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THE DYNAMISM OF TREATIES

YANBAI ANDREA WANG*

ABSTRACT

How do treaties change over time? This Article joins a growing body of scholarship focusing not on formal change mechanisms but instead on informal change arising from a treaty's implementation in practice. Informal implementation is often murky, poorly documented, and may be indistinguishable from noncompliance. Yet it is significant both doctrinally under the Vienna Convention on the Law of Treaties—a set of rules for the formation and operation of treaties—and in its own right, when it does not meet the requirements to be doctrinally relevant. Based on a deep dive into the history of one of the oldest areas of continuous international regulation, infectious disease control, and drawing on insights from scholarship on how domestic contracts, statutes, and institutions change informally over time, I argue that (1) change in informal implementation is often an alternative to formal change pursued by those unable to achieve the latter; (2) the process of informal implementation is akin to a strategic game in which a host of actors struggle to move the practice of a treaty toward their own preferences; and (3) informal implementation-level change has the potential to be vast in scope and can precipitate legislative updates later on.

Understanding that transformative change can originate from the complex, decentralized, and oftentimes opaque world of informal treaty implementation raises new inquiries and impacts longstanding issues in international law. It asks, at the most fundamental level, what exactly written international law is—a blueprint awaiting faithful execution or a departure point for further bargaining? It calls for a more nuanced understanding of compli-

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* Thomas C. Grey Fellow and Lecturer in Law, Stanford Law School. For insightful conversations and comments, I am grateful to Kenneth Abbott, Hank Greely, Laurence Helfer, Edward Keene, Mark Kelman, Amalia Kessler, Michelle Mello, George Triantis, Justin Weinstein-Tull, Ngaire Woods as well as participants at the University of San Francisco Faculty Workshop, the American Society of International Law Research Forum, the ASLME Health Law Professors Conference, the Law and Society Association Annual Meeting, the ASIL International Organizations Workshop, and the Regulation and Innovation in the Biosciences Workshop. I thank the *Maryland Law Review* for diligent editing and helpful suggestions.

ance—currently, a central preoccupation in the field—since non-compliance can in fact be implementation leaping ahead of the treaty as written. And it invites a normative exploration of whether informal implementation is a cause for concern because it moves treaty-making away from highly visible formal processes, or a mechanism to be channeled because it could expand the voices and influence of the disempowered.

INTRODUCTION

Treaties¹ have been in the limelight in recent years, from U.S. withdrawal from the Trans-Pacific Partnership² and the Paris Climate Agreement,³ to the leaked Executive Order calling for a moratorium on new multilateral agreements.⁴ These explicit changes have occupied center stage. Yet, subtler implementation-level shifts are occurring too: slashes to the budgets of agencies overseeing treaties,⁵ reduction and replacement of personnel within those agencies,⁶ and the rise of an “America first” perspective.⁷ Such

1. I use the terms treaties, international agreements, conventions, and regulations interchangeably to mean those international compacts that are formally negotiated and memorialized in writing. The Vienna Convention on the Law of Treaties similarly defines “treaty” to mean “an international agreement concluded between [s]tates in written form and governed by international law . . . whatever its particular designation.” Vienna Convention on the Law of Treaties art. 2(a), May 23, 1969, 1155 U.N.T.S. 331 [hereinafter Vienna Convention]. I recognize that these terms have different meanings in other settings.

2. Aaron Blake, *Why Donald Trump’s Move to End the Trans-Pacific Partnership Is So Hugely Symbolic*, WASH. POST (Jan. 23, 2017), https://www.washingtonpost.com/news/the-fix/wp/2017/01/23/why-donald-trumps-move-to-end-the-trans-pacific-partnership-is-so-hugely-symbolic/?utm_term=.4b58d81670b8. After U.S. withdrawal, the remaining countries negotiated a new trade agreement—the Comprehensive and Progressive Agreement for Trans-Pacific Partnership—which incorporates much of the original pact entered into force in December 2018. James McBride & Andrew Chatzy, *What is the Trans-Pacific Partnership (TPP)?*, COUNCIL ON FOREIGN REL. (Jan. 4, 2019), <https://www.cfr.org/backgrounder/what-trans-pacific-partnership-tpp>.

3. Michael D. Shear, *Trump Will Withdraw U.S. from Paris Climate Agreement*, N.Y. TIMES (June 1, 2017), <https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html>.

4. Courtenay R. Conrad & Emily Ritter, *A Trump Moratorium on International Treaties Could Roll Back Human Rights—Here at Home*, WASH. POST (Mar. 1, 2017), https://www.washingtonpost.com/news/monkey-cage/wp/2017/03/01/a-trump-moratorium-on-international-treaties-could-roll-back-human-rights-here-at-home/?utm_term=.cf8681ada24a.

5. President Trump’s proposed budget for 2018 cut nearly thirty percent from the Department of State and the United States Agency for International Development. Gregory Krieg & Will Mulley, *Trump’s Budget by the Numbers: What Gets Cut and Why*, CNN (May 23, 2017), <https://www.cnn.com/2017/05/23/politics/trump-budget-cuts-programs/index.html>.

6. Jessica Schulberg & Alissa Scheller, *Trump Gutted the State Department and Half of Top Jobs Are Still Unfilled*, HUFF POST (Apr. 4, 2017), https://www.huffingtonpost.com/entry/donald-trump-state-department-positions_us_58e3e8bee4b0f4a923b2ba5e.

7. Griff Witte & Michael Birnbaum, *A Year of Trump’s ‘America First’ Agenda Has Radically Changed the U.S. Role in the World*, WASH. POST (Jan. 20, 2018), <https://www.washingtonpost.com/world/a-year-of-trumps-america-first-agenda-has-radically-changed-the-us-role-in->

informal adjustments to how treaties are put into practice on the ground occur perennially, often below the radar of public attention and in the absence of any apparent changes to the agreement itself. They can fundamentally alter how treaties play out in the world. But their mechanism, scope, and significance are poorly understood.

This Article interrogates the simple question of how written international law changes over time.⁸ It shines a spotlight on below-the-surface changes that emanate from the way a treaty is informally implemented in practice—what I refer to as “informal implementation dynamism.” As key treaties age, there is growing concern about whether they are able to evolve with the regulatory needs of the international community.⁹ The past few years have seen a flowering of literature on this question,¹⁰ but existing scholarship focuses primarily on doctrinal rules in the Vienna Convention on the Law of Treaties (“Vienna Convention” or “Convention”),¹¹ formal flexibility mechanisms built into a treaty at the outset,¹² and the formal ways in which a treaty is implemented by contracting states, such as by adopting domestic legislation.¹³ The Vienna Convention itself contains a controversial doctrinal rule for folding certain types of practice back into treaty interpretation. That

the-world/2018/01/20/c1258aa6-f7cf-11e7-9af7-a50bc3300042_story.html?utm_term=.2f7f1fd6ad64.

8. Excluded from my inquiry is customary international law, which arises from the “general and consistent practice of states followed . . . from a sense of legal obligation.” RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES § 102(2) (AM. LAW INST. 1987). Since customary international law is derived in part from practice, mechanisms of implementation change are built into its very definition.

9. See *infra* note 51 and accompanying text.

10. See, e.g., EIRIK BJORGE, *THE EVOLUTIONARY INTERPRETATION OF TREATIES* (2014); CHRISTIAN DJEFFAL, *STATIC AND EVOLUTIVE TREATY INTERPRETATION: A FUNCTIONAL RECONSTRUCTION* (2016); Mónika Ambrus & Ramses A. Wessel, *Between Pragmatism and Predictability: Temporariness in International Law*, in *NETHERLANDS YEARBOOK OF INTERNATIONAL LAW 2014* (Mónika Ambrus & Ramses A. Wessel eds., 2015); *TREATIES AND SUBSEQUENT PRACTICE* (Georg Nolte ed., 2013); *UNIVERSALITY AND CONTINUITY IN INTERNATIONAL LAW* (Thilo Marauhn & Heinhard Steiger eds., 2011); Rebecca Crootof, *Change Without Consent: How Customary International Law Modifies Treaties*, 41 *YALE J. INT’L L.* 237 (2016).

11. The Vienna Convention on the Law of Treaties sets the rules for the adoption and operation of treaties. See generally Vienna Convention, *supra* note 1.

12. These built-in formal flexibility mechanisms can include reservations, escape clauses, alternative rules for amendment that are easier than those in the Vienna Convention, and limited duration of the treaty. See B. Boockmann & Paul W. Thurner, *Flexibility Provisions in Multilateral Environmental Treaties*, 6 *INT’L ENVTL. AGREEMENTS: POL., L., & ECON.* 113 (2006) (surveying the range of amendment rules in multilateral environmental treaties); Laurence R. Helfer, *Flexibility in International Agreements*, in *INTERDISCIPLINARY PERSPECTIVES ON INTERNATIONAL LAW AND INTERNATIONAL RELATIONS: THE STATE OF THE ART 175*, (Jeffrey L. Dunoff & Mark A. Pollack eds., 2013) (distinguishing between and providing examples of formal and informal flexibility mechanisms).

