and the likelihood of their obtaining a release option. If every victim state except one is completely deprived of the benefits of exchange by the breach, then all victim states must continue to adhere to the entirety of the treaty despite such exploitation, so long as the exceptional state is not radically affected by the breach. A nearly complete deprivation of the aggregate benefits of cooperation—complete deprivation for all states but one, and a deprivation just short of “radical” for that one state—could therefore occur without resulting in the excuse of a single victim state. Such a disparity between lost benefits and the probability that a release option exists seems quite excessive.

Of course, one might employ the special effects test to rescue the parties in such a situation. If demonstrating a “special effect” requires only that a particular state show that it has been especially harmed compared to one other state, then a special effect is easy to demonstrate, and thus the need for using the universal radical effects test will be infrequent. This would lessen the unattractiveness of the rule on transaction-cost grounds. Only a rare breach, after all, seems likely to affect exactly every party to the treaty in exactly the same way. This interpretation of “special” would make the special effects test an “exception” that swallows the general rule that release from multilateral obligations should be somewhat difficult given the negative externalities imposed upon other parties by a party’s

¹¹³ The analysis of the sentence in the text assumes that, of course, the special effects test does not operate in the situation under consideration to grant a release option.

exercise of the release option.

If demonstrating a “special” effect requires a state to show that it is the *only* state suffering a greater impact from a given breach, in contrast, such a demonstration will presumably be quite difficult. Rationalist IR theory, however, does not suggest an immediate way out of this dilemma. As long as the criteria additionally applicable to multilateral agreements focus only on “effects upon *the party seeking release*,” rather than including an analysis of the effects of granting a release option to one party upon remaining *adherents* to the treaty, there will always be this sort of difficulty in determining the proper standard for a “special” (or indeed any other kind of) effect.

As with the special effects test, a transaction-cost analysis does not improve the consistency of the actual rules of Article 60 with the rational-design hypothesis. Like the special effects test, the universal radical effects test requires particularized inquiry into the effects of each breach, not a legalistic inquiry into the textual structure of the treaty scheme. Furthermore, the *universal* radical effects test *clearly* requires an inquiry into the effect of the breach on every party to the treaty, even if only one victim of the breach actually seeks a release option.¹¹⁴ The universal radical effects test therefore actually implies very high transaction costs in its administration because an assertion of the universal radical effects rule by even one state with respect to *any* given breach requires a factually intensive inquiry into the impact of the relevant breach upon *all* states. This is hardly a rule designed to minimize the costs of administering the relevant treaty.

d. “Singular” Promises

This portion of the Article articulates the idea of a “singular promise” and then shows the difficulties that this important and increasingly popular kind of treaty obligation creates in the application of the special effects test of Article 60. “Singular promises” are associated with the provision of international public goods, but the argument of this Section of the Article is not otherwise directly connected to rationalist IR theory.

i. The Singular Promise

There are additional difficulties with the special effects test when the obligations at issue in the treaty focus upon what this Article terms “singular promises.” A “singular promise” is an obligation discharged to all other treaty parties by undertaking exactly one activity.¹¹⁵ For

¹¹⁴ See *supra* notes 109–113.

¹¹⁵ One might compare singular promises to *erga omnes* promises: “Generally, only the state that is the victim of a breach of an international obligation has standing to make a formal claim or to resort to third-party settlement procedures. Some international obligations, however, are *erga omnes* (to all

example, the United States might enter into a treaty in which it promises to reduce its production of ozone-depleting substances to a certain level.¹¹⁶ This is a “singular promise.” Contrast this promise with a treaty in which the United States agrees to allow all diplomatic personnel of the parties to the treaty to travel freely throughout the United States.¹¹⁷ This is *not* a singular promise, as defined here, because one can in fact distinguish *many* activities at issue, *each with a different national obligee*—allowing Russian diplomatic personnel to travel freely, French diplomatic personnel to travel freely, Nigerian diplomatic personnel to travel freely, and so forth. The promise rendered to each nation takes the same form—“your diplomatic personnel may travel freely”—but one can still distinguish among various promises, each made to a different nation. In the example involving ozone-depleting substances, in contrast, there is no way to distinguish fulfillment of the promise made to Russia with the promise made to France or Nigeria or other signatories; the United States must either fulfill its obligation simultaneously to all the other treaty parties or to none of them.

Singular promises seem clearly to be associated with the provision of international public goods.¹¹⁸ The release of ozone-depleting chemicals into the atmosphere, for example, leads to a

states), and as to these any state may pursue a remedy.” Restatement (Third), supra note 21, pt. IX, intro. note, at 339.

Chinkin noted that:

A party especially injured by the breach of a multilateral agreement (such as the United States in connection with Iran’s violations of the Vienna Convention on Diplomatic Relations) may invoke the breach as a ground for suspension, but not for termination. This practice acknowledges that a multilateral agreement creates several bilateral arrangements, and a particular breach really concerns only two of them.

Chinkin, supra note 26, at 430-31 (footnotes omitted).

¹¹⁶ For example, Article 2(1) of the Montreal Protocol provides that:

[e]ach Party shall ensure that for the twelve-month period commencing on the first day of the seventh month following the date of the entry into force of this Protocol, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed its calculated level of consumption in 1986.

Montreal Protocol, supra note 86, at 1552.

¹¹⁷ For an example of an actual treaty along these lines, see Vienna Convention on Diplomatic Relations, done April 18, 1961, 23 U.S.T. 3227, 500 U.N.T.S. 95 (entered into force Apr. 24, 1964). Article 26 provides that “[s]ubject to its law and regulations concerning zones entry into which is prohibited or regulated for reasons of national security, the receiving State shall ensure to all members of the mission freedom of movement and travel in its territory.” 23 U.S.T. at 3238.

¹¹⁸ See supra text accompanying notes 53-60.

reduction in the protective ozone layer above all nations.¹¹⁹ One may therefore sensibly phrase a treaty obligation simply as “each nation shall reduce its production of ozone-depleting substances” and expect useful results. The phrase “grant diplomatic personnel the right to travel freely,” in contrast, implicitly requires some resolution of just which nation’s diplomatic personnel is at issue. No nation has its own ozone layer, however. One can imagine a non-singular promise even with respect to a pure public good, of course: “The United States promises Russia that it will reduce U.S. production of ozone-depleting substances by 100 tons, and the United States promises France that it will reduce U.S. production of ozone-depleting substances by 50 tons—and the United States agrees that a ton of reduction may count against the fulfillment of only one of these two promises.” There do not seem to be any treaties setting forth non-singular obligations with respect to an international public good, however.¹²⁰

What of non-public goods and singular promises? Take food aid to Ghana as an example of something that is not a public good. Ghana’s consumption of the food obtained diminishes the amount of food available to others, because Ghana may easily prevent others from consuming the food sent to it. The aid is therefore not an international public good. A good that is not a public good is difficult even to describe in singular terms—“the United States promises everyone that it will convey \$100 million in food credits to Ghana” does not seem substantively to be a singular promise despite its form, because the discharge of the obligation in fact involves only one nation, not all nations equally. Singular promises thus appear frequently in connection with international public goods, but rarely or never in connection with non-public goods.

One should also note that singular promises seem closely associated with treaties that one might think of as encouraging more recent developments in international cooperation. Environmental treaties involving singular promises include agreements that regulate whaling in international waters, the dumping of pollutants in international waters, the preservation of biodiversity, the production of ozone-depleting substances, and the production of greenhouse gases.¹²¹ Multilateral security treaties such as the Nuclear Non-Proliferation Treaty (“NPT”) and

¹¹⁹ See *supra* text accompanying notes 55-56. In the Preamble to the Montreal Protocol, the parties recognized “that world-wide emissions of certain substances can significantly deplete and otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment.” Montreal Protocol, *supra* note 86, at 1550; see also Benedick, *supra* note 86, at 9-22 (discussing history of scientific discovery and measurement of ozone depletion).

¹²⁰ The exception would be if one were to consider adherence to a treaty itself as a public good—assumedly the public good of respect for treaties generally—but then there is no way to distinguish one treaty from another on these grounds.

¹²¹ See, e.g., International Convention for the Regulation of Whaling, Dec. 2, 1946, 62 Stat. 1716, 161 U.N.T.S. 72; Convention on Biological Diversity, *done* June 5, 1992, 31 I.L.M. 818 (1992).

the Conventional Forces in Europe agreement¹²² also involve singular promises,¹²³ as do contributions of resources to international organizations such as the World Bank or the United Nations. Human rights agreements would typically seem to involve singular promises when made by a nation with respect to treatment of its own nationals. Trade-oriented treaties are perhaps the only broad category of leading-edge international treaties not involving singular promises,¹²⁴ although treaties with more traditional subject matters of diplomatic immunity, extradition, immigration, and other movements of persons across international borders also involve non-singular promises.

ii. The Special Effects Test and the Singular Promise

The “special effects test” refers, of course, to special “effects” from a breach. Note that the breach of a singular promise may have different *effects* on various victims of such a breach even if the *activity* at issue is a singular promise and thus is not differentiable on a country-by-country basis. One might, for example, consider a promise not to develop nuclear warheads to be a singular promise. The warheads themselves, in potential contrast to their delivery systems once aimed, are not directed towards a particular state. Suppose that North Korea were to develop nuclear weapons in violation of its obligations under the Nuclear Non-Proliferation Treaty. In the case of such a breach, North Korea would have violated a singular promise, but South Korea would presumably suffer a much greater *effect* (in terms of its decrease in its national security) than, say, Costa Rica. To take another example, if China were to violate its obligations under the

¹²² Treaty on the Non-Proliferation of Nuclear Weapons, done July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161; Treaty on Conventional Armed Forces in Europe, done Nov. 19, 1990, 30 I.L.M. 1 (1991).

¹²³ Cf. Sinclair:

In the case of disarmament treaties, it is necessary for the innocent party to be able to protect itself against the threat resulting from the arming of the defaulting State, and accordingly to be permitted to claim release from obligations owed not only to the defaulting State but also to the other parties.

Sinclair, *supra* note 88, at 189 (footnote omitted).

¹²⁴ For example, the General Agreement on Tariffs and Trade sets forth national treatment requirements for contracting parties. Specifically, Article III(1) provides that “[t]he products of the territory of any contracting party imported into the territory of any other contracting party shall be exempt from internal taxes and other internal charges of any kind in excess of those applied directly or indirectly to like products of national origin.” General Agreement on Tariffs and Trade, *opened for signature* Oct. 30, 1947, 61 Stat. (5)(6), at A18, 55-61 U.N.T.S. 187 (entered into force Jan. 1, 1948). This obligation is owed by each contracting party to every other contracting party, but on a party-to-party basis rather than on a party-to-whole basis.

Montreal Protocol to reduce its production and consumption of ozone-depleting substances, then nations towards the poles, such as Canada, would suffer a greater impact than nations near the equator. The ozone layer is already thinner towards the poles and the effects of reduction are non-linear; in addition, a higher percentage of persons dwelling towards the poles than near the equator have lighter skin, which provides less protection than does darker skin against the ultra-violet rays blocked by a thick ozone layer.¹²⁵ Even for the purest of public goods, therefore, the breach of a singular promise can produce differential *effects*.

Under the special effects test, therefore, a nation such as South Korea (in the NPT example) or Canada (in the Montreal Protocol example) would have a claim that it had been specially affected by the breach at issue and thus that it could release itself from the relevant treaty, under the special effects test. The “special effects” test of the law of treaties states that a specially affected victim of a material breach may suspend “the operation of the treaty in whole or in part in the relations between itself and the defaulting State.”¹²⁶ A specially affected nation, i.e., South Korea or Canada, could therefore presumably suspend the operation of the treaty in the relations between itself and the defaulting state, i.e., North Korea or China. And just what *is* the operation of the treaty in the relations between the victim nation and the breaching nation? That operation can only be a promise by South Korea not to engage in the development of nuclear weapons itself (in the NPT example) or by Canada not to produce or consume various ozone-depleting substances (in the Montreal Protocol example). But the victim of the breach has promised to refrain from *exactly* such activities in its promise to *all* the other parties to the treaty—that is the definition of a “singular” promise. Interpreted in this fashion, therefore, the special effects test would operate to release the specially affected nation from all of *its* obligations under the treaty.

Such a result seems unfair to those nations *not* specially affected. Those nations have committed no breach, yet they will see their own benefits from the treaty shrink with the cessation of compliance by the specially affected parties. If the promises at issue were not singular, then Article 60(2)(b) would not create this problem. The granting of a release option with respect to the obligations between the specially affected nation and the defaulting nation would not *inevitably* affect the specially affected nation’s compliance with its obligations to non-breaching parties. South Korea could, for example, be specially affected by a North Korean breach of an extradition treaty and refuse to extradite North Korean citizens upon request, while continuing to extradite the citizens of other signatory nations and thereby continue to convey benefits upon the non-breaching parties to the treaty. With singular promises, however, the special effects test operates to relieve a specially affected nation of *all* of its treaty obligations upon a breach by just one nation.

One might try to rescue the special effects test from its difficulties in singular-promise treaties by arguing that the “effects” at issue are really the nation-specific “activities” at issue. In

¹²⁵ See Benedick, *supra* note 86, at 9–22, 108–17.

¹²⁶ Vienna Convention, *supra* note 15, art. 60(2)(b), at 346.

that case, the breach of a singular promise has exactly the *same* “effect” on each party—because only one activity is involved, and the activity does not occur especially with respect to one nation. An attempt to apply the special effects test will then lead to a determination that no “special effects” are at issue. For example, North Korea’s construction of a nuclear weapon would have no special effect on South Korea in this activity-oriented view, because North Korea undertook no activity with respect to South Korea that it did not also undertake with respect to all other parties. This “special activity” interpretation, in contrast to the explanation above of what might be called the “special impact” interpretation, obviates the need to release any nation from its treaty obligations. Unfortunately, this special-activity interpretation in fact *guarantees* that no one will be released from a treaty involving a singular promise under the special effects test, because the breach of a singular promise will by definition fail to lead to a difference in nation-specific activity. That would leave only the unanimous victims test and the radical-effects test to allow release from a treaty involving a singular promise.

3. Article 60’s Dichotomy Between “Bilateral” and “Multilateral” Agreements

Article 60 divides treaties into two categories according to the number of parties thereto: bilateral and multilateral. Material breach is a necessary and sufficient condition to give the victim a release option if the agreement is bilateral; the adherents of a multilateral agreement will obtain a release option if the breach is not only material, but also meets one of the three other tests discussed above (the unanimous victims test, the special effects test, or the universal radical effects test).¹²⁷ The broad contours of this differential treatment according to number of parties are, as discussed above, consistent with rationalist IR theories of collective action.¹²⁸

The use of only two categories of treaties differentiated by the number of parties, however, tracks collective-action theory only crudely. According to that theory, the per-party costs of reaching and monitoring agreements rise monotonically with an increase in the number of those parties.¹²⁹ A three-party agreement is presumably much cheaper to reach and monitor than a 144-party agreement, and so a 144-party agreement typically embodies a very expensive set of negotiations compared to a three-party agreement. Yet the law of treaties lumps both into the category of “multilateral” agreements, and uses exactly the same standards to determine whether victims of breach of each agreement have a release option. If the law of treaties were actually consistent with collective-action theory in this respect, then the law of treaties would include a rule making the likelihood of granting the release option vary inversely with the number of parties

¹²⁷ See *supra* text accompanying notes 92-114.

¹²⁸ See *supra* text accompanying notes 63-66.

¹²⁹ See Hardin, *supra* note 58, at 38-49; Olson, *supra* note 56, at 22-35.

to the agreement.¹³⁰ As with the definition of material breach, however, the actual rules of the law of treaties use only a dichotomous, not a continuous, input.

If one were to change the definition of material breach to make it more consistent with rationalist IR theory by correlating the benefit deprivations and cost savings with the likelihood of release on a breach-by-breach basis, then a more fact-intensive determination would be required.¹³¹ There is thus some trade-off between satisfying two different implications of the rational-design hypothesis—the need for rules to reflect the cooperate-defect dimension of the IPD, and the need for rules to be administrable at a reasonable cost. For a rule using the number of parties, however, the trade-off is less stark. A continuous rule related to the number of treaty parties would use as the relevant variable a factor that can be determined cheaply, in contrast to a rule keyed to the particular effects of a given breach. The number of parties to an agreement requires nothing more than a glance at a piece of paper and some arithmetic, rather than a particularized inquiry into the impacts of a specific breach.

II. Rules of Remediation

This Part begins with a description of the “law of state responsibility” as it applies to treaties. Essentially, all responses to the breach of a treaty not covered by Article 60 of the Vienna Convention fall under the aegis of the law of state responsibility. Such responses include (rarely brought) suits for compensatory damages for violation of international treaties, the suspension or termination of a nation’s compliance with a treaty other than the treaty initially breached, diplomatic protests, economic sanctions, and even the use of military force.