13. See, e.g., Jean Galbraith, *Making Treaty Implementation More Like Statutory Implementation*, 115 *MICH. L. REV.* 1309 (2017).

rule states that treaties must be interpreted in the context of “subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation.”¹⁴ Much attention has been devoted to asking what type and level of practice ought to have influence on interpretation, whose practice matters, and what degree of change this interpretive rule should accommodate.¹⁵ Yet, informal changes to implementation—for instance, through altering conduct, withholding funds, reorganizing offices and personnel, or even noncompliance—have not received sustained attention in their own right, despite their feasibility and pervasiveness.¹⁶

Focus on what *counts* as change under doctrinal rules and formal change mechanisms misses too much of the broader story concerning where change comes from and how it is achieved. Take the regulation of infectious disease—one of the oldest areas of continuous international cooperation, dating back to the mid-nineteenth century.¹⁷ The most recent formal change occurred when the 2005 International Health Regulations (“2005 IHR”)¹⁸ replaced the 1969 International Health Regulations (“1969 IHR”).¹⁹ This revision was considered “[a] revolution in the governance of global infectious disease.”²⁰ The scope of coverage expanded from three specific contagions

14. Vienna Convention, *supra* note 1, art. 31(3)(b).

15. See, e.g., IRINA BUGA, MODIFICATION OF TREATIES BY SUBSEQUENT PRACTICE (2018); TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10; Int’l Law Comm’n, Rep. on the Work of Its Seventieth Session, U.N. Doc. A/73/10, at 11–116 (2018) [hereinafter U.N. A/73/10]; Int’l Law Comm’n, Rep. on the Work of Its Sixtieth Session, U.N. Doc. A/63/10, at 365–89 (2008) [hereinafter U.N. A/63/10].

16. See, e.g., Helfer, *supra* note 12, at 178 (noting that scholars “have made considerable progress” in examining formal flexibility tools but have “given shorter shift” to informal flexibility tools); Georg Nolte, *Introduction*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 1, 3 (noting that “formal procedures by which parties to a treaty can accommodate change” are “either only rarely used or do not pose difficult legal problems,” whereas “[i]n most cases, the evolution of the context of a treaty must be accommodated by more informal means”); Gérardine Meishan Goh, *Softly, Softly Catchee Monkey: Informalism and the Quiet Development of International Space Law*, 87 NEB. L. REV. 725, 726 (2009) (“Where the traditional methods of international treaty-making have proven insufficiently efficient or up-to-date, recourse to informalism and soft law methods has provided the panacea.”).

17. For accounts of the early history of international infectious disease cooperation, see NEVILLE M. GOODMAN, INTERNATIONAL HEALTH ORGANIZATIONS AND THEIR WORK (1971); NORMAN HOWARD-JONES, THE SCIENTIFIC BACKGROUND OF THE INTERNATIONAL SANITARY CONFERENCES 1851–1938 (1975); Richard N. Cooper, *International Cooperation in Public Health as a Prologue to Macroeconomic Cooperation*, in CAN NATIONS AGREE? ISSUES IN INTERNATIONAL ECONOMIC COOPERATION (Richard N. Cooper et al. eds., 1989).

18. World Health Organization [WHO], International Health Regulations (2005), May 23, 2005, 2509 U.N.T.S. 79 [hereinafter 2005 IHR].

19. WHO, International Health Regulations, July 25, 1969, 764 U.N.T.S. 3 [hereinafter 1969 IHR].

20. David P. Fidler, *Germes, Governance, and Global Public Health in the Wake of SARS*, 113 J. CLINICAL INVESTIGATION 799, 799 (2004).

to “all events which may constitute a public health emergency of international concern.”²¹ Self-reporting by state parties was supplanted by a broader and more active surveillance system managed by the World Health Organization (“WHO”)²² and relied heavily on internet detection tools.²³ And, the overall objective of the law shifted from preventing the spread of disease across national borders to swiftly controlling outbreaks at their source with unprecedented requirements for state parties to develop domestic public health capacities.²⁴ On the surface, viewed through the lens of the Vienna Convention and formal change mechanisms, this transformation seems to have begun with a 1995 WHO resolution delegating the organization’s staff to prepare an update for the then-in-force 1969 IHR.²⁵ It appears to have ended with three weeks of intergovernmental negotiations in 2004 and 2005.²⁶

Digging below the surface, a different picture emerges. One WHO official retrospectively described the 2005 IHR as the “institutionaliz[ation]” of policy decisions that had already been made.²⁷ The 2003 epidemic of Severe Acute Respiratory Syndrome—a disease not covered under the 1969 IHR—was handled in much the same way as the 2005 IHR would dictate two years later.²⁸ The internet surveillance tools that would become critical under the 2005 IHR were developed during the early to mid-1990s, predating the 1995 WHO resolution.²⁹ Reaching even further back, a 1976 outbreak of Ebola—again, not covered under the 1969 IHR—elicited a swift effort to

21. 2005 IHR, *supra* note 18, art. 6(1).

22. *See infra* Section III.C.

23. *See infra* notes 274–281 and accompanying text.

24. *See* 2005 IHR, *supra* note 18, annex 1.A.

25. World Health Assembly Res. 48.7, *Revision and Updating of the International Health Regulations*, at 2, WHO Doc. A48/VR/12 (May 12, 1995).

26. The negotiations were called “Intergovernmental Working Groups” and held in November 2004 and February 2005, the latter of which was suspended and reconvened for a final session in May 2005. *See Revision of the International Health Regulations: IGWG-1-12 November 2004*, WORLD HEALTH ORG., <http://apps.who.int/gb/ghs/e/e-igwg.html> (last visited May 10, 2019) (containing documentation on the first Intergovernmental Working Group held in November 2004); *Revision of the International Health Regulations: IGWG/2 - 21-26 February 2005*, WORLD HEALTH ORG., <http://apps.who.int/gb/ghs/e/e-igwg2.html> (last visited May 10, 2019) (containing documentation on the second Intergovernmental Working Group held in February 2005).

27. ALISON MACK ET AL., NAT’L ACADS. OF SCIS., ENG’G, & MED., GLOBAL HEALTH RISK FRAMEWORK: GOVERNANCE FOR GLOBAL HEALTH: WORKSHOP SUMMARY 22 (2016) (citing David Heymann, former Assistant Director-General for Communicable Diseases at the WHO).

28. *See* Yanbai Andrea Wang, *Who Makes International Law? How the World Health Organization Changed the Regulation of Infectious Disease 192–222* (May 18, 2014) (unpublished Ph.D. dissertation, University of Oxford) (on file with author).

29. *See infra* notes 274–281 and accompanying text.

control the disease at its source, similar to the epidemic responses now undertaken under the 2005 IHR.³⁰ In fact, as early as the 1960s and 1970s, many involved in the implementation of the 1969 IHR pointed out its shortcomings and discussed the need for a novel approach resembling the 2005 IHR.³¹

The 1969 IHR thus changed through informal implementation dynamism. These implementation-level changes did not constitute “subsequent practice” for purposes of interpretation under the Vienna Convention, yet their scope was vast, and they precipitated more formal, legislative updates later on. While these developments are not accounted for by existing international law scholarship, a number of international relations scholars have highlighted the politics surrounding the implementation of international agreements and the internal workings of international organizations as key to understanding how treaties are actualized in the world.³² Scholars of domestic law and institutions have also investigated how the dynamics of informal implementation generate change.³³

This Article ties together and adds to these disparate strands of scholarship by telling an overlooked narrative about informal implementation dynamism in the infectious disease context. Understanding treaty dynamism is a “singularly important task,” with numerous scholars and practitioners calling for investigations into “the dynamic process through which [international] law changes and develops.”³⁴ Drawing from diverse literatures on how do-

30. See Wang, *supra* note 28, at 147–50.

31. See *infra* notes 188–199, 239–241 and accompanying text.

32. See, e.g., Karen Alter & Kal Raustiala, *The Rise of International Regime Complexity*, 14 ANN. REV. L. & SOC. SCI. 329 (2018); Karen J. Alter & Sophie Meunier, *The Politics of International Regime Complexity*, 7 PERSP. ON POL. 13, 13 (2009) [hereinafter Alter & Meunier, *The Politics of International Regime Complexity*]; Karen J. Alter & Sophie Meunier, *Nested and Overlapping Regimes in the Transatlantic Banana Trade Dispute*, 13 J. EUR. PUB. POL'Y 362, 362–63 (2006) [hereinafter Alter & Meunier, *Nested and Overlapping Regimes*]; Harold Hongju Koh, *Address: Twenty-First-Century International Lawmaking*, 101 GEO. L.J. ONLINE 1, 14, 18 (2012); Janet Koven Levit, *A Bottom-Up Approach to International Lawmaking: The Tale of Three Trade Finance Instruments*, 30 YALE J. INT'L L. 125, 126 (2005); CAROLYN DEERE, THE IMPLEMENTATION GAME: THE TRIPS AGREEMENT AND THE GLOBAL POLITICS OF INTELLECTUAL PROPERTY REFORM IN DEVELOPING COUNTRIES 3 (2009); Laurence Helfer, *Understanding Change in International Organizations: Globalization and Innovation in the ILO*, 59 VAND. L. REV. 649 (2006).

33. See *infra* Part II.

34. Kenneth W. Abbott & Duncan Snidal, *Law, Legalization, and Politics: An Agenda for the Next Generation of IL/IR Scholars*, in INTERDISCIPLINARY PERSPECTIVES ON INTERNATIONAL LAW AND INTERNATIONAL RELATIONS: THE STATE OF THE ART, *supra* note 12, at 34, 40; see also GREGORY MESSENGER, THE DEVELOPMENT OF WORLD TRADE ORGANIZATION LAW: EXAMINING CHANGE IN INTERNATIONAL LAW 6 (2016) (arguing that “accounts of . . . international law . . . based on law as expressed through [judicial or quasi-legislative] decisions . . . at specific points in time” are “distract[ing] us from appreciating that law develops continually and that snapshots . . . are not adequate to explain how law develops”); Rene Uruena, *Temporariness and Change in*

mestic statutes, contracts, and institutions change over time, as well as archival research at the WHO, I offer three sets of insights that provide a framework for thinking about change achieved through informal implementation, why it matters even when it is not doctrinally significant, and how it is related to formal change.