Two general principles guide the application of the relevant rules: “proportionality” and “necessity.”¹³² The principle of proportionality addresses both the magnitude and the kind of response. In terms of the magnitude of response, a nation’s response to a breach may not inflict harm upon the breacher that is disproportionate to the harm inflicted upon it by the breach. A party may not respond to a minor breach of a treaty with a nuclear strike, for example. In terms of the kind of response to a breach, the victim is encouraged to choose a means of response similar to the activity at issue in the breach.¹³³ If one party breaches a trade-related treaty, for

¹³⁰ See Alphons van de Kragt et al., *The Minimal Contribution Set as a Solution to Public Goods Problems*, 77 *Am. Pol. Sci. Rev.* 112 (1983); Caporaso, *supra* note 58, at 606-07.

¹³¹ See *supra* text accompanying notes 69-81 and 89-91.

¹³² See *Restatement (Third)*, *supra* note 21, s 905(1), at 380.

¹³³ See, e.g., *Case Concerning the Air Service Agreement of 27 March 1946 (U.S. v. Fr.)*, 18 *R.I.A.A.* 417, 433 (Award of Arbitral Tribunal, Dec. 9, 1978).

example, then the rule of proportionality encourages the victim to cease its own compliance with some other trade-related treaty involving the breacher, rather than ceasing its own compliance with a treaty oriented towards environmental matters or responding with measures unrelated to treaties at all, such as an armed raid.

The principle of necessity requires that a nation's response to a breach be necessary either in order to encourage future compliance with the breached treaty or to remedy the violation. For example, the victim of a breach may not levy extensive economic sanctions against a breacher who seems to be on the verge of once more complying with its obligations. These rules govern responses to breach that would be clearly illegal in the absence of that breach (which this Article terms a "retaliation") as well as responses that would be legal even in the absence of that breach (known as a "retorsion"). Section A describes these various rules in some detail.

The IR theory relevant to this Part is in some ways more straightforward than that employed in connection with the rules of release analyzed in the previous Part of the Article. Partly, this is so because the rules of remediation are easier to generalize. Remediation is always available in the event of a breach, whereas a breach gives rise to a release option only under certain conditions.

Partly, the rules of remediation are simply too vague to stand up to theorizing of any great specificity. In any event, the rationalist IR theory most relevant to Section B is what this Article terms optimal-deterrence theory. Basic deterrence theory examines whether and to what extent one nation's threats influence the decisionmaking of other nations contemplating a particular course of action with regard to the nation making the threat. The relevant theory focuses on two characteristics of the threat: impact on the threatened party if the threat is carried out, and the likelihood that the threat will in fact be carried out. Some interaction of these two components determines whether the threat deters the behavior of concern to the threat-maker. A highly credible threat of great harm is much more likely to deter behavior than an implausible threat of minor harm. When combined with some elementary economics that will be familiar to those who have studied "efficient breach" in contract law, deterrence theory implies that, from the perspective of the international legal system as a whole, the optimal threat with which to respond to a potential treaty breacher is one that, when properly weighted by the likelihood that the threat will actually be carried out if the breach occurs, confronts the potential breacher with a harm exactly equal to the harm that will be inflicted by the breacher upon its victim.¹³⁴ This Article terms this conclusion "optimal deterrence theory."

Analyzing international law from this rationalist IR theory perspective reveals grave inconsistencies with the rational-design hypothesis in terms of both proportionality and

¹³⁴ This framework essentially assumes that each victim of a breach pursues its own remediation against the breacher, and that one measures the relevant harms on that basis. There are some potential complexities involved in multilateral treaties in this respect, since a group of nations might wish to "nominate" a single victim to levy sanctions against the wrongdoer on behalf of the group (and thereby save the victims the costs involved in each pursuing separate remediation). This Article ignores this complexity.

necessity. The rule of proportionality implies an upper limit on the magnitude of punishment equal to the harm done by the wrong. Such a limit does face the potential breacher with optimal incentives not to breach if the potential wrongdoer is certain to suffer that punishment upon committing the breach. Many violations of treaties are difficult to detect, however. Even detected violations may not lead to a response because of the high transaction costs inherent in coordinating responses to or determining violations of international law. In addition, the victim of a treaty breach typically receives no direct compensation whatsoever for taking remedial action; sometimes, the only reward to the remediating victim flows from cessation of the breach and the resumption of compliance with the treaty by the former breacher. The victim's incentives to attempt remediation are therefore substantially lower than in a case, such as when compensatory damages are available, where success in pursuing remediation will lead to compensation for past harms.

Indeed, portions of the rules of remediation themselves reduce the likelihood that a violation will lead to sanctions against the breacher and thus are inconsistent with optimal deterrence. The rule of necessity prohibits remediation that is not necessary to secure future compliance. Deterrence theory implies an inconsistent principle focused on future compliance involving breaches yet to occur at all. The similarity-in-kind branch of the proportionality test prohibits remediation that goes to obligations too different in kind from the obligation at issue in the breach. Deterrence theory does not recognize any such need to match retaliatory harm to the initial harm. The law of state responsibility also encourages (and sometimes even requires) parties to delay the application of sanctions. Sanctions delayed may be similar in effect to sanctions denied entirely.

The degree of consistency between the rules of remediation governing treaties and the rational-design hypothesis is therefore rather low, at least when optimal deterrence theory is considered to be the relevant rationalist IR theory. The source of this inconsistency is the greatly underdeterrent impact of the rules of proportionality and necessity in a world of difficult-to-detect treaty violations, rare compensatory damages, and sometimes temporary breaches. Section C attempts to use the implications of an alternative, (arguably) rationalist IR theory focused on the possibility of a "spiral of misperceptions" to explain how rules that are underdeterrent under the standard assumptions of deterrence theory might still be consistent with one version of the rational-design hypothesis. This misperceptions-spiral theory postulates that the international system is rife with misperceptions, and that such misperceptions are systematically biased towards an overestimation by each nation of the harm intended it by the actions of other nations. An initial uncooperative act and the interaction of such misperceptions can produce an escalating spiral of retaliations that rapidly presents more of a threat to international cooperation than the initial breach.¹³⁵

¹³⁵ The seminal work on this model is Robert Jervis, *Perception and Misperception in International Politics* (1976). See also Richard Ned Lebow, *Between Peace and War: The Nature of International Crisis* (1981); Charles Glaser, *Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models*, 44 *World Pol.* 497 (1992). For a formalized

If one accepts this misperceptions-spiral theory, then the rules of remediation should impose penalties on breaching parties that are underdeterrent from the point of view of deterrence theory. Sanctions that are ideal from an optimal-deterrence theory perspective may lead nations into dangerous spirals of retaliation and misperception. The penalties that function optimally in the world of misperceptions might be “underdeterrent” if correctly perceived, but misperception can render the rule-dampened response optimally deterrent in operation—at least so long as the initial remediation does not lead to some reflexive, further retaliation by the initial breacher (and international law already impliedly bars such retaliations). In addition, this misperceptions-spiral theory provides some explanation of the in-kind aspect of the rule of proportionality. If misperception is pervasive and biased towards a perception of excess harm by the recipient of the retaliation, then using measures of remediation similar in kind to the breached obligation seems likely to reduce somewhat the chances of retaliatory spirals. A nervous nation should find it easier to believe that a particular political action taken against it by a rival is genuinely a response to a breach rather than an unrelated hostile action if the response is closely tied in kind to the breach. The similarity-in-kind branch of the proportionality test in fact encourages responses closely tied to the breach in this fashion, and thus discourages qualitatively dissimilar responses to breach especially likely to give rise to excessive or spiral-inducing retaliations.

A. The Rules of Remediation in Treaty Law

Part I discussed “rules of release,” those doctrines that govern whether the victim of a breach may legally release itself from its obligations under the breached agreement.¹³⁶ The “law of treaties” is the source of these rules.¹³⁷ The “law of state responsibility” governs the other broad category of non-negotiated responses to a breach, which this Article calls the “rules of remediation.” The rules of remediation are most easily defined simply by exclusion: These rules govern those responses to breach of a treaty that do *not* involve an effort by the victim to release itself from its obligations under the breached agreement. The rules of remediation instead cover the victim’s efforts to obtain compensation (monetary or in kind) or the victim’s attempt to punish or persuade the breacher with military, economic, or diplomatic sanctions.

The rules of remediation include rules governing suits for compensatory damages, but the most common responses to treaty breaches in international law do not involve direct reference to a court (especially in search of compensatory damages). Courts of international law are typically

view with some insights of its own, Andrew Kydd, *Formal Theory and the Spiral Model*, __ *World Pol.* __ (forthcoming 1997).

¹³⁶ See *supra* text accompanying notes 17–26.

¹³⁷ See *supra* note 17 and accompanying text.

courts of consensual jurisdiction. A state may therefore simply decline to be sued.¹³⁸ This fact tends to limit the usefulness of litigation seeking monetary compensation (or any other remedy). In addition, the sorts of breaches at issue in many modern treaties are difficult to convert into monetary terms. How many dollars (or whatever the relevant currency might be) of harm result when a state emits ozone-depleting substances into the stratosphere in violation of the

Convention on the Protection of the Ozone layer and its follow-on agreements, or detonates a nuclear bomb in the atmosphere in violation of the Limited Test Ban Treaty? If one state's commandos blow up another state's ship or one state's military forces shoot down an airliner with the loss of all lives aboard, these violations of *customary* law present issues of valuation that are much more manageable.¹³⁹ The payment of compensation from one state to another in

¹³⁸ For example, the International Court of Justice does not have automatic jurisdiction over any dispute. Rather, parties must recognize the jurisdiction of the ICJ. Statute of the International Court of Justice, 59 Stat. 1055, 3 Bevans 1153. Article 36 of the Statute of the International Court of Justice provides in pertinent part:

1. The jurisdiction of the Court comprises all cases which the parties refer to it and all matters specially provided for in the Charter of the United Nations or in treaties and conventions in force.

2. The states parties to the present Statute may at any time declare that they recognize as compulsory *ipso facto* and without special agreement, in relation to any other state accepting the same obligation, the jurisdiction of the Court in all legal disputes concerning:

a. the interpretation of a treaty;

b. any question of international law;

c. the existence of any fact which, if established, would constitute a breach of an international obligation;

d. the nature or extent of the reparation to be made for the breach of an international obligation.

3. The declarations referred to above may be made unconditionally or on condition of reciprocity on the part of several or certain states, or for a certain time.

Id., 59 Stat. at 1060.

¹³⁹ For example, the United States provided compensation to the families of victims killed following the downing of Iran Air Flight 655 in the Persian Gulf on July 3, 1988. Sompong Sucharitkul, Procedure for the Protection of Civil Aircraft in Flight, 16 Loy. L.A. Int'l & Comp. L.J. 513, 529 (1994); Marian Nash Leich, Denial of Liability: *Ex Gratia* Compensation on a Humanitarian Basis, 83 Am. J. Int'l L. 319 (1989). In this case, the Iranian government submitted a complaint against the United States to the International Court of Justice, which remains pending. Sucharitkul, *supra*, at 533-34.

fact occurs with some frequency in such cases.¹⁴⁰ With respect to many treaties, in contrast, the difficulties of valuation are frequently too great to overcome, especially given the generally primitive state of the public international legal system.¹⁴¹ Instead of a lawsuit, the victim of a breach takes some unilateral action from a broad menu of diplomatic and military options. Such unilateral remediation measures might include the formal expression of displeasure in a diplomatic note, a decision to cease complying with various *unbreached* agreements made with the breaching nation, economic sanctions, or military actions. Even though the state undertaking such a response does not directly refer its dissatisfactions to a court, the response must still meet certain criteria set forth in the rules of remediation if that response is to be legally permissible.

The relevant international legal standard governing responses to breach seeking remediation is: (1) that the response be in some rough sense *proportionate*, in magnitude and kind, to the breach; and (2) that the response be *necessary* to restore compliance by the breaching party with the breached agreement. *The Restatement (Third) of Foreign Relations Law of the United States* sets forth the particular formulation of the rules of necessity and proportionality that this Article will employ:

- (1) . . . A state victim of a violation of an international obligation by another state may resort to countermeasures that might otherwise be unlawful, if such measures
 - (a) are necessary to terminate the violation or prevent further violation, or to remedy the violation; and
 - (b) are not out of proportion to the violation and the injury suffered.¹⁴²

¹⁴⁰ In the case of the downing of Iran Air Flight 655, the United States offered *ex gratia* compensation to families of the victims. Such payments are made out of humanitarian consideration and are not required under international law. See generally Harold G. Maier, *Ex Gratia* Payments and the Iranian Airline Tragedy, 83 Am. J. Int'l L. 325, 327 (1989) (noting that under current international legal principles no compensation is required from a state that causes injuries to civilians in a combat zone).

¹⁴¹ See *supra* text accompanying note 6.

¹⁴² Restatement (Third), *supra* note 21, s 905(1), at 380. The International Law Commission is currently working on a Draft Code of State Responsibility. See Robert Rosenstock, *The Forty-Seventh Session of the International Law Commission*, 90 Am. J. Int'l L. 106, 106-09 (1996); Oscar Schachter, *Dispute Settlement and Countermeasures in the International Law Commission*, 88 Am. J. Int'l L. 471 (1994). See generally *The International Law Commission's Draft Articles on State Responsibility* (Shabtai Rosenne ed., 1991) (collecting Draft Articles and ILC commentary and tracing history of official codification).

Section 905(2) of the Restatement (Third) notes that not only s 905(1) but also the United Nations Charter constrains any use of force in response to a breach of treaty. Section 905(2) provides that "[t]he threat or use of force in response to a violation of international law is subject to prohibitions on the threat or use of force in the United Nations Charter, as well as to

The applicability of necessity and proportionality to measures not otherwise unlawful, known as retorsion, is a somewhat controversial doctrine and is not specifically discussed in the Restatement.¹⁴³

What are these standards of “necessity” and “proportionality” set out in section 905(1) of the *Restatement*? Generally, considerations of necessity involve the urgency and efficacy of unilateral remedies as opposed to the use of negotiated responses, while proportionality relates to the modulation, in magnitude and in kind, of the response to the breach.

The concept of necessity flows from the general preference shown in international law for the negotiated settlement of disputes.¹⁴⁴ The United Nations Charter, for example, states that member nations “shall settle their international disputes by peaceful means in such a manner that

Subsection (1).” Restatement (Third), supra note 21, s 905(1), at 380; see Thomas M. Franck, Who Killed Article 2(4)? Or: Changing Norms Governing the Use of Force By States, 64 Am. J. Int’l L. 809 (1970); W. Michael Reisman, Article 2(4): The Use of Force in Contemporary International Law, 78 Proc. Am. Soc’y Int’l L. 74 (1984).

¹⁴³ The Restatement (Third) defines retorsion generally as “acts not involving the use of force in response to any unfriendly act, whether illegal or not.” Restatement (Third), supra note 21, s 905 rptr. note 8, at 390; see also Julius Stone, Legal Controls of International Conflict 288-90 (1954) (defining retorsion as an unfriendly act that is not contrary to international law or treaty taken in retaliation for objectionable act of another state). It has been noted that “there is no limit in the game of retortions [sic] between States as it could be played *ad infinitum*.” Denis Alland, International Responsibility and Sanctions: Self-Defence and Countermeasures in the ILC Codification of Rules Governing International Responsibility, in United Nations Codification of State Responsibility 143, 150 (Marina Spinedi & Bruno Simma eds., 1987).

¹⁴⁴ According to the Restatement (Third):

Under this section, countermeasures in response to a violation of an international obligation are ordinarily justified only when the accused state wholly denies the violation or its responsibility for the violation; rejects or ignores requests to terminate the violation or pay compensation; or rejects or ignores proposals for negotiation or third-party resolution. Countermeasures are to be avoided as long as genuine negotiation or third-party settlement is available and offers some promise of resolving the matter. A showing of necessity is particularly important before any drastic measures of self-help are taken.

Restatement (Third), supra note 21, s 905 cmt. c., at 381. The last sentence quoted above shows the tendency of the principles of necessity and proportionality to blend into one another. For a general review of negotiated and unilateral measures, see Schachter, supra note 142.

international peace and security, and justice, are not endangered.”¹⁴⁵

One recent tendency in international practice has been to view quite expansively the conceptual territory covered by threats to “international peace and security.”

Chapter VI of the Charter sets forth the particulars of a scheme in which disputants “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.”¹⁴⁶ Note that no unilateral remedies are listed among these exemplary peaceful means. Even in disputes that lack the potential to endanger international peace and security, one can readily find some support in international legal sources for the proposition that negotiation is the mode of choice for resolving the dispute.