First, informal implementation-level change can be an *alternative* to formal change mechanisms.³⁵ Informal implementation-level change is often pursued precisely because formal change is not achievable. Those displeased with a treaty as written can try to bring about formal change such as its amendment, judicial reinterpretation, or wholesale termination, but such explicit changes may require an unattainable level of consensus or impose unaffordable costs in time and resources even when flexibility mechanisms are built into the treaty.³⁶ The proponents of change must then operate with more stealth and less fanfare by implementing the agreement in novel ways. Implementation presents new questions or new permutations of old questions, which, in turn, open up space to redefine the boundary between what the law condones or authorizes and what it does not. Informal implementation offers unique opportunities for change because the stakes are lower, the process is less publicly visible, the circumstances are more concrete, and the actors involved are typically fewer in number and lower in the chain of command.

Second, the process of implementation is a *strategic game that unfolds over time*, as a host of actors—often a different and sometimes a broader set of actors than those empowered to enact formal change—struggle to move the agreement toward their own preferences.³⁷ Change is achieved through three key mechanisms that are currently under-explored: (1) a treaty's implementers may convert or redirect the agreement toward new ends through altered practice; (2) implementers may erode a treaty through neglect or active resistance to adaptation in the face of drifting background circumstances;

Global Governance, in NETHERLANDS YEARBOOK OF INTERNATIONAL LAW 2014, *supra* note 10, at 19, 25 (observing “international law’s theory of change is one of a constant present,” with the new completely replacing the old “as if nothing had ever changed”); Jana von Stein, *The Engines of Compliance*, in INTERDISCIPLINARY PERSPECTIVES ON INTERNATIONAL LAW AND INTERNATIONAL RELATIONS: THE STATE OF THE ART, *supra* note 12, at 477, 496 (noting that “it is worthwhile to start looking at the causal impact of international law through a different lens, which could, for instance, involve studying changes in practice or implementation”); Robert Howse & Ruti Teitel, *Beyond Compliance: Rethinking Why International Law Really Matters*, 1 GLOBAL POL’Y 127, 135 (2010) (calling for greater attention to the downstream processes by which treaties are translated into action).

35. See *infra* Section III.A.

36. See Kenneth W. Abbott & Duncan Snidal, *Hard and Soft Law in International Governance*, 54 INT’L ORG. 421, 422–23 (2000) (noting that hard law “entails significant costs,” including transaction costs, uncertainty, and implications for national sovereignty).

37. See *infra* Section III.C. I use the analogy of a game metaphorically, not in the game theory sense.

(3) implementers may shift management of the underlying problem to another institutional arrangement—be it another law or an unofficial policy, international or domestic, an alternative that is already in existence, or one created specifically for the purpose of moving away from the disfavored treaty. This latter mechanism is particularly salient in the international context given the fragmented and non-hierarchical nature of the international sphere.³⁸

Third, informal implementation dynamism is *real* change and not simply gap-filling adaptations in the service of maintaining overarching stability.³⁹ This is so even when it does not rise to the level of being doctrinally recognized as subsequent practice. These three mechanisms may look like stability or noncompliance in the short-term, but their overall effect can add up and become transformative across long spans of time. In many instances in the history of the 1969 and 2005 IHRs, the scope of change possible via implementation dynamism was far broader than what could be achieved through textual amendment. Consequently, the laws looked superficially stable or were amended in trivial ways while sweeping changes occurred incrementally on the ground.⁴⁰ Over time, the strategic struggle of informal implementation can lead a treaty to stray unpredictably until what is happening in practice bears little relation to the original intention of the treaty makers or the words of the treaty.

Implementation dynamism is also real in that it can inform and facilitate subsequent formal negotiations. In the case of the 1969 IHR, implementers chose to avoid textual revision, opting instead for shifts in implementation that might “prepare the ground” for a more formal change to the treaty at a later time.⁴¹ Those areas where implementers had developed new procedures, policies, or technical tools, and where they could point to an existing record of successful operation, were subsequently the least controversial during the 2005 IHR’s negotiation. Implementing a change on the ground can lower the barrier for an ensuing textual amendment by reducing the uncertainty surrounding a novel approach and altering perceptions or preferences about possible future options.

These insights exposing the dynamics behind the ordinary, everyday informal implementation of treaties are long overdue. They were repeatedly borne out in the history of international infectious disease regulation as implementers time and again pursued informal adjustments to implementation when the same formal changes were considered politically infeasible or after

38. See Alter & Raustiala, *supra* note 32, at 329 (discussing the density of overlapping and nonhierarchical rules and institutions that now exist at the global level).

39. See *infra* Section III.C.

40. See *infra* Section III.C (discussing significant informal changes made on the ground).

41. Memorandum from Boris Velimirovic, Reg’l Officer for Communicable Diseases for the Reg’l Office of Eur., World Health Org., to Ian D. Carter, Chief of Epidemiological Surveillance of Communicable Diseases, World Health Org. (Feb. 7, 1980) (on file with author).

similar formal proposals were rejected during negotiations.⁴² Implementers achieved far-reaching change in practice and, decades later, pushed for textual amendments when windows of opportunity opened. These observations have parallels in the work of scholars investigating how contracts,⁴³ statutes,⁴⁴ and institutions⁴⁵ change over time.

This Article uses case studies to demonstrate the mechanisms and importance of implementation dynamism.⁴⁶ While the international regulation of infectious disease has some exceptional qualities,⁴⁷ it provides particularly clear illustrations of mechanisms that have been observed in other issue areas as well.⁴⁸ Through an examination of international infectious disease law over time, I show that the interplay between informal implementation dynamism and explicit treaty dynamism is complex. What looks like textual stability on the surface may mask underlying dynamism in practice. What appears to be a stark break from the previous treaty can obscure lurking continuities. Sometimes, shifts in practice followed from textual changes. Other times, informal implementation changes leaped ahead and facilitated subsequent textual revision.

Understanding that treaty dynamism is varied and complex provides a new lens for viewing foundational issues in international law and calls for further study. First, more in-depth case studies are needed to ascertain the extent to which the findings of this Article are generalizable across other areas of international law. Since informal implementation-level changes are hard to detect over short spans of time and from readily available written public sources, these studies must be longitudinal and examine the internal workings of a myriad of implementers. Second, informal implementation dynamism complicates our very idea of what a treaty is. The current downplaying of informal implementation in the literature suggests that written

42. *See generally infra* Part III.

43. *See infra* Section II.A.

44. *See infra* Section II.B.

45. *See infra* Section II.C.

46. This project is descriptive. Its methodology is historical process tracing of a longitudinal case study. I do not assert that the insights illuminated by international infectious disease regulation are equally applicable across all treaty areas. My goal is to uncover and generate hypotheses regarding a range of under-examined mechanisms of treaty change, so that more precise questions can be formulated for systematic study. *See* HARRY ECKSTEIN, *REGARDING POLITICS: ESSAYS ON POLITICAL THEORY, STABILITY, AND CHANGE* 143 (1992) (arguing that case studies can “stimulate the imagination toward discerning important general problems and possible theoretical solutions”); ALEXANDER L. GEORGE & ANDREW BENNETT, *CASE STUDIES AND THEORY DEVELOPMENT IN THE SOCIAL SCIENCES* 20 (2005) (noting that detailed analyses of historical episodes are advantageous for “identif[ying] . . . new variables and hypotheses”).

47. *See infra* Part IV.

48. *See, e.g.,* Levit, *supra* note 32 (describing similar informal change processes in international trade and finance); DEERE, *supra* note 32 (describing same in international intellectual property rights).

treaties are blueprints awaiting faithful actualization. In fact, treaties may more accurately be described as departure points for further bargaining among implementers as constraints and opportunities reveal themselves over time. Cast in this light, informal change may be mistaken for noncompliance in the short-term, and the concept of compliance—currently a “central pre-occupation”⁴⁹ among international law scholars—may need refinement to account for the complex and bidirectional relationship between a treaty on the books and its implementation out in the world. Third, informal implementation raises questions concerning its positive and negative implications as well as who it empowers. Consent is currently at the core of treaty making and has long been the touchstone of legitimacy. Yet, the findings of this Article suggest that treaties can informally evolve beyond or against their text, potentially undermining the initial consent of state parties—particularly those states with the most power in the formal negotiation process—and perhaps lending a greater voice to disempowered actors. Further normative inquiry is needed to test this hypothesis and to provide a theoretical account of these power dynamics.

This Article proceeds in four parts. Part I examines the formal mechanisms of change within the Vienna Convention, including a set of rules for formation, amendment, and abrogation, as well as a set of rules for interpretation that have been the subject of much debate. Recognizing that the Vienna Convention does not adequately account for informal implementation-level change, Part II gleans insights from scholarship on how contracts, statutes, and domestic institutions change over time. In each area of study, scholars contend that attention to everyday implementation reveals change not apparent or foreseeable from the written covenant itself. Part III presents the central insights of this Article based on vignettes from the history of international infectious disease regulation. I argue that implementation is a strategic game that takes place over time, that it empowers a set of actors who may not be able to effect explicit change to the treaty, and that it transpires via three key mechanisms that I describe and illustrate. Part IV takes a broader look at informal implementation dynamism as a research agenda. I identify for future exploration empirical, conceptual, and normative questions that arise when written international law is placed in temporal context.

49. Howse & Teitel, *supra* note 34, at 128.

I. AN IMPOVERISHED UNDERSTANDING OF CHANGE

Treaties, particularly multilateral ones, grew rapidly in number, scale, and significance over the course of the twentieth century.⁵⁰ As these agreements age and the circumstances of their adoption become more remote, many have asked whether they are able to evolve with the regulatory needs of the international community.⁵¹ This inquiry, however, has been largely limited to the formal mechanisms of change found within the Vienna Convention, which sets the rules for the adoption and operation of treaties.