Treaties, of course, are consensually negotiated, and one should therefore be unsurprised to find that the law of treaties, as well as individual treaties, are no exception to the general international legal principles favoring negotiation. The Vienna Convention provides a default rule favoring negotiation in Article 65: nations wishing to suspend or terminate their treaty obligations must notify other parties, and then use the mechanisms set forth in Chapter VI of the U.N. Charter.¹⁴⁷ Virtually every recent treaty also includes specific provisions setting forth some

¹⁴⁵ U.N. Charter art. 2, P 3. For example, the U.N. Security Council determined that internal strife in Haiti constituted a threat to peace and security. See S.C. Res. 940, 49th Sess., 3413th mtg. at 2, U.N. Doc. S/RES/940 (July 31, 1994). Similarly, the Security Council concluded that the Iraqi repression of the Kurds following the Gulf War, and the resulting refugee exodus, constituted a threat to peace and security. See S.C. Res. 688, U.N. SCOR, 46th Sess., 2982d mtg. at 31-32, U.N. Doc. S/INF/47 (Apr. 5, 1991). See also Ruth Gordon, *United Nations Intervention in Internal Conflicts: Iraq, Somalia, and Beyond*, 15 Mich. J. Int'l L. 519, 522 (1994) (discussing “ever-broadening category” of threats to the peace); Rajendra Ramlogan, *Towards a New Vision of World Security: The United Nations Security Council and the Lessons of Somalia*, 16 *Houst. J. Int'l L.* 213 (1993) (reviewing Security Council action with respect to Somalia).

¹⁴⁶ See U.N. Charter ch. VI, art. 33, P 1, which concerns the pacific settlement of disputes. This chapter gives the Security Council the authority to investigate any dispute or situation which might lead to international friction or give rise to a dispute. The Security Council is also authorized to recommend appropriate procedures or methods of adjustment to resolve the dispute. See generally *Dispute Settlement Through the United Nations* (K. Venkata Raman ed., 1977) (compiling studies of procedures and mechanisms for peaceful settlement of disputes in the United Nations system).

¹⁴⁷ Article 65 of the Vienna Convention provides:

1. 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

consensual, negotiation-oriented procedure for dispute resolution.¹⁴⁸ Few treaties include any discussion of any other response to a breach.¹⁴⁹ It is chiefly with a nod towards this sense of exhausting mutual discourse that the unilateral remedy must, in the words of the Restatement, be “necessary to terminate the violation or prevent further violation, or to remedy the violation . . .”¹⁵⁰

parties of its claim. The notification shall indicate the measure proposed to be taken with respect to the treaty and the reasons therefor.

2. 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 the measure which it has proposed.

3. If, however, objection has been raised by any other party, the parties shall seek a solution through the means indicated in Article 33 of the Charter of the United Nations.

4. Nothing in the foregoing paragraphs shall affect the rights or obligations of the parties under any provisions in force binding the parties with regard to the settlement of disputes.

5. Without prejudice to article 45, the fact that a State has not previously made the notification prescribed in paragraph 1 shall not prevent it from making such notification in answer to another party claiming performance of the treaty or alleging its violation.

Vienna Convention, *supra* note 15, art. 65, at 347-48.

¹⁴⁸ See Setear, *Iterative Perspective*, *supra* note 3, at 215-16.

¹⁴⁹ For example, the ABM Treaty between the United States and the Soviet Union provides for the establishment of a Standing Consultative Commission to consider questions concerning compliance with the treaty obligations. Treaty on the Limitation of Anti-Ballistic Missile Systems, May 26, 1972, U.S.-U.S.S.R., art. XIII, 23 U.S.T. 3435, 3444-45. It does not contain any other provisions relating to possible violations or responses to breach.

¹⁵⁰ As indicated, the Restatement (Third) provides that:

a state victim of a violation of an international obligation by another state may resort to countermeasures that might otherwise be unlawful, if such measures (a) are necessary to terminate the violation or prevent further violation, or to remedy the violation; and (b) are not out of proportion to the violation and the injury suffered.

Restatement (Third), *supra* note 21, s 905(1), at 380.

One of the earliest pronouncements of the principle of necessity came following the *Caroline* incident of 1837, when British forces entered U.S. territory and destroyed the steamer *Caroline*, which had been supplying

The additional requirement of proportionality means that, even when unilateral remedies are open to the victim nation as a matter of necessity, a nation must choose its particular response carefully. That response must, in the words of one oft-cited decision on the issue of breach, "have some degree of equivalence with the alleged breach"¹⁵¹ To understand exactly when a response is precisely proportionate can be a challenge, but one may readily imagine *disproportionate* examples. Suppose that Iceland and Great Britain were to conclude a treaty allowing each nation to take 100 tons annually of a given species of fish from the other's territorial waters. Suppose further that Iceland then admitted to having taken 101 tons of fish from Britain's waters, announced that it intended to take exactly 101 tons of such fish next year, and clearly indicated its unwillingness to enter into negotiations on the matter. In this case it would be an illegally disproportionate response for Great Britain to repudiate every bilateral treaty between itself and Iceland.

Given the difficulties of judging the harm involved in various breaches of a treaty, of course, the similarity-in-magnitude branch of the proportionality test is obviously difficult to apply precisely. Nonetheless, this Article assumes that the idea underlying the magnitude-of-response branch of the proportionality test is to prevent the victim of a breach from inflicting upon the breacher a harm significantly greater than the harm inflicted upon the victim.¹⁵² Indeed,

Canadian rebels. The British asserted that the action was justified due to "the necessity of self-defence and self-preservation." Letter of Mr. Fox to Mr. Forsyth (Feb. 6, 1838), *reprinted in* H.R. Exec. Doc. 302, 25th Cong., 2d Sess. 3 (1838). In response, Secretary of State Webster noted that the right of self-defense only applies where the necessity "is instant, overwhelming, and leaving no choice of means, and no moment for deliberation." Letter of Daniel Webster, Secretary of State, to Lord Ashburton, British Minister (Aug. 6, 1842), *quoted in* 2 John Bassett Moore, *Digest of International Law* 412 (1906). See also R.Y. Jennings, *The Caroline and McLeod Cases*, 32 Am. J. Int'l L. 82 (1934) (noting precedential value of exchange of letters given parties essential agreement on applicable law); Robert W. Tucker, *Reprisals and Self-Defense: The Customary Law*, 66 Am. J. Int'l L. 586, 592 (1972) (noting that a response is legitimate only if alternative means of redress are unavailing).

¹⁵¹ Case Concerning the Air Service Agreement of 27 March 1946 (U.S. v. Fr.), 18 R.I.A.A. 417, 433 (Award of Arbitral Tribunal Dec. 9, 1978). See generally Damrosch, *supra* note 21 (using Air Services Agreement arbitration as case study of retaliatory sanctions for an alleged breach of an agreement).

¹⁵² Bruno Simma defines proportionality as a general notion derived from the word "proportion" which signifies the "due relation of one part to another" or "such relation of size etc., between things or parts of things as renders the whole harmonious." Bruno Simma, *Proportionality*, in 7 *Encyclopedia of Public International Law* 396-97 (1984). In discussing self-defense, in which the concept of proportionality also plays a role, he notes:

Like domestic law, therefore, international law has developed several legal limits to the exercise of the right of self-defense, the most notable being that of the principle of proportionality which in this

this Article assumes that the ideal response in terms of proportionality would inflict no more harm than the breacher inflicted upon the victim, and that any “overage” in the response must be a good-faith result of difficulties in estimating the relevant harms precisely. As to the similar-in-kind portion of the proportionality test, the general idea is not especially difficult to state: The response should ideally involve the same type of obligation as the breach. One cannot draw this test too tightly around the breach, of course. The obligation of the victim most closely related to the breached obligation is presumably the victim’s obligations under the very treaty that has been breached, but the treatment of those obligations is a matter of Article 60 of the Vienna Convention, not of the law of state responsibility.¹⁵³ Equivalence in some broader sense between breached obligations and the retaliation must therefore be at issue in the similar-in-kind portion of the proportionality requirement. For example, the breach of one international fishery treaty might, in the similarity-in-kind sense, lead most proportionally to the retaliatory cessation of compliance with some other treaty governing an international fishery. The victim’s cessation of compliance with an agreement governing some other area of commerce would be somewhat less similar in kind. In contrast, the victim’s cessation of compliance with an arms control agreement, or the cessation of compliance with some international obligation that was not a treaty-based obligation at all, might be “disproportionate” under the similarity-in-kind branch of the disproportionality requirement.¹⁵⁴

context serves as the criterion by which the international legal community or its organs can ultimately judge on the lawfulness of the exercise of self-defense: It is lawful only if it is restricted to the measures necessary to fend off a particular attack or, in other words, if the amount of force used to repel an attack is commensurate with the objectives that a plea of self-defense might reasonably entitle a state to achieve or if restricted to the preservation or restoration of the status quo ante.

Id; see also Greig, *supra* note 21, at 322-27 (reviewing status of proportionality’s magnitude of response test in international judicial decisions); D.M. McCrae, *Proportionality and the Gulf of Maine Maritime Boundary Dispute*, 19 *Can. Y.B. Int’l L.* 287, 294-300 (1981) (arguing that, as applied by international tribunals, the principle of proportionality stems from broader principles of equity and justice).

According to the Restatement (Third), “[t]he requirements of necessity and proportionality are concurrent. Necessity may justify prompt action, but such action may not exceed the bounds of proportionality, and should cease when it is no longer necessary.” Restatement (Third), *supra* note 21, s 905 *rp*tr. note 3, at 387 (internal reference omitted).

¹⁵³ See *supra* text accompanying notes 17-30.

¹⁵⁴ The Restatement (Third) recognizes that “[c]ountermeasures are ordinarily related to the violation. For instance, if a state has violated an obligation in respect of trade, the response of the other state will generally be limited to a corresponding trade restriction rather than a measure such as denial of airline landing rights.” Restatement (Third), *supra* note 21, s 905, *cmt. d*, at 381-82. However, the Restatement (Third) recognizes that “an unrelated

B. Optimal-Deterrence Theory and the Rules of Remediation

This Section combines various notions from that portion of rationalist IR theory concerned with deterrence theory with some elementary economics. This combination of IR and economic theories implies that the optimal sanction with which to face a potential wrongdoer is equal to the product of the likelihood and the magnitude of punishment, such that the potential wrongdoer faces a harm equal to the potential harm caused to the community by the breach. The rules of remediation in treaty law display a poor fit with the implications of this theory for the rational design of international legal rules, however. The similarity-in-magnitude portion of the proportionality requirement might appear to equilibrate the harms. Such an equilibration would, in fact, lead to optimal results only if the probability of detecting and sanctioning a treaty violator were one—that is, if the probability were a certainty. A wide variety of factors work to reduce the probability of detecting and sanctioning a treaty violator to significantly below one, however. These factors include the difficulty of detecting violations, the limitations on response stemming from the rules of necessity and proportionality, and the difficulties of coordinating and rewarding nations that pursue measures of remediation. Rationalist IR theory and the rules of remediation are therefore inconsistent.

1. Optimal-Deterrence Theory

IR theorists have focused much of their work on conflict and on concerns of national security, rather than on cooperation and related national goals. Preventing an adversary from taking action opposed to a nation's interests is a primary concern of national security. The basic idea of such "deterrence theory" or "decision theory" is that a country contemplating an attack is subject to influence through the threat of punishment. In this model, the crucially relevant factors in determining the perceived threat of punishment are the likelihood and the magnitude of such punishment.¹⁵⁵ The product of the likelihood and magnitude of punishment combine to produce

response is not unlawful so long as it is not excessive in relation to the violation." *Id.* at 382. Note that, if taken at its face value, this sentence denies any independent force to the similarity-in-kind component of the proportionality requirement. This commentary adds that:

Different steps may be taken at different stages of a dispute. For instance, limited measures may be taken when a state refuses to negotiate (e.g., freezing the offending state's assets); stronger measures may be used when a state refuses to comply with a judgment of an international tribunal (e.g., seizure and appropriation of assets).

Id.

¹⁵⁵ See Christopher Achen & Duncan Snidal, *Rational Deterrence Theory and Comparative Case Studies*, 41 *World Pol.* 143 (1989) (applying deterrence theory

an “expected loss” from punishment.¹⁵⁶ If the party contemplating attack is “risk neutral”—that is, if the party does not place any independent value upon certainty or uncertainty—then the perceived harm to the threatened party from the expected loss is simply the product of the likelihood and magnitude of punishment.¹⁵⁷ As the likelihood of actually being the subject of a sanction diminishes, the magnitude of the sanction must increase in order to maintain the same deterrent effect. If the expected losses resulting from the contemplated attack exceed the expected gains to the attacker, then, to a theoretician of deterrence, the nation contemplating attack will be deterred from actually attacking.¹⁵⁸

to a series of case studies); Alexander L. George & Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (1974) (tracing development of modern deterrence theory in American foreign policy); Thomas C. Schelling, *The Strategy of Conflict* 6 (1960) (noting that “a threat has to be credible to be efficacious, and that its credibility may depend on the costs and risks associated with fulfillment”); Robert Jervis, *Deterrence Theory Revisited*, 31 *World Pol.* 289 (1979) (reviewing George & Smoke, *supra*, and giving broad historical overview of the development of deterrence theory).

¹⁵⁶ For an analysis of expected utility theory, see Bruce Bueno de Mesquita, *The Contribution of Expected Utility Theory to the Study of International Conflict*, in *The Origin and Prevention of Major Wars* 53 (Robert Rotberg & Theodore Rabb eds., 1988); Bruce Bueno de Mesquita & David Lalman, *Reason and War*, 80 *Am. Pol. Sci. Rev.* 1113 (1986); Bruce Bueno de Mesquita, *An Expected Utility Theory of International Conflict*, 74 *Am. Pol. Sci. Rev.* 917 (1980).

¹⁵⁷ For an attempt to measure domestic preferences of risk in international conflicts, see James D. Morrow, *On the Theoretical Basis of a Measure of National Risk Attitudes*, 31 *Int’l Stud. Q.* 423 (1987).

¹⁵⁸ Lebow and Stein provide a standard statement of the calculus of deterrence:

Deterrence seeks to prevent undesired behavior by convincing those who might contemplate such action that its costs would exceed its gains. In the area of security, deterrence usually attempts to prevent a military challenge; but it also can and has been used to try to prevent unacceptable military deployments (such as the deployment of Soviet missiles in Cuba) or nonmilitary actions that defenders perceive as threatening to their national security. Deterrence requires that the “defender” define the behavior that is unacceptable, publicize the commitment to punish or restrain transgressors, demonstrate the resolve to do so, and possess the capabilities to implement the threat.

Richard Ned Lebow & Janice Gross Stein, *Deterrence: The Elusive Dependent Variable*, 42 *World Pol.* 336, 336 n.1 (1990); see also Janice Gross Stein, *Deterrence and Reassurance*, in *2 Behavior, Society, and Nuclear War* 8 (Phillip Tetlock et al. eds., 1989) (reviewing strengths and weaknesses of deterrence theory and outlining strategies of reassurance).

This sort of theorizing should be accompanied with many qualifications,¹⁵⁹ especially when applied to such issues as nuclear holocaust.¹⁶⁰ For our purposes, however, the important notion is that some *combination* of the *likelihood* and *magnitude* of the response to an action reliably affects the decisionmaking of a nation considering a particular action. In the context of treaty breaches and the rules of remediation, the relevant likelihood is that the victim(s) of the breach will detect and respond to the breach with some unilateral remedy. The relative magnitude of the response is the quantum of harm inflicted upon the breacher by whatever action—vigorous diplomatic condemnation, the cessation of compliance with other (unbreached) treaties, economic sanctions, and so forth—that the victim(s) take in response to the breach.¹⁶¹

Because deterrence theory often involves issues of vital national security, the focus of work in this area is typically on how best to achieve a very high level of deterrence regardless of the damage inflicted on others by the actual or promised threat.¹⁶² In the context of treaties

¹⁵⁹ As noted by Lebow and Stein, “[t]he testing of theories of deterrence confronts especially difficult data requirements that derive from the focus of the theory on the intentions of actors. This focus creates empirical and conceptual problems that threaten valid inference.” Lebow & Stein, *supra* note 158, at 347. In addition, they note that:

Existing theories of deterrence rely on technical, context-free definitions of deterrence, but deterrence—and any other strategy of conflict management—takes on meaning only within the broader political context in which it is situated. That context defines the strategy: it informs the purposes for which it is used. The attempt to interpret strategies of conflict management within their political contexts, however, introduces a significant element of subjectivity in the selection and coding of deterrence cases.

Id. at 353.

¹⁶⁰ See generally Alexander George, *Managing U.S.-Soviet Rivalry: Problems of Crisis Prevention* (1983); *Psychology and Deterrence* (Robert Jervis et al. eds., 1985); Alexander L. George, *Crisis Management: The Interaction of Political and Military Considerations*, 26 *Survival* 223 (1984) (attempting to clarify the nature of tension between military needs and controlling crisis escalation); R. Harrison Wagner, *Rationality and Misperception in Deterrence Theory*, 4 *J. Theoretical Pol.* 115 (1992); Paul Huth et al., *System Uncertainty, Risk Propensity and International Conflict Among the Great Powers*, 36 *J. Conflict Res.* 478 (1992); Phil Williams, *Crisis Management* (1976).

¹⁶¹ For an analogous application of these principles to contract law, see Richard A. Posner, *Economic Analysis of Law* (3d ed. 1986).

¹⁶² See, e.g., Colin Gray, *Nuclear Strategy: A Case for a Theory of Victory in Strategy and Nuclear Deterrence* 23, 54-55 (Steven Miller ed., 1984) (arguing for revival of concept of strategic superiority); John J. Mearsheimer, *Conventional Deterrence* 203 (1983) (arguing that deterrence is

concerned with a very broad range of activities and interests, however, one might be more willing to tolerate treaty violations and to take into account the interests of the treaty violator. From the point of view of the international community, there is presumably an “optimal” level of deterrence with respect to treaty violations—the point at which no treaty violations occur that harm the community more than they help it (including the breacher) but at which all treaty violations occur that do help the community (including the breacher).¹⁶³ If the combination of likelihood and magnitude of punishment for a given sanction equals the harm imposed upon the community by the breach, then a potential breacher will commit a breach only when the gains from doing so benefit the community (in terms of the breacher’s interests, typically) more than they harm that community (in the form of the victim’s interests, typically).¹⁶⁴ If the likelihood of punishment is one—that is, a certainty—then a sanction that imposes a harm on the breacher equal to the harm suffered by the community will produce optimal results.¹⁶⁵ This outcome

most likely to fail when one side has a plausible Blitzkrieg option available).

¹⁶³ This is a standard formulation of utility maximization, which both economists and “neo-Realists” use. This formulation gives equal weight to the preferences of all nations, including the breaching state. Thus, it is an amoral perspective on breach.

¹⁶⁴ According to Viotti and Kauppi:

To act rationally requires a rank ordering of preferred goals, consideration of all feasible alternatives to attain those goals in the light of existing capabilities, and consideration of the costs and benefits associated with using particular methods to attain particular goals. The assumption is often made in international relations research that actors do, indeed, act rationally. The assumption is made in order to develop hypotheses and to produce insights on world politics.

Viotti & Kauppi, *supra* note 37, at 602. As Stein explains:

If deterrence is to work, the defender must carefully define the unacceptable action, communicate the commitment to punish transgressors or to deny them their objectives, possess the capability to carry out this threat, and demonstrate the resolve to do so.

Stein, *supra* note 158, at 10.

¹⁶⁵ As Achen and Snidal note:

In the simplest version of rational deterrence theory, there are two rational actors, the initiator and the defender. The defender seeks to prevent some action by the initiator. (For concreteness, we will assume that it is an attack on the defender or on a third party.) The initiator moves first, either attacking or not. Then the defender chooses whether to engage in war or to capitulate. All this is common knowledge between the two players. In the politically most relevant version, however, what is not known to the initiator with certainty is the defender’s ability and commitment to fight back after the attack.

should be familiar to those readers versed in the notion of “efficient breach” in contracts law or optimal deterrence in criminal law.¹⁶⁶

2. Some Difficulties with Deterrence Theory and the Rules of Remediation

How do the actual rules of remediation in international law compare with the implications of rationalist IR theory? At first glance, the similarity-of-magnitude component of the proportionality requirement would seem quite consistent with a rational-design hypothesis based on deterrence theory. Proportionality, after all, requires a response roughly equivalent in its impact upon the breacher to the impact of the breach upon its victims. If the “probability” of punishment is actually a certainty, then the similarity-of-magnitude component of the proportionality requirement would in fact be consistent with optimal sanctioning in the law of state responsibility.

If the likelihood of detection and punishment is less than a certainty, however, then a magnitude of punishment exactly equal to the harm suffered by the victim will under-deter breaches, at least by “risk-neutral” parties.¹⁶⁷ The *actual* punishment in those cases where there

Achen & Snidal, *supra* note 155, at 151.

¹⁶⁶ In the contractual context, setting compensatory damages equal to the losses suffered by the non-breaching party will lead rational actors to commit all possible efficient breaches and refrain from committing all inefficient breaches. See Posner, *supra* note 161, s 4.8, at 105-08. Contracts doctrine implicitly assumes that the likelihood of detecting a breach of contract is a certainty. *Id.* at 105.

¹⁶⁷ For a straightforward exposition of this point, see Richard A. Posner, *Antitrust Law* 223-24 (1976). Recall that compared to “risk-neutral parties,” “risk-averse” individuals are more sensitive to losses than to gains, while “risk-seeking” individuals are more sensitive to gains than to losses. The calibration of the proper magnitude of sanctions against non-risk-neutral breachers is somewhat more complicated. According to Achen and Snidal, a principal element of rational deterrence theory is that “[a]ctors have exogenously given preferences and choice options, and they seek to optimize preferences in light of other actors’ preferences and options.” Achen and Snidal, *supra* note 155, at 150.

Risk propensities capture the fact that different decision makers may make different choices when faced with the same set of alternatives solely because of their attitudes towards choosing options with probabilistic outcomes. The concept of risk propensity is most clearly revealed by comparing patterns of individual choice between options that have similar expected value but vary in their probabilities and payoffs. For example, assume that there are two alternatives with the same expected value. Also assume that the first alternative has a high payoff

is in fact a sanction levied against the wrongdoer must *exceed* the actual harm to the victim of the breach if the *expected* magnitude of the sanction is to present the potential breacher with the proper incentives.¹⁶⁸ As the probability of detecting and sanctioning a breacher shrinks, the inadequacy of a sanction limited to the harm actually inflicted by the breach will grow.

There are at least six reasons to believe that the probability that a breaching nation will actually be the subject of a retaliatory response is in fact less than one. Some of those reasons are grounded in the nature of the international political system, while some flow from the law of state responsibility itself.

First, in many treaties, the probability of detection is quite likely to be (substantially) less than one. In the case of environmental treaties, the technology available for the detection of violations is far from simple or universally available, and the range of activities impliedly under scrutiny is vast. To take just whaling and ozone-depleting activities as examples, one must monitor nearly the whole of the ocean to prevent violations of the International Convention on the Regulation of Whaling,¹⁶⁹ and one cannot practicably determine the source of ozone-depleting

but a low probability of receiving that payoff, whereas the second alternative has a low payoff but a high probability. A risk-acceptant actor will select the former whereas a risk-averse actor will choose the latter.

Huth et al., *supra* note 160, at 482. In this study, the authors examined the consequences of the several variables, including the risk propensity of national decisionmakers, on international conflict. For a lucid discussion not only of the effect of risk preferences but also of a variety of other factors that would ideally be taken into account in setting the magnitude of sanctions, see Richard Craswell, *Damage Multipliers in Market Relationships*, 25 *J. Legal Stud.* 463 (1996).

¹⁶⁸ For a related theoretical approach, see Janice Gross Stein & Louis Pauly, *Choosing to Co-operate: How States Avoid Loss* (1995); Jack S. Levy, *An Introduction to Prospect Theory*, 13 *Pol. Psychol.* 171, 174-79 (1992) (demonstrating how prospect theory integrates empirical anomalies of expected utility decision theory); Amos Tversky & Daniel Kahneman, *Rational Choice and the Framing of Decisions*, 59 *J. Bus.* 251 (1986).

¹⁶⁹ For example, in 1994 it was disclosed that the Soviet Union had misstated the number of whales killed in its reports to the International Whaling Commission. Between 1948 and 1973, the Soviet Union killed over 48,000 humpback whales rather than the 2,710 it officially reported to the Commission. See David D. Caron, *The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures*, 89 *Am. J. Int'l L.* 154, 171-72 (1995); David Hearst & Paul Brown, *Soviet Files Hid Systematic Slaughter of World Whale Herds*, *Gazette (Montreal)*, Feb. 12, 1994, at D9.

substances once those substances have risen above the lowest layers of the atmosphere.¹⁷⁰ In the arms-control arena, recent disclosures concerning Iraq's ability to conceal several programs related to weapons of mass destruction must call into serious question the ability of even a technologically sophisticated nation like the United States to monitor reliably the activities of even high priority intelligence targets.¹⁷¹ Furthermore, in the arms-control arena and in other areas regulated by treaty law, a government must be careful about bringing violations to the attention of the public even when detected. Disclosing evidence of such violations too quickly, or with too much specificity, can compromise the very sources of intelligence that allowed detection in the first place or lead to domestic political pressures that force the disclosing government into an excessively hasty response.¹⁷² For all these reasons, one must assume that the probability of detecting violations of many treaties is substantially less than one.

Second, the high transaction costs of determining the applicability of international legal standards and coordinating any response will dissuade nations from pursuing responses to a breach of a treaty even when that breach has been detected.¹⁷³ Sometimes nations will simply be unwilling to expend the resources necessary to generate and coordinate any response to a detected breach.

Third, the requirement of necessity means that, in some cases, the wrongdoer will escape harm entirely. Otherwise, the necessity "requirement" would not actually require anything. When a breaching party appears likely to return to the compliance fold without the prodding of sanctions, the necessity requirement bars remediation efforts.¹⁷⁴ Although the relevant breach thereby results in no costs for the breacher, the victim(s) may still suffer losses as a result of the breach. This sort of breach will therefore be under-deterred—indeed, will be completely undeterred if the necessity requirement is taken seriously—because the breacher's infliction of harm goes completely unpunished. While the rule of necessity focuses on whether remediation is necessary to deter continuation of the particular breach at issue, optimal-deterrence theory takes a somewhat broader view. That theory implies that the relevant rules should deter separate but

¹⁷⁰ See Peter H. Sand, *Lessons Learned in Global Environmental Governance*, 18 *B.C. Env't'l Aff. L. Rev.* 213, 267 (1991).

¹⁷¹ See Barry Kellman, *Bridling the International Trade of Catastrophic Weaponry*, 43 *Am. U. L. Rev.* 755, 830-35 (1994) (discussing the difficulties of verification of nonproliferation, as compared to "traditional" arms control, agreements).

¹⁷² For example, when the U.S. government releases photographs taken from advanced reconnaissance satellites, it often deliberately distorts the images to conceal the actual capabilities of U.S. satellites. Jeffrey Richelson, *America's Secret Eyes in Space: The U.S. Keyhole Spy Satellite Program* 153 (1990).

¹⁷³ See *supra* text accompanying notes 84-88.

¹⁷⁴ See *supra* text accompanying notes 147-150.

similar breaches by presenting the potential breacher with the knowledge that a breach will lead to sanctions according to the harm thereby caused, not merely according to whether the breacher is willing to cease his wrongdoing in the short run.

Fourth, the similarity-in-kind component of the proportionality test will, in a manner similar to the necessity requirement, bar a retaliatory response to a breach on some occasions.¹⁷⁵ On some occasions, no sufficiently similar response will exist, and so a breach will go unpunished. The lack of punishment will lead to underdeterrence.

Fifth, some treaties require the victim of a breach to exhaust dispute-resolution procedures set forth in the treaty before levying any other sanctions against the breacher.¹⁷⁶ In such treaty regimes, the wrongdoer is likely to face sanctions only after a significant delay. Such a delay will, so long as the wrongdoer discounts the future, have an effect similar to that of the necessity requirement. The impact of the sanctions upon the wrongdoer will be less than the harm visited upon the victim of the treaty breach by the wrongdoer, because a harm suffered in the future (from the delayed sanction) will play a lesser role in decisionmaking than the same harm suffered immediately.¹⁷⁷ Unless the rules of proportionality allow the responding party to increase the magnitude of the delayed response in accordance with the delay, the result will be underdeterrence.

Sixth, the rarity of compensatory damages or other means of actually compensating the victim of a breach for its loss means that victims have a significantly reduced incentive to pursue responses to a breach.¹⁷⁸ If compensation is available, then the victim of a breach receives that compensation as its reward for pursuing the breacher. Nations do sometimes receive compensation in a suit or settlement in the international legal system, or seize the breacher's monetary assets located in the victim nation, or capture property of the breacher in naval or military raids.¹⁷⁹ More typically, however, there is no such compensation available for breach of

¹⁷⁵ See *supra* text accompanying notes 153-154.

¹⁷⁶ For example, the Dispute Settlement Understanding to the World Trade Organization Agreement requires states to pursue the dispute settlement process before any sanctions can be imposed for an alleged violation. See *supra* note 34; see also Aceves, *supra* note 34, at 436-43 (discussing the WTO's Dispute Settlement Agreement in detail).

¹⁷⁷ See generally Edith Stokey & Richard Zeckhauser, *A Primer for Policy Analysis* 160-65 (1978) (discussing discounting of future).

¹⁷⁸ In the European Union, private individuals may bring actions against member states in national courts for violations of E.U. legislation. This allows individuals to monitor compliance with E.U. obligations and seek enforcement of such obligations. See Carl Otto Lenz, *The Role and Mechanism of the Preliminary Ruling Procedure*, 18 *Fordham Int'l L.J.* 388 (1994).

¹⁷⁹ For example, following the Iranian seizure of U.S. diplomatic personnel from the U.S. Embassy in Tehran, the United States froze approximately \$12

a treaty.¹⁸⁰ For purposes of deterrence, the fact that the victim of a breach does not receive compensation for the harm would not actually matter so long as the breacher somehow paid the relevant costs.¹⁸¹ Some centralized international prosecutor could serve this role just as well as individual nations. There is no such entity, however. For purposes of encouraging victims of a breach to pursue the measures that lead to the breacher's payment of costs, then, the lack of availability of compensation *is* relevant. The victims of the breach are the only entities at hand in the current international system to sanction the breacher, while the unavailability of direct rewards from levying sanctions gives the victims of a breach a lessened incentive to pursue those responses. If coercion is employed by the victim, for example, the relevant military operation will certainly cost treasure and often blood. If the cessation of otherwise binding legal obligations is the chosen unilateral remedy, then the sanctioning nation will of course lose whatever benefits encouraged it to undertake the (about-to-be-terminated) arrangement in the first place. Trade sanctions, for example, harm not only the sanctioned nation, but also merchants in the victim nation who are thereby prohibited from undertaking transactions that they previously found beneficial. Assuming that entry into a free-trade agreement, for example, indicates where the "national interest" lies, sanctions would also harm the sanctioning nation as a whole. The possibility of counter-countermeasures by the breaching nation against the victim nation (although illegal) may also cost a victim nation contemplating a response to a treaty breach. All these various costs are, like legal fees in the domestic context, a price that the sanctioning nation must pay to vindicate its rights. If uncompensated, all these various costs will discourage a victim nation from pursuing sanctions and thus will lower the expected costs to a would-be violator of breaching a treaty.

There is one important qualification, however, to equating the unavailability of compensation from the breacher to the victim with lessened incentives for the victim to pursue responses to a breach. If the breach gives the victim the legal right to abandon some of *its* legal obligations, then the victim will presumably choose to abandon those obligations that, within the limits of necessity and proportionality, have resulted in the greatest net costs to the victim. Suppose that a nation signs a treaty with the belief that it will receive significant benefits therefrom, but discovers that the treaty is in reality an arrangement yielding it large costs and no benefits. Such a treaty would be a prime candidate for abandonment in the event of an

billion in Iranian assets that were located in U.S. banks or in the possession of U.S. corporations, whether located in the United States or abroad. Carter & Trimble, *supra* note 1, at 93-96.

¹⁸⁰ See *supra* notes 138-141 and accompanying text.

¹⁸¹ For a comparable analysis of punitive damages in the realm of domestic contract law, see, e.g., Richard Epstein, Charles O. Gregory & Harry Kalven, Jr., *Cases and Materials on Torts* 800-07 (4th ed. 1984) (noting deterrent and punishment rationales for punitive as compared to compensatory damages); Michael Rustad & Thomas Koenig, *The Historical Continuity of Punitive Damage Awards: Reforming the Tort Reformers*, 42 *Am. U. L. Rev.* 1269, 1304-26 (1993) (describing the contemporary functions of punitive damages).

opportunity to legally abandon that treaty in response to another nation's breach of a different treaty. Such an abandonment would effectively "compensate" or at least provide some benefits to the victim nation—as a result of pursuing its response.

3. *The General Consistency of Remediation with a Transaction-Cost Analysis*

The rules of remediation appear significantly inconsistent with the implications of rationalist IR theory for institutional design. Before proceeding to an alternative "misperceptions-spiral" view of remediation, however, one should note the broad consistency of the overall scheme of remediation with a transaction-cost rationale.

The rules of remediation involve largely unilateral measures rather than multilateral measures such as courts (which, after all, require participation in the "transaction" by the responding party, the breacher, and the court itself). In addition, the rules of remediation provide a victim nation with a wide variety of possible responses. The rules of remediation allow, but do not much rely upon, court-ordered compensatory damages as the means of remediation.¹⁸² A focus on such damages would obviously provide a set of rules more conceptually focused than the sweeping and frequently vague law of state responsibility, which must set forth formulations of rules that apply not only to compensatory damages but also to such variegated responses as economic sanctions, military strikes, suspension of diplomatic relations, and so forth.¹⁸³ In addition, as discussed in more detail below, the award of compensatory damages provides a useful incentive to the victim to pursue a remedy and thereby to sanction the wrongdoer, an outcome in the interest of the community as a whole.¹⁸⁴

Nonetheless, in the absence of a highly developed court system, an enforceable judgment for money will be very costly to obtain.¹⁸⁵ Likewise, the difficulties (discussed above) of

¹⁸² Anglo-American contract law, in contrast, favors compensatory damages as the remedy for breach of contract over such alternatives as specific performance. See Posner, *supra* note 161, at 106.