Focusing on the Vienna Convention and its formal rules for change has superficial appeal. The Convention was intended to provide “orderly procedures . . . for dealing with needed adjustments and changes in treaties.”⁵² Parts of the Convention have been recognized as customary international law applicable to all countries⁵³ and even to treaties concluded before its entry into force in 1980.⁵⁴ Most of the Vienna Convention’s change mechanisms are public and explicit, and, therefore, easy to detect and examine.⁵⁵ But an exclusive focus on the Vienna Convention assumes that change only occurs according to its rules—an assumption that does not bear out in reality.

50. Campbell McLachlan, *The Evolution of Treaty Obligations in International Law*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 69, 71 (“It has been estimated that the number of treaties more than tripled from 1970 to 1997.”); Curtis A. Bradley & Mitu Gulati, *Withdrawing from International Custom*, 120 YALE L.J. 202, 208 (2010) (“There has . . . been a proliferation of treaties, both in quantity and range of subject matter, especially after the establishment of the United Nations system at the end of World War II.”); Paul B. Stephan, *Privatizing International Law*, 97 VA. L. REV. 1573, 1625 (2011) (“Treaties have proliferated . . .”).

51. U.N. A/63/10, *supra* note 15, at 366 (arguing that the International Law Commission should revisit the subject of treaty evolution over time because “[p]roblems arise frequently in this context”); Gabriella Blum, *Bilateralism, Multilateralism, and the Architecture of International Law*, 49 HARV. INT’L L.J. 323, 353 (2008) (arguing that the stability of multilateral treaties “is at once a curse and a blessing” because “adaptation to reflect changing circumstances, new scientific data, or technological advances” is “exceptionally difficult”); Harlan Grant Cohen, *Finding International Law: Rethinking the Doctrine of Sources*, 93 IOWA L. REV. 65, 76, 89 (2007) (lamenting that “[t]reaties can often seem anachronistic as the world changes around them” because “once ratified, it becomes very difficult to change the rules”).

52. Message to the Senate Transmitting the Vienna Convention on the Law of Treaties, PUB. PAPERS 1131 (Nov. 22, 1971).

53. The Convention was drafted over the course of two decades to codify already existing customary international law. Aspects of the Convention have been recognized as customary international law by the International Court of Justice (“ICJ”) as well as countries that are not state parties, such as the United States. *Vienna Convention on the Law of Treaties*, U.S. DEP’T OF STATE, <https://www.state.gov/s/l/treaty/faqs/70139.htm> (last visited Mar. 1, 2018) (noting that the United States is not a party to the Vienna Convention but considers “many of the provisions of the Vienna Convention . . . to constitute customary international law on the law of treaties”).

54. RICHARD K. GARDINER, TREATY INTERPRETATION 5–6 (2d ed. 2015).

55. The Vienna Convention’s change mechanisms involving treaty interpretation can be more difficult to detect. Research on treaty interpretation relies heavily on the written opinions of international adjudicatory bodies, which are—again—readily accessible, yet only capable of providing a partial picture of the interpretation that is occurring.

This Part examines the change mechanisms within the Vienna Convention. I look first at a set of rules for formation, amendment, and abrogation. I then turn to a set of rules for interpretation that have been the subject of scholarly and doctrinal debate. Finally, I discuss why the Convention's doctrinal rules are insufficient for developing an overarching understanding of how treaties change and suggest a broader set of questions as a starting point for that task.

A. *Treaty Formation, Amendment, and Abrogation*

The bulk of the provisions contained in the Vienna Convention specify rules for change at three critical junctures in the lifecycle of a treaty: formation,⁵⁶ amendment,⁵⁷ and abrogation.⁵⁸ For a change to occur under these rules, certain procedures must be followed and formalities must be met.

With respect to formation, the Convention dictates that every state possesses the "capacity to conclude treaties."⁵⁹ A treaty is typically adopted by the consent of all negotiating states⁶⁰ and enters into force according to provisions within the agreement.⁶¹ Consent to be bound can be expressed in a number of ways⁶² by a range of state representatives,⁶³ and states may unilaterally exclude or modify certain provisions through reservations.⁶⁴

Once adopted and entered into force, a treaty can be amended by agreement between the parties according to the same rules that applied to the treaty's initial formation or by different rules set out within the treaty.⁶⁵ Under the Convention's default rules, to amend a multilateral treaty as between all the parties, every contracting party must be notified of the proposal for

56. Part II of the Vienna Convention governs the conclusion and entry into force of treaties. *See* Vienna Convention, *supra* note 1, arts. 6–25.

57. Part IV of the Vienna Convention governs the amendment and modification of treaties. *See id.* arts. 39–41.

58. Part V of the Vienna Convention governs the invalidity, termination, and suspension of the operation of treaties. *See id.* arts. 42–72.

59. *Id.* art. 6.

60. *Id.* art. 9. If adopted at an international conference, a vote of two-thirds of the states present and voting is needed unless the same majority opts for a different rule. *Id.*

61. *Id.* art. 24. If there is no relevant provision or agreement, then a treaty enters into force as soon as consent to be bound is established for all negotiating states. *Id.*

62. *Id.* art. 12 (detailing state consent by signature); *id.* art. 13 (detailing state consent by exchange of instruments constituting a treaty); *id.* art. 14 (detailing state consent by ratification, acceptance, or approval); *id.* art. 15 (detailing state consent by accession).

63. *Id.* arts. 7, 8.

64. *Id.* art. 19 (detailing formulation of reservations by states); *id.* art. 20 (detailing acceptance of reservations); *id.* art. 21 (detailing the legal effect of reservations); *id.* art. 22 (detailing the withdrawal of reservations).

65. *Id.* art. 39.

amendment and be allowed to take part in the negotiation or decision process.⁶⁶ A multilateral treaty can also be amended as to some of the parties only.⁶⁷ And specific treaties may set out more streamlined formal mechanisms for adopting change, for instance through technical annexes or protocols.⁶⁸

A treaty's obligations can be subsequently abrogated.⁶⁹ The agreement can be void due to defects in consent.⁷⁰ It can be terminated, suspended, or withdrawn from according to treaty provisions or with the consent of all parties to the agreement.⁷¹ The treaty can be voided, terminated, suspended, or withdrawn from due to a conflict with a peremptory norm of general international law,⁷² conflict with a later treaty on the same subject matter,⁷³ material breach by one of the parties,⁷⁴ supervening impossibility of performance,⁷⁵ or a "fundamental change of circumstances" unforeseen by the parties.⁷⁶

In practice, these mechanisms of change are easy to detect but difficult to employ. Amendment is possible, but the standard mechanism for altering the text of a treaty "can quickly become an unachievable negotiating goal."⁷⁷

66. *Id.* art. 40.

67. *Id.* art. 41.

68. See Boockmann & Thurner, *supra* note 12, at 114 (noting that "many treaties contain their own rules by which amendments are facilitated" and that "diversity of amendment rules is high").

69. Vienna Convention, *supra* note 1, art. 42.

70. *Id.* arts. 48–52.

71. *Id.* arts. 54, 56–58.

72. *Id.* art. 53. A treaty is void if it conflicts with a peremptory norm of general international law at the time of its conclusion. *Id.* It is terminated if it conflicts with a new peremptory norm that later emerges. *Id.* art. 64.

73. *Id.* art. 59. Such termination occurs if all the parties to the earlier treaty are also parties to the later treaty and if it appears or is established that the parties intended for the later treaty to prevail or if the two treaties are so incompatible that they cannot be simultaneously applied. *Id.* art. 59(1). The earlier treaty is considered only suspended if it appears or is established that the parties so intended. *Id.* art. 59(2).

74. *Id.* art. 60. The non-breaching party can invoke the breach as a ground for termination or suspension. *Id.* art. 60(1). A material breach is a "repudiation of the treaty not sanctioned by the [Vienna Convention]" or the "violation of a provision essential to the accomplishment of the object or purpose of the treaty." *Id.* art. 60(3). The requirements are somewhat different for bilateral treaties than multilateral treaties. *Id.* art. 60.

75. *Id.* art. 61. Termination or withdrawal is permitted where "the impossibility results from the permanent disappearance or destruction of an object indispensable for the execution of the treaty." *Id.* Suspension is permitted if the impossibility is temporary. *Id.*

76. *Id.* art. 62. Termination or withdrawal is permitted where the changed circumstances both were "an essential basis of the consent of the parties" and "radically . . . transform[ed] the extent of obligations still be performed." *Id.*

77. McLachlan, *supra* note 50, at 71; see also Jacob Katz Cogan, *Noncompliance and the International Rule of Law*, 31 YALE J. INT'L L. 189, 197 (2006) ("[N]egotiation of a new rule to supplant the old rule is possible, but there is no guarantee that such negotiations would end successfully (especially in cases of multilateral negotiations where consensus is difficult to achieve) . . ."); Crotofof, *supra* note 10, at 239 ("Formal amendment and treaty supersession require states parties'

This dilemma is particularly so for large-scale multilateral agreements that require the consent of many parties. There are numerous examples of failed attempts to update major treaties, even when streamlined formal amendment processes are built into the agreement, including the World Trade Organization's ("WTO") Covered Agreements, protocols under the Framework Convention on Climate Change, and protocols under the Convention on Certain Conventional Weapons.