¹⁸³ See generally Elisabeth Zoller, *Peacetime Unilateral Remedies: An Analysis of Countermeasures* 67-75 (1984) (surveying the various legitimate self-help responses available for breach of international legal obligations).

¹⁸⁴ See *supra* text page 89.

¹⁸⁵ See *supra* text accompanying notes 140-141. As noted by the Restatement (Third):

[r]emedies in international law are not as developed as remedies in the domestic law of most states, but both the principles and the modes of relief are similar. A state that has violated an international obligation is required to terminate the wrongful conduct and, in appropriate cases, to provide restitution, to restore the *status quo ante*, to render specific performance of an undertaking, or to pay compensation.

monetizing the harm from a breach are also, in a sense, the equivalent of high transaction costs.¹⁸⁶ The award of compensatory damages involves the participation of multiple parties (as disputants and dispute-resolvers) and thus involves higher transaction costs. The availability through the law of state responsibility of a wide variety of means of unilateral remediation, in contrast, gives the victim the opportunity to choose a response to breach that it can implement without the need to incur the high transaction costs involved in pursuing compensatory damages. Indeed, to the degree that the relevant measures are truly unilateral, there need be *no* transaction costs flowing from a national government's decision to implement its response.¹⁸⁷ To the extent that even a unilateral response must await the pursuit of negotiations,¹⁸⁸ however, there will be some transaction costs involved in those negotiations (although a nation seeking compensatory damages must, of course, incur such costs as well).

This analysis simply implies that compensatory damages would be a poor choice for the focus of remediation efforts, and that failure of the rules of remediation to adopt such a focus makes them consistent with rationalist IR theory in a broad sense. Many transaction-cost barriers to obtaining compensatory damages exist, while such barriers may be significantly lower with respect to other remediation measures. This broad consistency is encouraging, but the transaction-cost framework does not seem likely to prove especially useful in analyzing such principles as proportionality and necessity. Because the particular rules of remediation are inconsistent with optimal-deterrence theory, however, the Article proceeds now to an analysis of "misperceptions-spiral" theory and its implications for the rules of remediation.

C. Rescuing Remediation?: Spirals of Misperception

Restatement (Third), *supra* note 21, pt. IX intro. note, at 338 (citing s 901 of the Restatement (Third)).

¹⁸⁶ For a broader analysis of the application of transaction cost economics to the study of international law, see William J. Aceves, *The Economic Analysis of International Law: Transaction Cost Economics and the Concept of State Practice*, 17 U. Pa. J. Int'l Econ. L. 995 (1996).

¹⁸⁷ Note, however, that a nation must still incur some transaction costs in *formulating* a response, whether as a result of debates internal to the government or of the relevant interactions with its polity more generally. A "unilateral" response may be unilateral from the perspective of other nations, but even a "unilateral" response involves the coordination of a multiplicity of domestic actors. See *supra* text accompanying note 84; see also *supra* note 8 (describing liberalism and its focus on domestic politics in relation to the democratic peace). Note also that a nation undertaking a "unilateral" response may actually incur transaction costs in coordinating its response with other victims of the breach.

¹⁸⁸ See *supra* text accompanying notes 147-150.

The previous Section has argued that the fit between the predictions of a rational-design hypothesis based on deterrence theory and the rules of remediation in international law is a poor one. Essentially, the rule of proportionality limits the remediation response to the imposition of a harm equal to the harm flowing from the breach, while rationalist IR theory based on notions of optimal deterrence would argue that, in light of the unlikelihood that each breach will lead to a sanction, international law should routinely allow greatly disproportionate responses to breach.

With an eye towards explaining areas of potentially close fit between rationalist IR theory and the rules of remediation, this Section compares those rules with a branch of (somewhat) rationalist IR theory that hypothesizes a systemic tendency by nations to overestimate the negative effects of actions taken by presumed adversaries. The implication of such a view is that a small negative perturbation in the system, such as the minor breach of a treaty, can grow to have profound negative effects through a “spiral of misperceptions.” The sensitivity of nations in this situation can lead to a rational role for rules of remediation that would be underdeterrent in an environment without misperception.

1. The Misperceptions-Spiral Theory

“Positive feedback” is synonymous with praise in many circles,¹⁸⁹ but its cybernetic meaning is more neutral.¹⁹⁰ Positive feedback in its more technical sense expresses a relationship between two variables in which an increase in the value of one variable in the system leads to an increase in the value of the other variable.¹⁹¹ If the increase in the second variable’s value in turn feeds back into an increase in the value of the first variable, then a “positive feedback loop” exists.¹⁹² Placing a live microphone next to a powered speaker will quickly lead to an ear-piercing screech through a fast-acting, positive feedback loop. Nearby listeners are unlikely to praise the results.

¹⁸⁹ Cf. James C. Wetherbe, *Systems Analysis and Design* 23 (1988) (“Praise is good feedback; criticism is good feedback if applied sensitively, but is bad feedback if applied insensitively.”).

¹⁹⁰ Cybernetics analyzes control and communications mechanisms in machines and living organisms. The seminal work is Norbert Wiener, *Cybernetics: Or Control and Communication in the Animal and the Machine* (2d ed. 1961).

¹⁹¹ See Barry Clemson, *Cybernetics* 22-23 (1991). See generally Donald L. DeAngelis, *Positive Feedbacks in Natural Systems* (1986); Wetherbe, *supra* note 189 (discussing the power of positive feedback with a quasi-historical example).

¹⁹² For a non-technical introduction to the notion of (negative) feedback followed by a technical treatment of a wide variety of types of feedback and oscillations, see Wiener, *supra* note 190, at 95-115.

One prominent IR theorist concerned with national security issues has focused on the likelihood and implications of positive-feedback loops in international relations, especially those relating to how nations perceive arguably threatening behavior by other nations.¹⁹³ Suppose that Russia conducts a military exercise in the Black Sea as a training exercise designed to maintain the general level of readiness among its sailors, but that Turkey misperceives this benign action as a threat to it. Turkey then conducts a training exercise of its own in order to respond to the perceived Russian threat, which the Russians in turn misperceive as a hostile action directed towards Russia. The Russians then add extensive naval aviation assets to their next round of training exercises (to ensure that their own forces are properly coordinated in the face of the new Turkish threat) leading the Turks to do likewise in their own next round of maneuvers, and so forth.¹⁹⁴ A “spiral of misperceptions” can develop in which the outcome is crisis or even war,

¹⁹³ See Jervis, *Misperception*, supra note 135, at 62-67. According to Jervis,

The roots of what can be called the spiral model reach to the anarchic setting of international relations. The underlying problem lies neither in limitations on rationality imposed by human psychology nor in a flaw in human nature, but in a correct appreciation of the consequences of living in a Hobbesian state of nature. In such a world without a sovereign, each state is protected only by its own strength. Furthermore, statesmen realize that, even if others currently harbor no aggressive designs, there is nothing to guarantee that they will not later develop them....

....

The lack of a sovereign in international politics permits wars to occur and makes security expensive. More far-reaching complications are created by the fact that most means of self-protection simultaneously menace others.

Id. at 62-63 (footnotes omitted); see also Robert Jervis, *Cooperation Under the Security Dilemma*, 30 *World Pol.* 167, 170-86 (1978) (arguing that cooperation in an anarchic international system, as demonstrated by the Prisoner’s Dilemma, only results when states perceive little or no threat of defection).

¹⁹⁴ For example, Jervis quotes Lord Grey, the British Foreign Secretary before World War I:

The increase of armaments, that is intended in each nation to produce consciousness of strength, and a sense of security, does not produce these effects. On the contrary, it produces a consciousness of the strength of other nations and a sense of fear. Fear begets suspicion and distrust and evil imaginings of all sorts, till each Government feels it would be criminal and a betrayal of its own country not to take every precaution, while every Government regards every precaution of every other Government as evidence of hostile intent.

despite the fact that at the bottom of the spiral neither nation had any desire to harm the other.¹⁹⁵ A resulting war may not necessarily be “accidental,” and may even be “intended” at the time that war actually starts, but the parties did not begin the process with any hostile intentions towards one another.

2. Rules of Remediation and the Spiral of Misperceptions

In an environment in which nations systematically overestimate the threat to them from the actions of others, legal rules that encourage responses equal to the perceived threat—let alone disproportionate responses—are dangerous. The victims of an initial breach will perceive the effects of the breach as larger than those effects actually are. Faced with a standard that on its face authorizes those victims to make an exactly equivalent response, the response will, owing to the misperceptions of the victim nations, actually be greater than the harm from the breach. This misperception will, if the object of the response considers itself entitled to some counter-response, feed back onto the victim nations with a (still larger) counter-response.

In the face of such misperception, rules that on their face authorize only something less than a fully equivalent response will be the only way to achieve optimal deterrence.¹⁹⁶ When a breach occurs and creates some harm *X*, the victims will misperceive the impact as some greater

Jervis, *Misperception*, *supra* note 135, at 65 (quoting 1 Sir Edward Grey, *Twenty-Five Years* 92 (1925)).

¹⁹⁵ Cf. Paul Bracken, *The Command and Control of Nuclear Forces* (1983) (including analysis of technical constraints and incentives to delegate weapons-release authority).

¹⁹⁶ As Downs, Rocke and Siverson noted:

The ideologies of decision makers and the experiences they have in operating in the international system inevitably color the way they process information as well as their vision of what arms race game they are engaged in. Whenever there is uncertainty about the likely impact of an action or the significance of another state’s behavior—which is almost all the time—these factors play a major role in determining how they will assess the situation.

....

Axelrod has suggested that retaliation in Tit-for-Tat should be less than 1 in order to alleviate the consequences of a single defection, which under Tit-for-Tat with perfect information and control can lead to endless rounds of echoing or mutual defection.

George W. Downs et al., *Arms Races and Cooperation*, 38 *World Pol.* 118, 136-41 (1985) (footnotes omitted).

harm *Y*, and if allowed a response that the victim sees as equivalent, will inflict that greater harm on the breacher, who in turn will see the impact of the measures of remediation as some still-greater harm *Z*. If the final perception of harm *Z* is instead to be equivalent to *X*—which is the proper equality in terms of influencing the behavior of the breacher—then the rules of remediation should authorize only some response *W* that is of lesser magnitude than the actual harm. The necessity and proportionality tests, in light of the other factors contributing to the unlikelihood that a response will be certain, effectively serve the same function as allowing only some response *W* equivalent to *X*, the harm actually caused by the initial breach.

The misperceptions-spiral theory nonetheless has a flaw or two. First, problems in international relations occur all the time without leading to war. If the stories of misperception are true, then something else must have intervened—some negative feedback in the system—to halt what would otherwise be an inevitable escalation. The theory thus seems incomplete as a general predictor of international behavior.¹⁹⁷ In addition, the legal system as currently constructed has a built-in negative-feedback mechanism. The breaching party has no right to retaliate against the victim for the latter's response. The spiral of misperception should then cease, at least if the rules are obeyed.

The application of the misperceptions-spiral theory to the rules of remediation also implies a certain selectivity about just where a nation's misperceptions occur. In this case, as in any case, nations must agree to a rule. Such agreement is how the rules of international law are formulated, not by the fiat of some supra-national entity. In this case, nations would need to agree to a rule that appears quite underdeterrent, on the grounds that the rule will actually function to provide proper deterrence. The same nations that will be plagued with future

¹⁹⁷ See, e.g., Jack S. Levy, *The Offensive/Defensive Balance of Military Technology: A Theoretical and Historical Analysis*, 28 *Int'l Stud. Q.* 219 (1984) (including analysis of technical constraints and incentives to delegate weapons-release authority); Jack S. Levy, *Misperception and the Causes of War: Theoretical Linkages and Analytical Problems*, 36 *World Pol.* 76, 98-99 (1983) (identifying certain types of misperceptions that are more likely to lead to war).

According to Levy:

Although numerous scholars have concluded that misperceptions have had an important role in the processes leading to numerous wars, it is not an easy task to define exactly what a misperception is, determine what historical phenomena should or should not be classified as misperceptions, or to evaluate the causal impact of misperceptions relative to that of other variables.

Jack S. Levy, *The Causes of War: A Review of Theories and Evidence*, in 1 *Behavior, Society, and Nuclear War*, supra note 158, at 209, 285. Indeed, as Lebow has noted on the concept of misperception, "nobody has been able to provide a clear, empirically useful and generally accepted definition of the concept." Lebow, supra note 135, at 90.

misperceptions, therefore, must see ahead accurately to those future misperceptions. Such a complex clarity of vision—a currently accurate self-perception of future misperception—is possible, of course. Nations may be able to reflect dispassionately in advance of a particular breach, but not once the breach occurs—just as smokers may want to throw out their cigarettes at the beginning of an effort to quit because they will smoke them later otherwise. Still, one should at least note the tension in the necessary intertemporal perceptions underlying the notion that nations will deliberately choose rules of remediation that would be underdeterrent when applied to nations with consistent and accurate perception.

One should also note that this is an Article concerned with “rationalist” IR theory, yet the misperceptions-spiral theory is what one might at best call “semi-rational.” In the misperceptions-spiral model, the nations involved in international relations are incapable of seeing reality clearly. Those nations see greater harm and hostility when little or no hostility actually exists. This may be an accurate characterization of the real world, but it is not the rational world of foresight and objectivity that tends to characterize rationalist IR theory more generally.

III. The Relationship between Rules of Release and Rules of Remediation

This Part considers the interactions between rules of release and rules of remediation. Neither Article 60 of the Vienna Convention nor the less authoritative codification of the law of state responsibility expressly mentions any relationship between the availability of release and the availability of remediation. The principles of necessity and proportionality in the law of state responsibility imply, however, that remediation by a nation is less likely to be permitted if that nation has already availed itself of a release option. There would appear to be no such constraint in the other direction: The rules of release do not seem to make release any less likely to be available because a nation has availed (or will avail) itself of measures of remediation. Certainly the Vienna Convention, a formal treaty, itself imposes no requirement of necessity or proportionality on exercise of the release option. The Vienna Convention also lacks any language mentioning any interaction between release and remediation, while any language in the law of state responsibility that might constrain Article 60 is vague and (as with most of the rest of the law of state responsibility) not yet embodied in any formal treaty. Section A describes these rules in more detail.

A comparison of the rules of release and of remediation against the backdrop of the various theories used in previous Sections is the topic of Section B. Rationalist IR theories concerning the interrelated concepts of transaction costs, public goods, collective action, and the IPD were prominent in the analysis of the rules of release. Rationalist IR theories concerning deterrence theory and the “spiral of misperceptions” were both prominent (although of quite different degrees of explanatory power) in the analysis of the rules of remediation.

Examining each set of rules in light of the theories initially applied to the other set of rules

yields some further insights into each set of rules individually, and into the two sets of rules taken together. The rules of release are not consistent with the principles of necessity and proportionality laid out in the rules of remediation, nor are the rules of release consistent with the misperceptions-spiral theory used to justify underdeterrent rules of remediation. The failure to constrain rules of release in accord with the principles of deterrence theory also creates a potential problem. Simultaneously, however, the availability of a release option (constrained or not) may make up for some of the problems of underdeterrence (assuming that one remains unconvinced of the general utility of the misperceptions-spiral theory) that would otherwise result from the constraints placed upon remediation by the law of state responsibility.

The theories used in examining the rules of release, like those rules themselves, are sequential and dichotomous; the theories used in examining the rules of remediation, as with those rules, are simultaneous and continuous. A linkage of dichotomies and continuities suggests a relatively unified treatment of remediation and release as (jointly exhaustive) examples of rules governing non-negotiated responses to breach of a treaty, but the final portion of this Part argues that rationalist IR theory is not quite up to the suggestion, at least in its current state.

A. The Relationship between the Rules of Release and the Rules of Remediation in Treaty Law

The law of treaties includes within its ambit the rules governing the release of a party from its obligations under a breached treaty. The law of state responsibility includes within its ambit the rules governing the other responses to a breach of a treaty—“remediation,” as this Article calls it—that a party may undertake. The Vienna Convention and the law of state responsibility are two textually distinct bodies of law.¹⁹⁸ The Vienna Convention governs only treaties (and in fact, does not even govern every treaty).¹⁹⁹ The law of state responsibility, not

¹⁹⁸ Indeed, there is currently no authoritative text setting forth the law of state responsibility at all.

¹⁹⁹ Article 3 of the Vienna Convention provides:

The fact that the present Convention *does not apply to international agreements concluded between States and other subjects of international law [e.g., international organizations such as the United Nations] or between such other subjects of international law, or to international agreements not in written form, shall not affect:*

(a) The legal force of such agreements;

(b) The application to them of any of the rules set forth in the present Convention to which they would be subject under international law independently of the Convention;

(c) The application of the Convention to the relations of States as between themselves under international agreements to which other subjects of international law are also parties.

yet codified in a formal treaty, governs responses to breach of any international obligation, including not only treaty obligations but customary law.²⁰⁰

The two previous Parts of this Article maintained a distinction between release and remediation, and with it the parallel distinction of the law of treaties and the law of state responsibility. Part I examined the rules of release from the law of treaties; Part II examined the rules of remediation from the law of state responsibility. This Part examines the doctrinal and theoretical interplay of the two bodies of law that govern the legally permissible responses to breach of a treaty.

One can imagine two kinds of relationships between doctrine on the rules of release and on the rules of remediation. The availability of remediation could legally constrain (or facilitate) the availability of release, or the availability of release could legally constrain (or facilitate) the availability of remediation. As it happens, the availability of remediation appears to have no effect on the availability of release, while the availability of release does appear to constrain the availability of remediation.

1. The (Non-)Effect of the Availability of Remediation upon the Availability of Release

Vienna Convention, *supra* note 15, art. 3, at 333-34 (emphasis added).

²⁰⁰ According to the Restatement (Third), the provisions concerning the material breach of an international agreement do "not exclude other remedies for breach, for example, a claim for damages by an aggrieved party against the offending party, or resort to arbitration as provided in the agreement in question or in some other agreement between the parties." Restatement (Third), *supra* note 21, s 335 cmt. e, at 217 (reference omitted).

The Introductory Note to Part IX of the Restatement (Third), which concerns remedies for violations of international law, states:

A state that has violated an international obligation is required to terminate the wrongful conduct and, in appropriate cases, to provide restitution, to restore the *status quo ante*, to render specific performance of an undertaking, or to pay compensation. Acknowledgment of the violation and an apology are also a common remedy. For most injuries restoration is the preferred remedy, with compensation as an alternative. In case of a violation of an international agreement, the injured party may suspend or terminate the agreement or seek specific performance, money damages, or other redress. For some treaty obligations special remedies may be provided, e.g., withdrawal of equivalent concessions for violations of GATT obligations. In different circumstances different remedies may be pursued simultaneously or successively. Legal and political remedies may be pursued at the same time.

Id. pt. IX, intro. note, at 338 (references omitted).

Article 60 of the Vienna Convention makes no explicit reference to the law of state responsibility, nor to the doctrines of necessity or proportionality.²⁰¹ The standards of Article 60, as we have seen above, are about the relationship between the breached provision and the treaty itself and (for breaches of multilateral agreements) about the effects of that breach on its victims. The law of state responsibility, with its focus on the effects of the response upon the breacher, has a very different emphasis. Necessity in the law of state responsibility focuses on the availability of negotiations as an alternative to unilateral remediation. Parties that question the validity of a treaty on the procedural grounds provided by the Vienna Convention must in fact use the default dispute-resolution procedures also set forth therein. Although these procedures do involve various negotiations, they do not govern parties seeking to be relieved of their treaty obligations because of the breach of another party. In any event, even those dispute-resolution procedures applicable to alleged procedural infirmities are not set forth as the *exclusive* means of redress or response that a party may seek in connection with its desire to treat its obligations as inoperable.²⁰²

The Vienna Convention itself therefore gives no clue that a party's ability to make use of the provisions of Article 60 depends somehow on meeting any tests except those set forth in Article 60 itself. Nonetheless, one might wonder if the provisions of the law of state responsibility—and thus the requirements of necessity and proportionality—are somehow applicable to the law of treaties.

The answer to such wonderings, however, appears to be “no.” The examples in the Restatement (Third) concerning responses to breach do not include suspension or termination of the breached treaty. In addition, there is a general principle in international law that treaties are superior to customary law in determining the obligations of parties, at least when the treaty in question is quite specific as to its obligations.²⁰³ Such specificity does exist with respect to the

²⁰¹ See Vienna Convention, *supra* note 15, art. 60, at 346.

²⁰² Article 42 of the Vienna Convention provides:

1. The validity of a treaty or of the consent of a State to be bound by a treaty may be impeached only through the application of the present Convention.
2. The termination of a treaty, its denunciation or the withdrawal of a party, may take place only as a result of the application of the provisions of the treaty or of the present Convention. The same rule applies to suspension of the operation of a treaty.

Id. at 342.

²⁰³ Article 38(1) of the Statute of the International Court of Justice lists the principal sources of international law:

- (a) international conventions, whether general or particular, establishing rules expressly recognized by the contesting States;

rules of release in Article 60 of the Vienna Convention, as we have seen. More generally, the Vienna Convention is a formal treaty that explicitly establishes the criteria for determining the availability of the release option, while the laws of state responsibility are simply customary law that do not directly address the topic of release.

In addition, the law of treaties sets forth a scheme that is clearly inconsistent, at least in spirit, with the law of state responsibility. First, Article 60 refrains from setting forth any necessity requirement like the one mentioned in the law of state responsibility. More directly, the rules of release in Article 60 fly in the face of the similarity-of-magnitude component of the

(b) international custom, as evidence of a general practice accepted as law;

(c) the general principles of law recognized by civilized nations;

(d) subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

Statute of the International Court of Justice, art. 38, P 1. According to Ian Brownlie:

The first question which arises is whether paragraph 1 creates a hierarchy of sources. They are not stated to represent a hierarchy, but the draftsmen intended to give an order and in one draft the word "successively" appeared. In practice the Court may be expected to observe the order in which they appear: (a) and (b) are obviously the important sources, and the priority of (a) is explicable by the fact that this refers to a source of mutual obligations of the parties. Source (a) is thus not primarily a source of rules of general application, although treaties may provide evidence of the formation of custom.

Ian Brownlie, *Principles of Public International Law* 3-4 (4th ed. 1990) (footnote omitted). However, Brownlie goes on to add that:

In general Article 38 does not rest upon a distinction between formal and material sources, and a system of priority of application depends simply on the order (a) to (d), and the reference to subsidiary means. Moreover, it is probably unwise to think in terms of hierarchy dictated by the order (a) to (d) in all cases. Source (a) relates to *obligations* in any case; and presumably a treaty contrary to a custom or to a general principle part of the *jus cogens* would be void or voidable. Again, the interpretation of a treaty may involve resort to general principles of law or of international law. A treaty may be displaced or amended by a subsequent custom, where such effects are recognized by the subsequent conduct of the parties.

Id. at 4 (footnotes omitted). The Vienna Convention is relatively new, however, so little such displacement or amendment seems likely to have occurred.

proportionality requirement. As discussed above, the smallest breach of an essential provision of a bilateral treaty permits the victim to terminate instantaneously each and every one of its responsibilities under the entire treaty.²⁰⁴ Such a response clearly satisfies the similarity-of-kind requirement of the proportionality test—the terminated obligations are of exactly the same type as the breached obligations, obviously enough—but it seems just as obviously disproportionate in terms of the magnitude of the breach. Common sense and established principles of international legal interpretation indicate that such a specific contradiction of the terms of the law of state responsibility implies that the parties to the Vienna Convention wished the later, more formalized set of obligations, to govern in the case of the rules of release. This is a much more plausible interpretation than that those parties were indulging in some kind of silent subordination of the Vienna Convention to the broad and uncodified rules of the law of state responsibility. In sum, therefore, there would appear to be no relationship between release and remediation that constrains Article 60’s rules of release in light of the rules or principles of the law of state responsibility on remediation.

2. The Effect of the Availability of Release upon the Availability of Remediation

The rules of remediation do not appear to constrain the availability or exercise of the release option. If we examine whether the rules of release might constrain the availability of remediation, however, we obtain a somewhat different answer. As with the Vienna Convention and the rules of necessity and proportionality, a review of the relevant portions of the law of state responsibility reveals no explicit mention of the availability of release. Nonetheless, by its own terms, the rules of remediation do contain an explicit and general principle—necessity—that seems to impose some constraint upon remediation in light of the exercise, or even the availability of, a release option. In addition, the proportionality principle, broadly interpreted, might also constrain remediation in the wake of an actual exercise of a release option.

As discussed above, the necessity principle prevents the victim of a breach from taking advantage of a particular means of remediation if some alternative approach will result either in a return to compliance by the (former) breacher or in compensation for the victim.²⁰⁵ This principle appears to govern not only the choice of one means of remediation from among the large menu of options, but also to govern the availability of any remediation at all *vice* the use of non-remediation measures. The most prominent alternative to remediation may well be negotiation, but there is no reason to think that a doctrine that requires consideration of negotiated solutions would not also take into account the possibility that the exercise of a release option could induce the breacher to return to adherence with its treaty obligations.²⁰⁶ The necessity principle might

²⁰⁴ See *supra* text accompanying notes 17–22.

²⁰⁵ See *supra* text accompanying notes 142–150.

²⁰⁶ The Restatement (Third) recognizes that:

therefore bar remediation in light of the availability of release, just as that principle can bar remediation in light of the availability of negotiation.

Application of the proportionality principle to constrain remediation in light of release is a somewhat trickier business. First, one should note that proportionality appears in practice—though not necessarily in the abstract—to focus on the effects of the particular means of remediation chosen, not on the effects of all possible measures (including non-remediative measures such as negotiation or release) taken in response to a breach. Negotiations, of course, rarely impose much in the way of harmful effects on the breacher, so the fact that the rules of proportionality tend to focus on the harm resulting from the unilateral response may not by itself mean that significant harm from non-remediation measures is irrelevant in determining proportionality. Perhaps the rules of proportionality, therefore, should apply in their magnitude-of-response aspect to the impact of all responses (remediation and non-remediation) to breach. The impact of release on remediation can present this issue squarely: Release is not a unilateral response but can inflict substantial harm on a breacher. Unfortunately, there is little explicit discussion in the relevant commentary of courts and publicists about whether the effects from exercise of a release option should be included in the overall effects of remediation for purposes of determining its proportionality. On the whole, however, the analyst of the relationship between proportionality and the exercise of a release option should probably conclude that the availability of legal remediation depends in part upon the unavailability of—or at least the failure to exercise—the release option.²⁰⁷

B. Rationalist IR Theory and the Relationship between the Rules of Release and the Rules of Remediation

As in previous Parts, this Section seeks to explain the rules governing the topic at hand (i.e., the relationship *vel non* between rules of release and rules of remediation) in terms of their consistency with rationalist IR theory. The simultaneous consideration of release and remediation, however, can also lead to other topics of theoretical interest, such as an inquiry into

Most disputes involving a claim of violation of international law are resolved by negotiation. The general expectation of states that legal obligations will be observed tends to promote such resolution. If negotiations do not result in a settlement, there may be resort to a third party for assistance, an advisory opinion, or binding decision.

Restatement (Third), *supra* note 21, pt. IX, intro. note, at 338.

²⁰⁷ Note that the application of the necessity principle may constrain remediation in light simply of the availability of release, while *proportionality* should constrain remediation only in light of the actual exercise of the release option. Necessity, after all, focuses on what responses (besides the response actively under analysis) *might* accomplish, while proportionality focuses on what the aggregate of responses *will* accomplish if employed.

whether all the various sub-theories of rationalist IR theory raised at one point or another in the previous two Parts can coexist.

Section 1 examines how one might explain the doctrinal relationships between release and remediation, while Section 2 examines the broader theoretical issues that one can explore by simultaneously considering release and remediation.

1. Using Rationalist IR Theory to Explain the Relationship between the Rules of Release and Remediation

The rules of treaty law appear to constrain measures of remediation when a release option is available, but not to constrain exercise of the release option when remediation is available. Is this one-way restraint between release and remediation sensible under rationalist IR theory?

In terms of optimal-deterrence theory, the answer is “no.” The exercise of a release option can impose a harm upon the breacher. So, too, can the employment of remediation measures against the breacher. The imposition of the optimal sanction against the breacher should include consideration of both kinds of costs. Suppose, for example, that the victim of a breach exercises a release option in a situation where detection is virtually certain, and where necessary and proportional measures of remediation have already led to an imposition of harm upon the breacher equal to the harm caused by the breach. The availability of a release option in such circumstances (assuming that the exercise of such an option will further harm the breacher) will deter some efficient treaty breaches. The harm imposed upon the breacher will exceed the harm from the breach, and that excessive harm will sometimes prevent an efficient treaty breach. The optimal sanction in a situation where the likelihood of detecting and sanctioning the breacher approaches one is a sanction imposing harms equal to the harm from the breach, not some greater harm.

Of course, the lack of constraints upon the use of release despite the availability of remediation can have beneficial effects if, as was argued in Part II of this Article, the rules of remediation typically under-deter treaty breaches. A breaching party should face, in response to its potential breach, a combination of the likelihood and the magnitude of harm from breach that is equal to the harm to the victim from the breach. If the likelihood of actually levying sanctions is significantly less than one, then the rules of remediation in treaty law are quite unlikely to lead to the optimal outcome if only remediation is available as an option. Because of the application of the rules of proportionality and necessity, and in light of the difficulties of detecting many treaty violations and of encouraging victims to pursue remediation when such pursuit is unlikely to lead to full compensation, a potential breacher is likely to face an expected loss from its breach much less than the harm likely to be visited by the breach upon its victims.²⁰⁸

²⁰⁸ One should note that the example in the previous paragraph made a contrary assumption about the likelihood of detection and punishment.

Release also imposes a harm upon the breaching party—by depriving that party of the benefits that the breacher would otherwise accrue from the continuing cooperation of the victims of the breach. Unless the breacher somehow considers harm from release as intrinsically different from the harm to the breacher flowing from measures of remediation, the breacher will include both harms in its calculations when contemplating its breach. The combination of harm to the breacher from release and harm to the breacher from the remedial response therefore *could* equal the harm to the victim(s) from the breach when remediation alone would not lead to this (optimal) result. The simultaneous availability of release and remediation would thus be beneficial.

The lack of constraints on the release option as a result of available remediation may therefore be useful in a system where the rules of remediation seem likely to be underdeterrent. So long as the rules of release and remediation do not impose two-way constraints on their employment, however, one can hardly be sure that this will be the result. Without two-way constraints on release and remediation, no legal rule seeks to ensure that either one of the particular situations discussed above—over-deterrence or optimal deterrence—will prevail. The desired coincidence between harm from the breach and (probability-weighted) harm to the breacher will be just that—a coincidence. The lack of constraints on release as a result of available remediation, therefore, implies a lack of consistency between the rules of international law and the predictions of the rational-design hypothesis as interpreted through deterrence theory.

One practice-oriented argument encourages a bit more optimism about the ability of the one-way limit of remediation upon release to lead to sensible results, however. Through the application of the rule of necessity, the rules of remediation constrain the application of measures of remediation that occur in the wake of the exercise of a release option.²⁰⁹ The rule of necessity also constrains the application of measures of remediation, so long as other available measures, such as negotiations or the exercise of a release option, hold out a significant promise of convincing the breacher to return to the fold of compliance or to render a remedy to the victims of the breach. Release, in contrast, is available immediately and without limitations (other than those contained in Article 60 itself as to the materiality of the breach and the additional criteria necessary to obtain a release option respecting a multilateral obligation).²¹⁰ Release as a response to breach is thus unconstrained and immediately available, while remediation is constrained and typically not immediately available as a response to a breach.

One can thus imagine that, if release is an attractive option and if the process of negotiations concerning the breach are time-consuming, then the exercise of the release option will precede the availability of measures of remediation. If the exercise of the release option does not by itself lead to over-deterrence, then the staging of release and remediation together is unlikely to

²⁰⁹ See *supra* Part III.A.2.

²¹⁰ See *supra* text accompanying notes 17–26.

lead to over-deterrence, despite the absence of constraints upon release. The employment of remediation measures will occur later, and the employment of *those* measures, through the necessity and proportionality principles, *will* need to take into account the effects of the exercise of the release option. Over-deterrence would therefore be unlikely even though release was unconstrained by the availability of remediation.²¹¹

2. *The Theories of Release and Remediation*

This Section makes two points. First, the misperceptions-spiral theory is incapable of simultaneously explaining the rules of remediation and the rules of release. Second, the particular sub-theories of rationalist IR theory that seem suitable for examining the rules of release do not seem to be naturally tailored to an examination of the rules of remediation, and vice-versa.

a. Misperceptions-Spiral Theory and the Simultaneous Consideration of the Rules of Release and of Remediation

Part II asserted that the misperceptions-spiral theory might serve to explain the apparently underdeterrent effect of the rules of remediation. An alternative explanation of that apparent underdeterrence, in light of the fact that both release and remediation can harm the breacher, is that the rules of remediation create a “cushion” so that the *combined* effect of release *and* remediation will not over-deter the breacher.