Treaty termination occurs at an infrequent though steady rate.⁷⁸ The remaining provisions for abrogation are limited to extreme circumstances that seldom arise. The provision on conflict with a later treaty only comes into play when it is apparent that the parties intended for the later treaty to prevail, or when the two treaties are "so far incompatible" that they cannot be simultaneously applied.⁷⁹ Peremptory norms of international law are few and far between, covering only the strongest and most universal norms, such as the prohibitions on genocide, slavery, and torture.⁸⁰ Material breach, impossibility of performance, and fundamental change of circumstances are cast in similarly restrictive terms.⁸¹ The latter doctrine has never been successfully asserted in a judicial context, nor is there a clear example of it succeeding in a diplomatic context.⁸²

B. Treaty Interpretation

The difficulty of attaining change through the Convention's provisions on formation, amendment, and abrogation has led to greater attention being paid to the Convention's rules on interpretation. Exactly how much flexibility can be afforded by the interpretive rules has been contested in recent years.⁸³ In particular, the prevalence of changes in informal implementation

explicit and unanimous consent, which will often be politically or practically infeasible to achieve in multilateral treaty regimes.").

78. Laurence R. Helfer, *Exiting Treaties*, 91 VA. L. REV. 1579, 1606 (2005) (noting that 1547 denunciations and withdrawals from all multilateral treaties are registered with the United Nations ("UN") from 1945 to 2004, meaning that 3.5% of multilateral agreements concluded after 1945 have been denounced at least once).

79. Vienna Convention, *supra* note 1, art. 59.

80. *See id.* art. 64. A peremptory norm of general international law is "a norm accepted and recognized by the international community of [s]tates as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character." *Id.* art. 53.

81. *See supra* notes 74–76; *see also* Nolte, *supra* note 16, at 3 (noting that mechanisms such as supervening impossibility of performance or fundamental change of circumstances are "rarely used").

82. Helfer, *supra* note 78, at 1643; *see also* Cohen, *supra* note 51, at 90 n.94 (noting examples of the ICJ rejecting the invocation of fundamental change of circumstances).

83. *See, e.g.*, GARDINER, *supra* note 54; ULF LINDERFALK, ON THE INTERPRETATION OF TREATIES: THE MODERN INTERNATIONAL LAW AS EXPRESSED IN THE 1969 VIENNA CONVENTION

on the ground in the absence of explicit changes to the treaty itself has led to much scholarly writing on a provision that allows subsequent practice to fold back into treaty interpretation.⁸⁴ That scholarship primarily examines the published written opinions of prominent international adjudicatory bodies, some of which have applied the provision to accommodate more change than others.

The Vienna Convention stipulates that a treaty must be interpreted in good faith, according to the ordinary and contextual meaning of its terms, and in light of its object and purpose.⁸⁵ Interpretation must take into account any “subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions,” any “subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation,” and any “relevant rules of international law applicable in the relations between the parties.”⁸⁶ There is no hierarchy among these interpretive principles. They must all be “thrown into the crucible” and carried out as a “single combined operation.”⁸⁷

How these interpretive rules contend with the passing of time has been the subject of debate.⁸⁸ One question is whether the “ordinary meaning” of terms ought to be pegged to their usage at the time the agreement was made (referred to as the principle of contemporaneity⁸⁹), or if they can shift to re-

ON THE LAW OF TREATIES (2007); PANOS MERKOURIS, ARTICLE 31(3)(C) VCLT AND THE PRINCIPLE OF SYSTEMIC INTEGRATION: NORMATIVE SHADOWS IN PLATO’S CAVE (2015); Donald H. Regan, *Sources of International Trade Law: Understanding What the Vienna Convention Says About Identifying and Using “Sources for Treaty Interpretation,”* in THE OXFORD HANDBOOK ON THE SOURCES OF INTERNATIONAL LAW 1047 (Samantha Besson & Jean d’Aspremont eds., 2017); TREATY INTERPRETATION AND THE VIENNA CONVENTION ON THE LAW OF TREATIES: 30 YEARS ON (Malgosia Fitzmaurice et al. eds., 2010).

84. See, e.g., BUGA, *supra* note 15; TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10; U.N. A/73/10, *supra* note 15, at 11–116; U.N. A/63/10, *supra* note 15, at 365–89.

85. Vienna Convention, *supra* note 1, art. 31. Context can be gleaned from sources such as the treaty’s preamble and annexes. *Id.*

86. *Id.*

87. U.N. Conference on the Law of Treaties, *Official Records: Documents of the Conference*, at 39, U.N. Doc. A/CONF.39/11/Add.2 (1971) (“All the various elements, as they were present in any given case, would be thrown into the crucible, and their interaction would give the legally relevant interpretation.”); see also Georg Nolte, *Jurisprudence of the International Court of Justice and Arbitral Tribunals of Ad Hoc Jurisdiction Relating to Subsequent Agreements and Subsequent Practice*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 169, 171.

88. See Nolte, *supra* note 87, at 172 (explaining that while working on “the Draft Articles on the Law of Treaties the [International Law] Commission discussed this question of treaty interpretation ‘over time’” but “found that ‘to attempt to formulate a rule covering comprehensively the temporal element would present difficulties’”).

89. Even more specifically, scholars debate whether the principle of contemporaneity requires a reference to language usage at the time a treaty was negotiated, concluded, or entered into force. See GARDINER, *supra* note 54, at 292–93; MERKOURIS, *supra* note 83, at 120–22.

flect their usage at the time of application (“evolutive” or “dynamic” interpretation⁹⁰). Other points of controversy are how to deal with “rules of international law applicable . . . between the parties” that come into existence at a later point in time,⁹¹ how to identify and incorporate subsequent agreements on interpretation,⁹² and how to establish and treat agreements on interpretation based on subsequent practice. The latter question has been the most divisive.

The language of the provision—requiring that treaties be interpreted within the context of “any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation”—indicates that subsequent practice can be invoked as evidence of an agreement between the parties regarding the treaty’s interpretation.⁹³ Such agreement is most clearly demonstrated when the parties to an agreement engage in common and consistent conduct in application of that agreement.⁹⁴ Not

90. See, e.g., Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicar.), Judgment, 2009 I.C.J. Rep. 213, ¶¶ 64, 66 (July 13) (applying an evolutive interpretive approach); Iron Rhine Railway (Belg. v. Neth.), 27 R.I.A.A. 35, 73 (Perm. Ct. Arb. 2005) (finding that “an evolutive interpretation, which would ensure an application of the treaty that would be effective in terms of its object and purpose, will be preferred to a strict application of the intertemporal rule”); see also GARDINER, *supra* note 54, at 469 (discussing evolutive interpretation); Nolte, *supra* note 16, at 2 (discussing evolutive interpretation).

91. See, e.g., *Iron Rhine Railway*, 27 R.I.A.A. at 66 (taking into account treaty obligations subsequently concluded between the parties).

92. “Subsequent agreements” refer to recorded agreements on interpretation, “rang[ing] from formal to almost ephemeral,” though not as formal as the treaty itself. GARDINER, *supra* note 54, at 225; see also Luigi Crema, *Subsequent Agreements and Subsequent Practice Within and Outside the Vienna Convention*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 13, 25 (discussing non-binding memoranda of understandings as an example of a subsequent agreement); Georg Nolte, *Jurisprudence Under Special Regimes Relating to Subsequent Agreements and Subsequent Practice*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 210, 303 (concluding that “adjudicatory bodies have rarely relied on subsequent agreements in the sense of Article 31(3)(a) VCLT”).

93. Vienna Convention, *supra* note 1, art. 31(3)(b); U.N. A/63/10, *supra* note 15, at 371 (stating that invocation of subsequent practice should be “limited to elucidating the actual and continuing agreement of parties”); see also Julian Arato, *Treaty Interpretation and Constitutional Transformation: Informal Change in International Organizations*, 38 YALE J. INT’L L. 289, 293 (2013); Rahim Moloo, *When Actions Speak Louder than Words: The Relevance of Subsequent Party Conduct to Treaty Interpretation*, 31 BERKELEY J. INT’L L. 39, 43 (2013).

94. See GARDINER, *supra* note 54, at 259 (“[P]ractice requires an element of constancy, a feature which is reinforced by the context in that subsequent practice must be sufficient to reveal the agreement of the parties on interpretation.”); IAN SINCLAIR, *THE VIENNA CONVENTION ON THE LAW OF TREATIES* 137 (2d ed. 1984) (“A practice is a sequence of facts or acts and cannot in general be established by one isolated fact or act or even by several individual applications.”); Arato, *supra* note 93, at 293 (“Because the goal is establishing the extent of the parties’ mutual consent to be bound by an agreement, an authentic practice must entail the consistent practice of *all* of the parties.”).

all parties need to actively engage in the conduct, but the non-engaging parties must acquiesce in the concordant practice of others.⁹⁵ Beyond these general tenets, there is much disagreement on what counts as subsequent practice; how specific, clear, and consistent a practice needs to be to establish agreement; whose application beyond those of state parties matters; and how explicitly related practice must be to a treaty to qualify as practice in its application.⁹⁶

Analysis of subsequent practice focuses predominantly on written adjudicatory opinions,⁹⁷ which have employed the provision in conflicting ways. The WTO's adjudicatory bodies, the Iran-United States Claims Tribunal, and the tribunals of the International Centre for Settlement of Investment Disputes ("ICSID") have taken narrow, restrained approaches.⁹⁸ They tend to place the burden of proof on the party appealing to subsequent practice and require a robust showing of common and consistent conduct.⁹⁹ The WTO's Dispute Settlement Body ("WTO DSB") demands that the subsequent practice reflect "the considered view of the parties to the treaty," imposes a high threshold for inferring acquiescence from silence, and disregards practice that is contradicted or opposed by other parties.¹⁰⁰

By contrast, other adjudicatory bodies have been more eager to accommodate change. The International Court of Justice ("ICJ") has based treaty interpretation not only on the subsequent practice of parties, but also on the subsequent practice of United Nations ("UN") bodies and organs.¹⁰¹ The ICJ's advisory opinion on the *Legality of the Use by a State of Nuclear Weapons in Armed Conflict* considered institutional practice without tying it to an

95. GARDINER, *supra* note 54, at 254 ("[T]o amount to an 'authentic interpretation,' the practice must be such as to indicate that the interpretation has received the tacit assent of the parties generally."); MARK E. VILLIGER, COMMENTARY ON THE 1969 VIENNA CONVENTION ON THE LAW OF TREATIES 431 (2009) (confirming that this provision requires the active practice of only some of the parties); Julian Arato, *Subsequent Practice and Evolutive Interpretation: Techniques of Treaty Interpretation over Time and Their Diverse Consequences*, 9 L. & PRAC. INT'L CTS. & TRIBUNALS 443, 460 (2010) (noting the perennial problem of identifying such acquiescence).