Looking across the rules of both release and remediation, one should note that the implications of misperceptions-spiral theory are consistent with rules leading to objectively underdeterrent rules but are quite *inconsistent* with the rules of release. As discussed above in the doctrinal context, the rules of material breach allow the smallest breach of a bilateral treaty to give the victim a release option with respect to all the obligations of that treaty. A small breach will therefore legally give rise to a very strong response—one might even call it disproportionate. This amplification of the effects of a breach is precisely the opposite of the sort of dampening that the misperceptions-spiral theory encourages.

The fact that this point can be made concisely should not be taken to mean that the point is unimportant. One difficulty with social-science theories is a tendency towards non-negatability. Someone advances a theory; the theory has some inconsistencies with reality; the original theorist (or a disciple) patches up the theory; the theory has some more inconsistencies

²¹¹ Of course, the combination of release and remediation may still be *under-deterrent* if the rules of proportionality and necessity combine to prevent the use of remediation as an additional means of imposing harms upon the breacher when release by itself is under-deterrent.

with reality; some more patches are sewn on; and so forth. Theories wax and wane in popularity, but never seem to disappear. Scientists gave up on epicycles and phlogiston some time ago, but international lawyers still argue about Grotius and IR scholars still debate the stability of the balance of power. A simultaneous examination of the rules of release and remediation, however, at least negates the proposition that the misperceptions-spiral theory can explain the international legal rules governing responses to breach.

b. The General Difficulties for Rationalist IR Theory of Simultaneous Consideration of the Rules of Release and of Remediation

The rules of release are linear and mostly dichotomous. First, one determines if the breach is material or not. If the breach is material, one next determines whether the treaty is bilateral (in which case a release option exists) or multilateral (in which case the analysis continues). If the treaty is multilateral, one then determines if the breach meets any one of the additional criteria necessary for a release option. The central rationalist IR theory used to examine these rules in Part II—the insights surrounding the IPD—is similarly linear and dichotomous. The iterations unfold in strict sequence. Dichotomies are prominent—two players at a time with two choices per player at each iteration and two contending “strategies” governing the players’ overall approach.

The rules and theory concerned with remediation, in contrast, tend to be simultaneous and continuous. The necessity and proportionality requirements must be met simultaneously if a remediation measure is to be legal. Contrast this to the release option, where a finding of immateriality of breach with respect to a multilateral agreement, for example, obviates the need for any further analysis. Optimal-deterrence theory likewise involves the simultaneous consideration of factors—the probability and the magnitude of the sanction—without the ability for one such factor to resolve the relevant test on its own.²¹²

There are obviously some fundamental challenges involved in unifying these two theoretical frameworks—one dichotomous and dynamic, the other continuous but static. The effort to unify them nonetheless seems eminently desirable. In the actual world of international law, one must at the very least acknowledge the two very different sorts of responses that the victim of a breach can potentially employ. Release has its own set of rules and its own calculations; remediation has a different set of rules and calculations. Obviously, a third “response” is not only possible but potentially quite relevant: no response at all (and one might include in this category, just to keep things as simple as possible, the response of pursuing a negotiated solution). The simple dichotomy of actions in the typical presentation of the IPD is

²¹² The misperceptions-spiral theory, however, is more linear, or at least more sequential. The spiral of misperceptions unfolds over time in a series of escalations and misperceptions.

thus incapable of handling even the most highly stylized version of a real-world phenomenon, i.e., the three broad categories of international legal responses to breach of a treaty. One may use the tools related to public-goods theory to do some hammering away at the phenomenon of release considered on its own, and one may at least attempt to grasp remediation with the tongs of optimal-deterrence or misperceptions-spiral theory, but it proves impossible to examine release and remediation simultaneously with the crude instruments that comprise the entirety of the mainstream rationalist IR-theory toolbox. Release, if abstracted into complete suspension of the relevant treaty obligations, has a plausibly dichotomous character and is thus suitable for examination in the 2 x 2 IPD that characterizes the rationalist IR-theory approach to international cooperation. Remediation, if abstracted into a continuous range of unilateral responses, has a plausibly continuous character and is thus suitable for examination in the world of precise calibrations that constitutes deterrence theory and optimal sanctioning. Considering release and remediation together must involve at least a 2 x 3 IPD, however, and here rationalist IR theory currently has little to offer.

IV. A Normative View of Rationalist IR Theory

The first three Parts of this Article have taken a positivist view of the utility of rationalist IR theory. Each Part has asked whether the actual rules of international law are consistent with the implications of rationalist IR theory for institutional design. To the degree that the fit between rationalist IR theory and the rules governing responses to breach is a close one, that close fit validates the rational-design hypothesis; to the degree that such a fit is poor, rationalist IR theory is also a poor predictor of international (legal) realities.

If theories had feelings, one imagines that rationalist IR theory would be disappointed, although not quite overburdened with despair, at the findings of the first three Parts. Rationalist IR theory does a good job of predicting the broad contours of Article 60's rules of release, both in terms of the general availability of release as a legally sanctioned response to breach and of the greater barriers that Article 60 erects between release from multilateral, *vice* bilateral, obligations.

After this promising start, however, rationalist IR theory begins to struggle. The devil may or may not be in the details of Article 60, but one certainly finds only limited evidence there of rationalist IR theory. One must prod rationalist IR theory to speak on the subject at all, and when it does, that theory implies that the relationship of the breach to the payoffs of the parties (whether the deprivation of benefits or, less persuasively, cost savings) should dominate the analysis. The actual definition of material breach, however, focuses on the relationship between the breached provision and the breached treaty. An emphasis on transaction costs can increase the closeness of the fit between the actual definition of material breach and the predictions of rationalist IR theory, but the same mixed success pervades the analysis of the additional requirements imposed upon those seeking release because of the breach of multilateral obligations and the crudity of the simple dichotomy that Article 60 recognizes along the dimension of the

number of parties to an agreement. The success is especially mixed with respect to these particulars of Article 60 because the transaction cost analysis useful with respect to the definition of material breach fails to shore up the rational-design hypothesis with respect to the additional multilateral-release criteria and the party-number dichotomy.

The analysis of the rules of remediation would bring little sense of relief to a body of rationalist IR theory already likely to feel a bit beleaguered by the analysis of the rules of release. Optimal-deterrence theory produces a rather clear standard against which to measure the fit of the actual rules of remediation with the rational-design hypothesis, but unfortunately the fit between that theory and the rules of remediation proves to be quite poor. Resort to a semi-rationalist misperceptions-spiral theory is necessary to save face, but even this measure proves to provide only temporary relief: An analysis of the relationship between the rules of release and of remediation emphasizes that the misperceptions-spiral theory is quite inconsistent with the rules of release even if that theory can shore up the rational-design hypothesis with respect to the rules of remediation. That the constraint involving rules of remediation and of release runs in only one direction is also at least mild condemnation of the rational-design hypothesis.

It is difficult to say whether these various shortcomings in rationalist IR theory's predictive power for international legal rules governing responses to treaty breach are nails in the coffin of rationalist IR theory, or merely a few flea bites to an elephant. An examination elsewhere of the consistency of law of treaties with the notion of "iteration"—a notion crucial to the IPD and thus to rationalist IR theory—produced results much more pervasively favorable to the rational-design hypothesis.²¹³ Another article has argued that some methodological development of rationalist IR theory was in order, and that perhaps international law provides a sufficiently concrete testing ground for IR theory to make further interdisciplinary explorations an endeavor worth undertaking. In any event, social-science theories rarely die (or even fade away)—especially those grounded in economics.

Whatever the implications of the Article's first three Parts for rationalist IR theory, this Part takes a different tack. Previous Parts have been positivist: Do the actual rules of international law match up with the predictions of a particular (i.e., rationalist IR) theory? This Part is normativist: How can we make the actual rules of international law match up with the predictions of a particular theory (i.e., rationalist IR theory)? After a discussion of the plausibility and desirability of casting rationalist IR theory as a normative view, this Part describes the plethora of reform proposals that flow directly from the inconsistencies between rationalist IR theory and the actual rules of international law described in the previous three Parts.²¹⁴

²¹³ See generally Setear, *Iterative Perspective*, supra note 3 (arguing that the concept of iteration accurately predicts important aspects of the law of treaties).

²¹⁴ This approach brings to mind an encounter that I once had with a complex computer graphics program designed by the aptly named Larry Painter. The

A normative perspective drawn from rationalist IR theory requires at least some discussion of the possible advantages of such a view. Those who make normative assertions from a moral, philosophical, or political view often simply assume the utility of their perspective (if they even see it as a distinctive “perspective” in the first place) or at least assume the obvious desirability of promoting the values advanced thereby. At the risk of setting higher standards for a normative perspective based on rationalist IR theory than exist with respect to other normative perspectives, however, the use of an essentially positivist theory for normative purposes would seem at least to require some exposition of the benefits of such an approach.

One such advantage is the clarity of the resulting normative perspective. There is an underlying intellectual cohesiveness to rationalist IR theory that stems from its focus on the rational-choice approach. Actors respond to incentives; the construction of the proper incentives to guide those actors is the focus of the endeavor; the clear and apparently selfless aim of such an endeavor is to improve the overall functioning of the system. There is a certain detachment to the perspective. The particular norms promoted in the particular treaty that has been breached are of limited relevance. The variations among nation-states plays little role in the analysis. Historical factors are likewise somewhat submerged.

The expressly theoretical aspect of rationalist IR theory also has some collateral utility in normative analysis. A fair amount of work has already been done in the area, and a good deal of that work is quite self-conscious about specifying its assumptions and the links in the chain of reasoning that lead to its conclusions. Much of the other work in international law barely specifies its assumptions at all, uses normative frameworks suitable only for the task at hand, or displays little in the way of sensitivity to the peculiarities of the international *vice* domestic legal process. Analysis of the international legal process occurs, but often at a level of such detail that the larger implications are lost. A normative perspective based on rationalist IR theory therefore has enough desirable characteristics to make a sally into a concrete example thereof, i.e., the rules of release and remediation, worthy at least of the attempt.

To convert the positivist analysis of the first three Parts of the Article into a normative argument is not especially difficult, and such a conversion does produce a wide range of

program behaved in a way that I considered unfriendly and arguably illogical. As with the immediate accessibility of Marshal McLuhan to two characters debating the significance of his work in the movie *Annie Hall*, I was fortunate enough to have the creator of the controversial material close at hand. I brought the difficulty to Mr. Painter’s attention. “That’s not a bug,” he said, “it’s a feature.” Inconsistencies between rationalist IR theory and international legal rules are “bugs” from the positivist perspective, but are “features”—or at least provide grist for the mill of reform proposals—from the normative perspective. See also Paul Simon, *One Man’s Ceiling Is Another Man’s Floor*, on *There Goes Rhymin’ Simon* (CBS Records 1979) (describing complementary perspectives of apartment-house dwellers).

suggestions for reforming international law governing responses to a treaty breach.

The general idea that some breaches should release their victims is sound,²¹⁵ but the precise definition of material breach should be refocused.²¹⁶ The current definition concentrates on whether the breached provision is essential to the treaty, but, in order to create an environment most consistent with stable cooperation, that definition should focus more closely on the benefits of cooperation of which the breach deprives the victims and on the costs that the breacher thereby avoids.²¹⁷ Likewise, the general principle that those seeking release from multilateral obligations should need to meet additional criteria is sound, but the particular standards of the additional-release criteria require some modification.²¹⁸ The special effects test unwisely allows release when the effect of a breach is “special” but insubstantial.²¹⁹ The universal radical effects test, in contrast, chains victims to the agreement despite widespread, equally shared deprivations by the breacher.²²⁰ The breach of singular promises either never gives rise to a release option or allows any specially affected party to release itself from all of its multilateral obligations under the breached treaty.²²¹

A. The Rules of Release

Taking all of these inconsistencies between rationalist IR theory and international law, and recasting them as normative suggestions, this Article proposes redrafting Article 60 as follows:

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.
2. A material breach of a multilateral treaty by one of the parties entitles:
 - (a) The other parties by unanimous agreement to suspend the operation of the treaty in whole or in part or to terminate it either:

²¹⁵ See *supra* Part I.B.1.

²¹⁶ See *supra* Part I.C.1.a.

²¹⁷ See *supra* text accompanying notes 69–81.

²¹⁸ See *supra* text accompanying notes 92–114.

²¹⁹ See *supra* text accompanying notes 105–106.

²²⁰ See *supra* text accompanying notes 108–113.

²²¹ See *supra* Part I.C.2.d.ii.

(i) in the relations between themselves and the defaulting State, or

(ii) as between all the parties;

(b) a party specially affected *compared to most parties to the treaty*, and *substantially* affected by the breach, to invoke it as a ground for suspending the operation of the treaty in whole or in part in the *separable* relations between itself and the defaulting state.

(c) any party other than the defaulting State to invoke the breach as a ground for suspending the operation of the treaty in whole or in part with respect to itself if the treaty is of such a character that a material breach of its provisions by one party radically changes the position of *most parties* with respect to the further performance of its obligations under the treaty.

3. A material breach of a treaty, for the purposes of this Article, consists in:

(a) a repudiation of the treaty not sanctioned by the present Convention; or

(b) the violation of a provision *that leads to a substantial deprivation of the benefits otherwise obtainable by the victim of the breach from the treaty*.

This reformulation leaves Article 60(1) intact. The reformulation of sub-paragraphs (b) and (c) of Article 60(2) brings the additional-release criteria for multilateral obligations into closer alignment with the substantial-deprivation-of-benefit standard implied by rationalist IR theory derived from the IPD. The addition of “and substantially” to subparagraph (b) of Article 60(2) makes release stemming from the special effects test more difficult to obtain and brings the relevant standard into closer alignment with the substantial-deprivation-of-benefit standard implied by rationalist IR theory. The substitution in subparagraph (c) of “most parties” for the current “every [non-breaching] party” makes release as a result of applying the (formerly) universal radical effects test easier to obtain. This last addition, along with the proposed addition to subparagraph (b) of the “compared to most parties” language, also unifies the scope of the inquiry into which impacts are necessary for release with respect to sub-paragraphs (b) and (c): The impact on most parties is the relevant standard.

The reformulation preserves greater ease of release from bilateral as compared to multilateral obligations. Paragraph 1 retains the suspension-or-termination option for bilateral agreements, while paragraph 2 still mentions only suspension for multilateral agreements. The reformulation retains the general notion of additional-release criteria for multilateral obligations.

The reformulation also preserves the desirably greater ease of release upon a special effect;²²² a special effect need only be substantial to allow release, while a broadly shared effect requires a radical impact (although under the reformulation, victims may show such an impact with respect only to most, rather than all, non-breaching parties). The reformulation also makes clear that a specially affected nation may not release itself from its obligations in the case of singular promises.

The reformulation of paragraph 3 switches the focus of the definition of materiality from the role of the breached provision in the treaty to the impact of the breach upon the parties.

B. The Rules of Remediation

As to the rules on remediation, both the principles of proportionality and of necessity are in need of revision to fit with the normative IR-theory perspective. The easiest change—or conceptually the cleanest, at any rate—is simply to abolish the distinction between necessity and proportionality, and to make explicit the utility of the similarity-in-kind principle as an independent criterion. One might therefore propose the following substitute for the principles currently embodied in section 905 of the *Restatement (Third)*:

A unilateral response to a breach shall cause a harm to the breacher no greater than the harm caused by the breach, with the exception that the victims of initially concealed breaches may exact additional remediation from the breacher. The response shall, to the extent possible, involve the same general form of obligation as the breach.

First, this reformulation clarifies that the relevant proportionality is with respect to the various harms at issue. Second, the reformulation allows greater punishment when the breach is less likely to be detected, i.e., more likely to be concealed. A rule more precisely consistent with rationalist IR theory would take into account a greater number of factors that contribute to the unlikelihood of levying sanctions in a particular case. Third, the similarity-in-kind branch of the proportionality principle is retained. Fourth, there is no necessity requirement. Note that the reformulation would still prohibit grossly disproportionate responses if concealment were not at issue.

C. The Relationship between the Rules of Release and Remediation

The relationship between rules of release and remediation involves a possible reformulation in both areas of law. With respect to remediation, the formulation consistent with deterrence theory is relatively simple to incorporate into the reformulation just above:

²²² See *supra* text accompanying notes 102-105.

A unilateral response to a breach shall, when combined with any response involving suspension or termination of the breached treaty, cause a harm to the breacher no greater than the harm caused by the breach, with the exception that the victims of initially concealed breaches may exact additional remediation from the breacher. The response shall, to the extent possible, involve the same general form of obligation as the breach.

The proper treatment of release as constrained by remediation is, as has been mentioned, less urgent (if also less easily incorporated into existing rules). The typical unfolding of responses is negotiation followed by release, followed in turn by remediation. With the reformulation just above, parties would know that the sum of release and remediation is the relevant quantum of harm inflicted upon the breacher, and that the general principle of probability-modified proportionality applies.