96. See BUGA, *supra* note 15, at 23–75 (discussing complexities in each of these elements); U.N. A/73/10, *supra* note 15, at 11–116 (laying out the International Law Commission's most recent conclusions on some of these questions).

97. DJEFFAL, *supra* note 10, at 5 ("The research on interpretative practice is limited to the practice of international courts."); GARDINER, *supra* note 54, at 12 ("[I]t seems likely that the accounts of the practice of many international courts and tribunals may prove to be the most helpful guide to understanding the Vienna rules and to their use in connection with new issues of interpretation that arise."); Nolte, *supra* note 87, at 170 ("The jurisprudence of the International Court of Justice and that of arbitral tribunals of *ad hoc* jurisdiction are the traditional authoritative sources for the elucidation of the legal effects of subsequent agreement and practice.").

98. Nolte, *supra* note 92, at 303–05 (noting that WTO DSB and ICSID tribunals establish a significant burden of proof for the side invoking subsequent practice); Arato, *supra* note 93, at 294.

99. Nolte, *supra* note 92, at 304–05.

100. *Id.*

101. See *infra* notes 105–112 and accompanying text.

agreement among state parties or even full awareness of that practice among state parties.¹⁰² Similarly, the European Court of Human Rights (“ECHR”) has examined “social practice” and the practice of private and organizational actors in implementing human rights treaties.¹⁰³ The ECHR does not require full consensus, treating the subsequent practice of a “vast majority” of state actors or a “near consensus” as sufficient for influencing interpretation, even when that practice is contradicted.¹⁰⁴

Subsequent practice has even been employed to support a treaty interpretation that strains or contradicts the plain meaning of the text. The result is a functional treaty “modification”—a term used by the UN’s International Law Commission to denote “where the parties by common consent in fact apply the treaty in a manner which its provisions do not envisage,”¹⁰⁵ thereby circumventing the formal procedures for amendment.¹⁰⁶ The ICJ employed subsequent practice in this way in two of its advisory opinions based on institutional practices: *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory* (“Wall”) and *Legal Consequences for State of the Continued Presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council Resolution 276* (“Namibia”).¹⁰⁷ In *Namibia*, the ICJ examined Article 27(3) of the UN Charter, which requires that non-procedural decisions of the Security Council¹⁰⁸ be made “by an affirmative vote of nine members, including the concurring votes of the permanent

102. Legality of Use by a State of Nuclear Weapons in Armed Conflict, Advisory Opinion, 1996 I.C.J. Rep. 66, ¶ 27 (July 8) (considering resolutions of the WHO’s Health Assembly, a report of the Director-General, and a report of the Management Group as evidence of practice). *But see* Kasikili/Sedudu Island (Bots. v. Namib.), Judgment, 1999 I.C.J. Rep. 1045, ¶ 74 (Dec. 13) (taking a more literal and strict approach to subsequent practice).

103. *See* Laurence Boisson de Chazournes, *Subsequent Practice, Practices, and ‘Family-Resemblance’: Towards Embedding Subsequent Practice in its Operative Milieu*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 53.

104. *See* Nolte, *supra* note 92, at 304–05; Arato, *supra* note 93, at 295.

105. Arato, *supra* note 93, at 310 (quoting Rec. of the Int’l Law Comm’n, 18th Sess., May 4–July 19, 1966, U.N. Doc. A/6309/Rev.1, at 236 (1966)).

106. C.F. AMERASINGHE, PRINCIPLES OF THE INSTITUTIONAL LAW OF INTERNATIONAL ORGANIZATIONS 54–55 (2d rev. ed. 2005); GARDINER, *supra* note 54, at 243–45; Arato, *supra* note 93, at 309.

107. Legal Consequences of Construction of a Wall in Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. Rep. 136, ¶ 27 (July 9); Legal Consequences for States of Continued Presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council Resolution 276 (1970), Advisory Opinion, 1971 I.C.J. Rep. 16 (June 21).

108. The Security Council is the body of the UN tasked with “maintaining international peace and security.” *What is the Security Council?*, UNITED NATIONS SECURITY COUNCIL, <https://www.un.org/securitycouncil/content/what-security-council> (last visited May 10, 2019). It has fifteen members, five of which are permanent (China, France, Russia, the United Kingdom, and the United States) and ten of which are rotating. *Current Members*, UNITED NATIONS SECURITY COUNCIL, <https://www.un.org/securitycouncil/content/current-members> (last visited May 10, 2019).

members.”¹⁰⁹ Against this textual backdrop, the ICJ concluded that “concurring votes” includes abstentions based on a “general practice” as evidenced by “the proceedings of the Security Council extending over a long period.”¹¹⁰ In *Wall*, the ICJ held that Article 12(1) of the UN Charter forbidding the General Assembly from making recommendations on matters that are being dealt with by the Security Council nonetheless permitted such concurrent effort because it was the “accepted practice of the General Assembly, as it ha[d] evolved.”¹¹¹ Additionally, both the ICJ and arbitral tribunals have recognized that subsequent practice can alter precisely drawn national boundaries.¹¹²

These expansive uses of subsequent practice by international courts and tribunals have generated criticism by some scholars, who warn that courts and tribunals have stretched this interpretive rule “to the point that its letter is disregarded.”¹¹³ Decisions at times reference subsequent practice generically without citing to the Vienna Convention¹¹⁴ or pay “no more than lip service”¹¹⁵ to the relevant provision, suggesting that adjudicators are unfamiliar with the Vienna Convention rules or invoke them opportunistically.¹¹⁶ Properly understood, the requisite degree of consistent practice should be difficult to establish and the scope of change achievable limited by a good faith reading of the ordinary meaning of treaty text.¹¹⁷ Moreover, a provision that

109. *Namibia (South West Africa)*, 1971 I.C.J. Rep. ¶ 21; *see also id.* ¶ 22 (noting in particular that such a general practice was demonstrated by “presidential rulings and the positions taken by members of the Council, in particular its permanent members,” who had “consistently and uniformly interpreted the practice of voluntary abstention by a permanent member . . . [as having] been generally accepted by Members of the United Nations”).

110. *Id.* ¶¶ 21–22.

111. *Construction of a Wall*, 2004 I.C.J. Rep. ¶ 28.

112. *See, e.g.*, *Temple of Preah Vihear (Cambodia v. Thai.)*, Judgment, 1962 I.C.J. Rep. 6, 23–36 (June 15); *Location of Boundary Markers in Taba Between Egypt and Israel*, 20 R.I.A.A. 3, ¶ 210 (Egyptian-Israeli Joint Comm’n 1988); *Decision Regarding Delimitation of Border between Eritrea and Ethiopia*, 25 R.I.A.A. 85, ¶¶ 3.8–3.10 (Eri.-Eth. Boundary Comm’n 2002).

113. Nolte, *supra* note 16, at 19; *see also* Crema, *supra* note 92, at 26–27 (arguing that subsequent practice has been used and applied by international courts and tribunals considerably beyond what the Vienna Convention allows); Marcelo G. Kohen, *Keeping Subsequent Agreements and Practice in Their Right Limits*, in *TREATIES AND SUBSEQUENT PRACTICE*, *supra* note 10, at 34, 34 (“There is a temptation to include all sorts of acts performed by parties to the treaty and non-parties alike under the umbrella of ‘subsequent practice.’”).

114. *See, e.g.*, *Armed Activities on Territory of Congo (Dem. Rep. Congo v. Uganda)*, Judgment, 2005 I.C.J. Rep. 168, ¶ 46 (Dec. 19); *Land and Maritime Boundary Between Cameroon and Nigeria (Cameroon v. Nigeria)*, Preliminary Objections, 1998 I.C.J. Rep. 275, ¶¶ 61–66 (June 11); *Maritime Delimitation in Area Between Greenland and Jan Mayen (Den. v. Nor.)*, Judgment, 1993 I.C.J. Rep. 38, ¶ 28 (June 14) (discussing subsequent practice generically while referencing practices, including other international treaties on similar issues).

115. GARDINER, *supra* note 54, at 8.

116. *Id.* at 8; Crema, *supra* note 92, at 27.

117. *See* McLachlan, *supra* note 50, at 71 (noting that “the scale of state participation in the great multilateral treaties can also make it practically impossible to establish from the conduct of the states parties themselves the requisite degree of consistent ‘subsequent practice’”); Moloo, *supra*

would have allowed treaties to “be modified . . . by . . . subsequent practice . . . in [its] application” was removed from an earlier draft of the Vienna Convention,¹¹⁸ though the significance of that removal is debated.¹¹⁹

Other scholars justify the liberal use of subsequent practice as a necessary source of flexibility for updating stagnant treaties and for closing gaps between treaty prescriptions and the reality on the ground.¹²⁰ A few scholars have even pushed for a doctrinal change that would give subsequent practice a more prominent role in the law of treaties. Harlan Grant Cohen advocates an approach that focuses on the “processes by which rules come to be internalized by international actors . . . [r]ather than taking for granted that a treaty reflects international law.”¹²¹ Rebecca Crootof contends that treaties should be modifiable by subsequently developed customary international law.¹²²

Beyond the readily accessible decisions of adjudicatory bodies, little is known about the operation of subsequent practice.¹²³ Treaty interpretation takes place far more frequently as part of their day-to-day application,¹²⁴ but such routine interpretive decisions are poorly documented and often hidden from view unless and until a dispute leads to a legal proceeding before an

note 93, at 87–88 (“The parties’ agreement as to the meaning of the treaty text, however, must still be consistent with the ordinary meaning, read in good faith, in context, and in line with its object and purpose.”).