The possibility remains, however, that release could by itself be disproportionate. The solution would simply be to reformulate the rules of Article 60 in such a way as to make the first sentence of the reformulated portion of the law of state responsibility applicable to release as well. Note that the second sentence—the similarity-in-kind branch of the proportionality test—is superfluous in the context of release, since the obligations at issue will automatically be of the same general kind as those breached. One might propose as an Article 60(6) to the Vienna Convention, perhaps:

6. The exercise of a party's option to suspend (or, if bilateral, to terminate) an agreement shall not cause the breacher a greater harm than that visited upon the non-breaching party by the breach.

One may, therefore, generate a broad and numerous set of reform proposals by the simple expedient of converting the positivist shortcomings of the rational-design hypothesis into a set of expressly normative recommendations. The earlier portion of this Part focused on a brief recounting of the possible advantages of that normative perspective, such as clarity of vision, in comparison to other normative perspectives. One can hardly hope to resolve long-running debates about the best normative perspective in a few pages, but one may at least hope to show that rationalist IR theory provides a ready framework for those interested in proposing changes to (rather than simply describing) extant international law governing responses to the breach of a treaty.

Conclusion

This Article has taken the reader through three fairly detailed, positivist Parts and one broader normative Part, all by way of its examination of the international legal rules governing

responses to breach of a treaty. The positivist approach produced a moderate amount of consistency with the rational-design hypothesis, some insights into the limitations of extant IR theory's ability to grapple with the real world, and one winnowing of the panoply of theories that might ex ante have been considered viable IR theory candidates for a consistent explanation of the international legal responses to a treaty breach. The normative Part yielded a number of reform proposals, although the author would never argue that the normative Part thereby banished all controversy as to whether the rationalist framework is a wise foundation for any normative theorizing at all.

This Conclusion draws together the implications of the previous analyses (mostly from the positivist perspective) and some previous work by this author in order to suggest three future approaches to the simultaneous pursuit of rationalist IR theory and international law. The approaches are not mutually exclusive. They involve, in the order in which this Article proposes them, an intensive empirical focus on the operation of certain treaties involving the production of an international public good, a concerted theoretical effort to examine IPDs involving a choice of three actions per player, and a willingness to examine the applicability of law and economics scholarship in U.S. contract law to the analysis of international treaties.

Elsewhere, this author has examined the interplay between rationalist IR theory and international treaty law from both sides of the looking glass. In one article, the author emphasized the contribution that a focus on the concept of iteration, derived from rationalist IR theory on the IPD, could make to both the broad and the detailed analysis of the law of treaties (and of various rules contained in particular treaties as well).²²³ In comparison to rationales for the fundamental aspects of treaty law offered from within an international legal perspective, the "iterative perspective" derived from rationalist IR theory in that article was able to explain a broader range of phenomena within the law of treaties, and to do so with fewer logical conundra. In another article, the author highlighted the potential contribution of the treaty process to the development of rationalist IR theory.²²⁴ The treaty process naturally provides relatively clear and objective definitions of the game-theoretical concepts of "iteration" and "action," without which rationalist IR theory's use of game theory will inevitably remain merely metaphorical rather than truly theoretical.

Rationalist IR theory appears to be less useful in explaining the rules regarding non-negotiated responses to breach than in explaining the role of iteration in rules concerned with pre-breach events and with negotiated responses to breach. The wide variety of remediation-oriented responses to breach would also seem to provide a duller stone on which to hone rationalist IR theory than do the natural iterations of the treaty process governing the validity and interpretation of treaties. One may nonetheless take these works as a whole and suggest three possible directions for future research seeking a more concrete combination of IR theory and

²²³ See Setear, *Iterative Perspective*, supra note 3.

²²⁴ See Setear, supra note 45.

international law. One direction involves intensive empirical work; a second direction involves the improvement of IR theory itself, with an eye towards making empirical investigations more theoretically tractable; and the third direction involves borrowing from the extensive law and economics literature on Anglo-American contract law.

It is possible, though not certain, that an intensive empirical investigation of one or more treaties in light of rationalist IR theory would produce useful results. There is reason to hope that the treaty process can provide a good deal of natural definition and concreteness to the abstractions of the IPD. There is some reason to imagine that various responses to breach may fit naturally into the framework of the IPD (where release is at issue) or into some more general framework of rationalist IR theory (where remediation is at issue). Perhaps a well-focused investigation into a particular treaty or set of treaties can yield enough empirical nuggets to give shape to the various abstractions already posited by rationalist IR theory.

One might offer arms-control treaties between the United States, on the one hand, and the Soviet Union/Russia, on the other hand, as such a starting point. The technical issues involved in such treaties are often abstruse, and the relevant agreements can be quite lengthy and complex. Nonetheless, the relevant political relationship extends back a few decades and across a number of highly publicized treaties. The relevant relationship is, at least from the legal standpoint, a bilateral one.²²⁵ There is a great deal of literature on the subject. In addition, the resources devoted to verification of the relevant agreements were, and to a lesser extent remain, immense (although the results of such inquiries are not always available to the public). Finally, a number of legal or compliance-oriented controversies have been the subject of governmental attentions.

The second main avenue of approach would be more theoretical than empirical in its orientation. The typical dichotomous-action Prisoner's Dilemma employed in rationalist IR theory is too crude even to begin to mirror international legal realities. As Part III of this Article suggested, the employment of a game providing at least three choices of action per player (such as "no response to breach," "exercise release option," and "exercise remediation option") seems necessary to capture legal phenomena with enough detail to justify the artificialities of the rationalist approach. IR theorists, if they are serious about the relevance of their theories to real-world phenomena, should therefore turn their attention to adapting the small game-theoretical literature on three-option games to IR—and to expanding that literature where appropriate. One might of course hope for game-theoretical representations with a palette of more than just three colors, but this author, at least, would be pleased at the most incremental of improvements in this area.

More generally, at roughly the same time that Axelrod's simulation-oriented work lifted the IPD (and the tit-for-tat strategy) to prominence, the theoretical structure of other sorts of

²²⁵ The dissolution of the Soviet Union did leave multiple nuclear republics in the former Soviet Union, not just Russia, but one might well be able to avoid extensive treatment of the non-Russian republics.

games began to grow like Topsy.²²⁶ Games involving private knowledge, sequential moves (with both perfect and imperfect information), and various moves by Nature have since been the subject of much analysis;²²⁷ and game theoreticians have developed concepts of equilibrium far more refined than those, such as dominance or the Nash criterion, that previously constituted the best efforts of economists to specify solutions to the questions posed in game-theoretical terms.²²⁸ Some of this more recent work in game theory has migrated into law and into international relations. In light of the emphasis in early neorealism on the use of microeconomic theory and on security issues, it is unsurprising that the neorealists have embraced formal game theory and that most of their game-theoretical work has focused on national security, especially in war or crisis.²²⁹ These works do not engage international legal issues, however.²³⁰ In legal

²²⁶ See *The New Palgrave: Game Theory*, at xi-xii (John Eatwell et al. eds., 1989) (game theory languished until the mid-1960s but became "a roaring flood that threatened to engulf the rest of microeconomics" in the 1980s); Ian Ayres, *Playing Games with the Law*, 42 *Stan. L. Rev.* 1291, 1291-92 (1990) (stating that game theory has supplanted marginalist approach in economics and is thus likely to influence law and economics).

²²⁷ Many books on game theory now discuss the one-shot and iterated Prisoner's Dilemma in their earliest chapters before moving on to the treatment of games involving private knowledge, sequential moves, moves by Nature, and other concepts. See, e.g., Rasmusen, *supra* note 45, at v-vii; Fudenberg & Tirole, *supra* note 47, at viii-xiii.

²²⁸ For two fairly accessible discussions of some of the newer equilibrium criteria, see Stephen W. Salant & Theodore S. Sims, *Game Theory and the Law: Ready for Prime Time?*, 94 *Mich. L. Rev.* 1839, 1854-63 (1996) (reviewing Baird et al., *supra* note 47) (beginning with discussion of Nash equilibria and moving to discussion of several more recently developed criteria); Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility* 196-213 (1990).

²²⁹ For some of the earliest examples applying modern game theory to international relations, see Barry Nalebuff, *Brinkmanship and Nuclear Deterrence: The Neutrality of Escalation*, 9 *Conflict Mgmt. & Peace Sci.* 19 (1986); Robert Powell, *Crisis Bargaining, Escalation, and MAD*, 81 *Am. Pol. Sci. Rev.* 717 (1987). Of five pieces under the heading "International Relations" in a 1989 collection of game-theoretical pieces across the discipline of political science, all concern war or crisis. See Robert Powell, *The Dynamics of Longer Brinkmanship Crises*, in *Models of Strategic Choice in Politics* 151 (Peter C. Ordeshook ed., 1989); R. Harrison Wagner, *Uncertainty, Rational Learning, and Bargaining in the Cuban Missile Crisis*, in *id.* at 177; James D. Morrow, *Bargaining in Repeated Crises: A Limited Information Model*, in *id.* at 207; Emerson M.S. Niou & Peter C. Ordeshook, *Stability in International Systems and the Costs of War*, in *id.* at 224; Bruce Bueno de Mesquita & David Lalman, *The Road to War Is Strewn with Peaceful Intentions*, in *id.* at 253.

²³⁰ James Morrow's book "strives to give the political scientist a thorough and careful introduction to the essential ideas of game theory without requiring an extensive mathematical background." James Morrow, *Game Theory for Political Scientists* at xix (1994). As far as I know, his is the only book-

scholarship, there has likewise been a significant movement towards the use of sophisticated game theory.²³¹ Nonetheless, as in IR theory, there has been a lack of sophisticated game theory

length survey of game theory aimed specifically at political scientists. Morrow states that his book "pays special attention to four problems in political science: the role of legislative rules, deterrence in international crises, voting in mass elections, and bargaining." *Id.* at 3. Only "deterrence in international crises" concerns IR, and obviously that particular problem is not directly linked to international law—indeed, a focus on national security and on crisis each diminish the likely relevance of international law, at least if one believes that international law will exert its greatest influence on matters that do not directly involve force and that unfold over a long period of time. Morrow in fact states directly that "[c]rises and war have been the primary focus of formal models in international politics." *Id.* at 258. In his own work, fifteen particular topics in political science (as opposed to topics exclusively in game theory) merit a sub-chapter heading: "Nixon's Christmas Bombing," "The Calculus of Deterrence," "The Decision to Vote," "Deterrence in the Cuban Missile Crisis," "Political Reform in Democracies," "Candidate Competition in the Spatial Model of Elections," "Sophisticated Voting," "Agenda Control," "Legislative Rules and Structure-Induced Equilibria," "Bargaining in Legislatures," "Nuclear Deterrence," "Deterrence and the Signaling of Resolve," "'Why Vote?' Redux," "The Informational Role of Congressional Committees," and "Retrospective Voting and Electoral Control." *Id.* at vii-x. A third of the examples (five of fifteen) are drawn from IR, but none involves a discussion of international law.

Works concerned with broad issues of "stability" in the international system treat what one might think of as a prerequisite for the operation of international law but do not address cooperation in any but the most abstract terms. See James E. Alt et al., *Reputation and Hegemonic Stability: A Game-Theoretic Analysis*, 82 *Am. Pol. Sci. Rev.* 445 (1988) (examining response of allies of dominant nation-state—the "hegemon"—to requests by hegemon in terms of obedience or disobedience, though with some discussion of OPEC); Emerson M.S. Niu & Peter C. Ordeshook, *Stability in Anarchic International Systems*, 84 *Am. Pol. Sci. Rev.* 1207, 1208-09 (1990) (examining international system of "unitary actors ... endowed with infinitely divisible and transferable resources, which they maximize ... and which measures their ability to overcome adversaries" and noting that "analysis takes no account of geography, resource growth, war costs, uncertainty, and ambiguities in the notion of sovereignty"); Robert Powell, *Stability and the Distribution of Power*, 48 *World Pol.* 239 (1996) (analyzing "stability" in terms of probability of war occurring). Presumably because of the pessimism of neorealists about the utility of international law, even works clearly involving international legal issues assiduously avoid actually mentioning international law. Donald Wittman, *Arms Control Verification and Other Games Involving Imperfect Detection*, 83 *Am. Pol. Sci. Rev.* 923, 928-34 (1989) (examining arms-control agreements generically as games in which a player's possible actions are either to live up to or to cheat upon an arms control agreement, and in which a "detector" assists a nation in determining the action chosen by the other nation).

²³¹ See Baird et al., *supra* note 47 at xi ("[m]uch of the analysis in this book makes extensive use of concepts that have been developed only within the

applied to questions of international law. In fact the use of *any* game theory at all—indeed, the use of any *economic* theory—in the study of international law has been a spotty or recent phenomenon.²³² One might therefore imagine future gains not only from the incorporation of IPDs involving more than two players simultaneously interacting or involving their choice from more than two strategies, but also imagine gains from a consideration of broader recent advances

last decade"); Peter H. Huang, *Strategic Behavior and the Law: A Guide for Legal Scholars to Game Theory and the Law and Other Game Theory Texts*, 38 *Jurimetrics J.* 99 (1995) (reviewing Baird et al., *supra* note 47) (providing summary of developments in legal analysis involving game theory as well as a useful annotated guide to non-legal books on game theory).

²³² The index of the Baird-Gertner-Picker book provides some evidence of this omission. That index has entries of three or more lines for the following areas of law, with the number of lines indicated in parentheses: antitrust (9), bankruptcy (12), civil damages (8), civil procedure (23), contract damages (7), contract law (23), contracts (12), debtor-creditor law (4), disclosure laws (3), family law (3), labor law (14), property law (3), regulation (7), secured transactions (3), and torts (29). The entries for the following areas of law involve one or two lines: arbitration, criminal law, commercial law, conflict of laws, copyright law, corporate law, criminal law, environmental law, insurance law, patent law, securities law, and tax law. There is no entry for "customary international law" or "GATT" or "the International Court of Justice" or "international law" or "international organizations" or "treaties" or "the United Nations" or any other term that seems applicable to international law—with the exception of an entry, citing a single page, for "most-favored nation clause." (Fans of constitutional law might note that there are also no entries for "constitutional law" or "due process" or "free speech" or "separation of powers" or "takings.") See Baird et al., *supra* note 47, at 319-30 (index).

Similarly, in Huang's paragraph discussing "[t]opics in law that have recently been viewed through a game-theoretic lens," he cites twenty-nine articles or working drafts. See Huang, *supra* note 231, at 100-01 nn.8-30. Only one—a student note on negotiations addressed to climate change, see *id.* at n.22—is on an international legal topic, and even this analysis involves the characteristics only of proposed (rather than actual) international legal rules. (That note is Adam L. Aronson, Note, From "Cooperator's Loss" to Cooperative Gain: Negotiating Greenhouse Gas Abatement, 102 *Yale L.J.* 2143 (1993).) A number of authors have undertaken methodologically sophisticated, empirically grounded treatments of problems of cooperation among individuals who do not resort to centralized governmental enforcement mechanisms. See, e.g., Robert Ellickson, *Order Without Law: How Neighbors Settle Disputes* (1991); Elinor Ostrom et al., *Rules, Games, and Common-Pool Resources* (1994); Elinor Ostrom, *Governing the Commons* (1990). These treatments thereby involve a situation similar to the international political context in terms of the diminished role of centralized enforcement; nonetheless, these treatments involve individuals rather than nation-states as the relevant actors, and involve interactions that do at least take place against a background of centralized enforcement even if the arrangements made by the relevant individuals are not directly resorts to governmental authority.

in game theory.

The third pathway that the rationalist examination of IR theory and international law might take involves the adaptation of the law and economics literature in contract law to issues involving international treaties. Both contracts and treaties are consensual agreements; both have elaborate rules governing their validity and interpretation and the permissible responses to their breach. Indeed, treaties are often described as “contracts among nations.”²³³ The law and economics literature on contracts bears many broad similarities to rationalist IR theory. Both draw heavily upon rationalistic analysis generally and economic analysis particularly while studying a subject matter traditionally part of a discipline besides economics. Both literatures employ marginalist as well as game-theoretical methodologies. Both favor theoretical exposition over extensive quantitative analysis. In contrast to rationalist IR theory, the law and economics of contract specifically involves agreements and the analysis of legal rules governing those agreements. The underdevelopment of the international legal system means that significant adaptation of the law and economics literature on contracts would be necessary before one could confidently employ the theoretical techniques that scholars of law and economics have developed over the past decades, but the starting point would at least be a well-developed, rationalistic, interdisciplinary theory of consensual agreements.

²³³ See, e.g., *Whitney v. Robertson*, 124 U.S. 190, 194 (1888) (“A treaty is primarily a contract between two or more independent nations....”); *Edye v. Robertson*, 112 U.S. 580, 598 (1884) (“A treaty is primarily a compact between independent nations.”); *Foster & Elam v. Neilson*, 27 U.S. (2 Pet.) 253, 314 (1829) (“A treaty is in its nature a contract between two nations....”).