118. DJEFFAL, *supra* note 10, at 42.

119. See BUGA, *supra* note 15, at 363 (explaining that the draft article was deleted for reasons unrelated to whether it reflected the current state of international law, namely that it overlapped with other Vienna Convention provisions and that it prompted questions too complex given time constraints).

120. See, e.g., *id.* at 192 (noting that “[t]he practical difficulty (even impossibility) often encountered with formal amendment, the premise of *pacta sunt servanda*, the fluid interchange between interpretation and modification, and the significance of the contemporaneous intention of the parties . . . all reinforce the validity of and need for the process of treaty modification by subsequent practice”); Cohen, *supra* note 51, at 85 (citing “the apparent gap growing between treaties and state action and concerns about treaties’ relative inability to adapt quickly enough to a constantly changing world” as challenges); Sean D. Murphy, *The Relevance of Subsequent Agreement and Subsequent Practice for the Interpretation of Treaties*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 82, 87 (“Treaties are cumbersome devices that cannot change quickly [W]e may be entering a period when greater flexibility in treaty interpretation is needed.”).

121. Cohen, *supra* note 51, at 71.

122. Crootof, *supra* note 10, at 239–40.

123. GARDINER, *supra* note 54, at 12 (recognizing “treaty interpretation is not only undertaken in disputes before courts and tribunals . . . but those instances outside case reports are not readily accessed or assimilated into clear guidance”); Georg Nolte, *Subsequent Agreements and Subsequent Practice of States Outside of Judicial or Quasi-Judicial Proceedings*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 307, 308 (noting the difficulty of describing and assessing subsequent practice in its immediate form due to the lack of published and clearly identifiable records).

124. GARDINER, *supra* note 54, at 124–25 (“[I]nternationally, issues over treaty interpretation will commonly be a matter for discussion, negotiation, and agreement between states or for resolution with an international organization, with judicial or arbitral determination covering only a small minority of cases.”).

adjudicatory body.¹²⁵ Without descriptive studies into how treaties actually change, little can be said about the overall role of subsequent practice and whether it is properly deployed.

C. *What is Missing?*

Investigating the dynamism of treaties through the Vienna Convention and formal change mechanisms—particularly when limited to easily accessible and publicly available evidence—generates a partial picture at best. This is echoed by a smattering of largely unconnected observations across international law scholarship. Georg Nolte observes, “In most cases, the evolution of the context of a treaty must be accommodated by more informal means.”¹²⁶ Harold Koh describes modern international law as “fluid and messy,” functioning through “nontraditional efforts at legal diplomacy,” and requiring analysis beyond treaty language and judicial decisions.¹²⁷ Janet Koven Levit chronicles a process of “[b]ottom-up” lawmaking in international trade and finance, whereby “the very practitioners—both public and private—who must roll up their sleeves and grapple with the day-to-day technicalities of their trade” are creating, interpreting, and enforcing rules based on their experiences on the ground.¹²⁸ Laurence Helfer explores the institutional role played by the International Labor Organization in lawmaking activities over the course of its long history.¹²⁹ Each of these studies hint at important developments beyond the Vienna Convention, the doctrinal meaning of subsequent practice, and the text and formal implementation of treaties. Instead, they call for attention to the complex, decentralized, and often-times opaque world of informal treaty implementation.

International law scholarship currently lacks tools for understanding these informal implementation-level developments in their own right. Basic conceptual and empirical questions have yet to be explored: What are the “informal means” by which change is pursued? Who brings about this type of change, under what conditions, and for what purpose? How prevalent is

125. U.N. A/63/10, *supra* note 15, at 370 (noting that subsequent practice “is not always well-documented and often only comes to light in legal proceedings”); BUGA, *supra* note 15, at 6 (noting that “[e]xamples of subsequent practice have never been collected in any systematic way”); *see also* Anthea Roberts, *Subsequent Agreements and Practice: The Battle over Interpretive Power*, in TREATIES AND SUBSEQUENT PRACTICE, *supra* note 10, at 95, 97 (observing that routine interpretive decisions rarely give rise to disputes and are unlikely to do so precisely where subsequent practice is consistent and thus a proper use of the interpretive rule).

126. Nolte, *supra* note 16, at 3.

127. Harold Hongju Koh, *Address: Twenty-First-Century International Lawmaking*, 101 GEO. L.J. ONLINE 1, 14, 18 (2012).

128. Levit, *supra* note 32, at 126.

129. Helfer, *supra* note 32.

this type of change, and what is its relationship to the more formal mechanisms of change within the Vienna Convention?

The next Part draws insights about the role of informal implementation in the dynamism of domestic contracts, statutes, and institutions. Part III presents a framework for understanding informal implementation dynamism in treaties based on vignettes from the history of international infectious disease regulation.

II. INSIGHTS FROM DOMESTIC ANALOGUES

Treaties have been analogized to contracts¹³⁰ and statutes¹³¹ and described as a type of institution.¹³² In each area, using language particular to each field, scholars have examined how change arises. This Part highlights common themes in how the informal implementation of contracts,¹³³ statutes,¹³⁴ and institutions¹³⁵ contributes to their evolution over time. Although not discussed in this Article, a similar strand of scholarship exists with respect to amending national constitutions. In particular, the difficulty of changing the U.S. Constitution under Article V procedures has led to reliance on more feasible, alternative change mechanisms such as by judicial decision-making or statute.¹³⁶

Scholarship on each analogue suggests that examining the everyday, informal dynamics of implementers on the ground reveals change not apparent or foreseeable from the written covenant itself. Implementation change tends to be slow-moving but can add up across time, leading not only to extensions but also to contradictions of covenant language. Over the course of long-

130. See, e.g., *Worcester v. Georgia*, 31 U.S. 515, 581 (1832) (M'Lean, J., concurring) ("What is a treaty? The answer is, it is a compact formed between two nations or communities, having the right of self government."); *Foster v. Neilson*, 27 U.S. 253, 314 (1829) ("A treaty is in its nature a contract between two nations, not a legislative act."); see also Curtis J. Mahoney, *Treaties as Contracts: Textualism, Contract Theory, and the Interpretation of Treaties*, 116 YALE L.J. 824, 826 (2007); Robert E. Scott & Paul B. Stephan, *Self-Enforcing International Agreements and the Limits of Coercion*, 2004 WIS. L. REV. 551, 556 (2004).

131. See, e.g., *Whitney v. Robertson*, 124 U.S. 190, 194 (1888) ("By the Constitution a treaty is placed on the same footing, and made of like obligation, with an act of legislation."); see also Michael P. Van Alstine, *Dynamic Treaty Interpretation*, 146 U. PA. L. REV. 687, 701 n.52 (1998) (noting that "[t]reaties are of the same constitutional dignity as statutes").

132. See, e.g., Kenneth W. Abbott et al., *The Concept of Legalization*, 54 INT'L ORG. 401, 401 (2000) ("Legalization" refers to a particular set of characteristics that institutions may (or may not) possess.").

133. See *infra* Section II.A.

134. See *infra* Section II.B.

135. See *infra* Section II.C.

136. See e.g., David A. Strauss, *The Irrelevance of Constitutional Amendments*, 114 HARV. L. REV. 1457, 1459 (2001) (arguing that the U.S. Constitution "would look the same today if Article V of the Constitution had never been adopted and the Constitution contained no provision for formal amendment" because of reliance on more achievable means of change instead).

term contracts or due to legislative inertia, informal implementation can stray from the written covenant in unexpected ways and reveal information that informs subsequent rewrites.

A. *Contracts*

During the 1980s, relational contract theorists such as Ian Macneil observed that contractual relationships are, in practice, more dynamic than previously considered.¹³⁷ They called into question earlier depictions of contracts as discrete, one-time, “spot” interactions between strangers,¹³⁸ introducing instead a “relational” model in which contracts govern repeat interactions over long periods of time between parties in ongoing relationships.¹³⁹ Due to the duration and complexity of “relational contracts,”¹⁴⁰ they typically are not fully planned at the front-end and require greater flexibility at the back-end.¹⁴¹ Relational contract theorists, therefore, are less focused on the single instant of contract formation and more attentive to the dynamic processes by which contractual relationships evolve over time: “[A] contract is partly what it was at the time of contract formation and partly what it becomes thereafter.”¹⁴²

A number of authors have noted similarities between relational contracts and treaties that govern the repeat, long-term interactions between states.¹⁴³ As in the treaty context where scholars have sought greater flexibility in the Vienna Convention’s interpretive rules, contract scholars too have pushed for

137. See generally IAN R. MACNEIL, *THE NEW SOCIAL CONTRACT: AN INQUIRY INTO MODERN CONTRACTUAL RELATIONS* (1980); Ian R. Macneil, *Relational Contract Theory: Challenges and Queries*, 94 NW. U. L. REV. 877 (2000).

138. See Macneil, *supra* note 137, at 884; Richard E. Speidel, *The Characteristics and Challenges of Relational Contracts*, 94 NW. U. L. REV. 823, 823 (2000).

139. Scholars disagree on which specific characteristics define a “relational contract.” See, e.g., Melvin A. Eisenberg, *Why There Is No Law of Relational Contracts*, 94 NW. U. L. REV. 805, 814, 816 (2000) (defining a relational contract as one “that involves not merely an exchange, but also a relationship, between the contracting parties” and noting that “the phrase ‘long-term contracts’ has become virtually a synonym for relational contracts”). But see Charles J. Goetz & Robert E. Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089, 1091 (1981) (arguing that “[a] contract is relational to the extent that the parties are incapable of reducing important terms of the arrangement to well-defined obligations.”).

140. Most agree that relational contracts are not a subset of contracts, but that all contracts are relational to different degrees. See Macneil, *supra* note 137, at 896 (“[L]ike the ends of rainbows, the ends of the relational/as-if-discrete spectrum are mythical.”).

141. Goetz & Scott, *supra* note 139, at 1090–92; Ian R. Macneil, *Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law*, 72 NW. U. L. REV. 854, 865 (1978); see also Robert E. Scott, *The Case for Formalism in Relational Contract*, 94 NW. U. L. REV. 847, 862 (2000).

142. Eisenberg, *supra* note 139, at 810.

143. See, e.g., Mahoney, *supra* note 130, at 827; Jared Wessel, *Relational Contract Theory and Treaty Interpretation: End-Game Treaties v. Dynamic Obligations*, 60 N.Y.U. ANN. SURV. AM. L. 149, 150 (2004).

more flexible rules on contract interpretation.¹⁴⁴ Some argue that courts should consider a broader range of sources to divine the intention of the parties and be given wider latitude to adjust contracts after formation. They could, for instance, rely on implied terms, such as covenants of good faith and fair dealing, that require looking beyond the four corners of the agreement.¹⁴⁵ Others are skeptical that courts have the competence to understand complex and evolving relationships between parties, and therefore advocate a more passive judicial role.¹⁴⁶

In practice, the scholarship on relational contracts has had limited impact on judicial decision-making.¹⁴⁷ That limited impact might not be surprising since relational contract theory itself downplays the role of formal adjudication. Resorting to legal sanctions can harm the underlying relationship,¹⁴⁸ while other sanctions of a political or social nature are available in the context of continuing interdependence.¹⁴⁹ Stewart Macaulay's empirical work suggests that lawsuits are rarely brought for breaches of contract.¹⁵⁰ Instead, adjustments are made and disputes resolved in ways unforeseen by the contract, or in outright contradiction of the contract, as part of the "give-and-take" needed to maintain business relations.¹⁵¹ This process of ongoing adaptation is "administrative" and can lead to "glacial[]" change through the accumulation of "small-scale, day-to-day adjustments."¹⁵²

Not only can contracts change in unexpected ways as gaps emerge between party behavior and the terms of the written agreement, but they are

144. See Eisenberg, *supra* note 139; Eric A. Posner, *A Theory of Contract Law Under Conditions of Radical Judicial Error*, 94 NW. U. L. REV. 749, 751 (2000).

145. See, e.g., Robert D. Cooter, *Structural Adjudication and the New Law Merchant: A Model of Decentralized Law*, 14 INT'L REV. L. & ECON. 215, 215–16 (1994) (arguing that courts should, under some circumstances, resolve contractual disputes by applying prevailing commercial customs); Goetz & Scott, *supra* note 139, at 1091, 1114 (arguing that courts should fill the gaps in relational contracts with whichever terms would maximize the value of the contractual relationship); Richard E. Speidel, *Court-Imposed Price Adjustments Under Long-Term Supply Contracts*, 76 NW. U. L. REV. 369, 404–05 (1981); Speidel, *supra* note 138, at 836 (arguing for a more sophisticated duty of good faith).

146. See, e.g., Posner, *supra* note 144, at 754; Alan Schwartz, *Relational Contracts in the Courts: An Analysis of Incomplete Agreements and Judicial Strategies*, 21 J. LEGAL STUD. 271, 274 (1992).

147. Speidel, *supra* note 138, at 824. *But see* RESTATEMENT (SECOND) OF CONTRACTS § 202(4) (AM. LAW INST. 1979).

148. Wessel, *supra* note 143, at 155.

149. Stewart Macaulay, *An Empirical View of Contract*, 1985 WIS. L. REV. 465, 468 (1985) (discussing "relational sanctions").

150. Stewart Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55, 61, 65 (1963) (suggesting that the written contract is not as important or may serve other purposes such as "a communication device within a large corporation").

151. *Id.* at 61.

152. Macneil, *supra* note 141, at 895, 901.

rarely formulated from a blank slate in the first place.¹⁵³ Over time, contracts may be renegotiated to incorporate adjustments made and information gathered through the process of translating contracts into reality. Scholars studying the evolution of supply-chain contracts propose a cyclical model in which: (1) parties make contractual commitments based on limited information and cognitive shortcomings; (2) parties engage in a process of dynamic learning over the duration of the contract as they develop knowledge about operations, relationship management, and respective strengths and weaknesses; and (3) parties renegotiate their contractual relationship based on their dynamic learning.¹⁵⁴ A longitudinal case study of the contractual relationship between a Norwegian railway and its catering service provider concludes that contractual relationships are dynamic and that the parties' ability to manage the evolutionary process is critical to achieving long-term benefits.¹⁵⁵

B. Statutes

Since the 1980s, scholars such as William Eskridge, Ronald Dworkin, Alexander Aleinikoff, and Daniel Farber have argued that statutory interpretation "is, and should be, dynamic," rather than moored to the enacting Congress' historical intent.¹⁵⁶ They use the term "interpretation" broadly, examining all players involved in the translation of statutes into reality. Understood in this way, "interpretation" is similar to how I use the term "implementation," as explained in Part III.

Eskridge posits that statutory interpretation is "multifaceted and evolutive."¹⁵⁷ The exercise of statutory interpretation is not an archaeological quest to discover historical meaning. It is a creative enterprise to assign current meaning to a text that omits politically unresolved issues, overlooks unanticipated issues, and encounters resistance in its integration into society.¹⁵⁸ It is multifaceted in that it involves many actors, each with their own values and visions. Interpretation shifts whenever the interpreter's perspective differs from that of the statute.¹⁵⁹

153. Stephen J. Choi et al., *The Dynamics of Contract Evolution*, 88 N.Y.U. L. REV. 1, 3 (2013) (describing contract production as "path-dependent," as drafters "take existing products and try to improve them so that they can meet the clients' needs at hand").

154. Tim Coltman et al., *Supply Chain Contract Evolution*, 27 EUR. MGMT. J. 388, 390-91 (2009).

155. *Id.* at 392, 398.

156. William N. Eskridge, Jr., *Overriding Supreme Court Statutory Interpretation Decisions*, 101 YALE L.J. 331, 390 & n.178 (1991).

157. WILLIAM N. ESKRIDGE, JR., *DYNAMIC STATUTORY INTERPRETATION* 48 (1994).

158. *Id.* at 51; William N. Eskridge, Jr., *Dynamic Statutory Interpretation*, 135 U. PA. L. REV. 1479, 1482, 1498 (1987).

159. ESKRIDGE, *supra* note 157, at 11, 49.

Matthew Christiansen and Eskridge describe statutory interpretation as a “dynamic game” that is sequential, hierarchical, and ongoing over time.¹⁶⁰ Each interpreter occupies a “strategic position” and must anticipate and respond to the preferences of others.¹⁶¹ Interpretation begins at the “retail level” with those at whom the statute is directed: private citizens, communities of interpretation, interest groups, low-level bureaucrats in administrative agencies, and other ground-level implementers.¹⁶² These front-line interpreters are the most sensitive to changing circumstances, needs, and ideas. Retail interpretations then work their way to the “wholesalers”: agency heads and the Supreme Court.¹⁶³ Finally, the sitting Congress can override the Supreme Court’s interpretation with new legislation that *restores* what it considers to be the correct interpretation or that *updates* outdated statutory schemes with new policies.¹⁶⁴ The cycle then begins anew. Interpretation, therefore, occurs “everywhere all the time, with no one interpreter having the final word on what a statute means.”¹⁶⁵

Administrative agencies are particularly well-positioned to drive change in this dynamic and cyclical game.¹⁶⁶ At the outset, agencies lobby for and help draft legislation, or at least testify on the subject during legislative hearings.¹⁶⁷ Most statutes, in turn, are delegations to agencies,¹⁶⁸ making them responsible for rulemaking and enforcement as well as the bulk of adjudication.¹⁶⁹ In each of these functions, agencies tend to be responsive to changing circumstances and patterns of violations due to their ground-level involvement in implementation. There are many examples of agencies drastically

160. Eskridge, *supra* note 156, at 334; Matthew R. Christiansen & William N. Eskridge, Jr., *Congressional Overrides of Supreme Court Statutory Interpretation Decisions, 1967–2011*, 92 TEX. L. REV. 1317 (2014).

161. See John A. Ferejohn & Barry R. Weingast, *A Positive Theory of Statutory Interpretation*, 12 INT’L REV. L. & ECON. 263, 263, 276 (1992); see also Eskridge, *supra* note 156, at 334.

162. ESKRIDGE, *supra* note 157, at 69; Christiansen & Eskridge, *supra* note 160, at 1372; Ferejohn & Weingast, *supra* note 161, at 263.

163. ESKRIDGE, *supra* note 157, at 69.

164. *Id.* at 11, 49; Christiansen & Eskridge, *supra* note 160, at 1320.

165. ESKRIDGE, *supra* note 157, at 70.

166. Christiansen & Eskridge, *supra* note 160, at 1321.

167. See Edward Rubin, *Dynamic Statutory Interpretation in the Administrative State*, in 2 ISSUES IN LEGAL SCHOLARSHIP: DYNAMIC STATUTORY INTERPRETATION, art. 2, at 4 (2002); Lisa Schultz Bressman & Abbe R. Gluck, *Statutory Interpretation from the Inside—An Empirical Study of Congressional Drafting, Delegation, and the Canons: Part II*, 66 STAN L. REV. 725, 767 (2014).

168. Colin S. Diver, *Statutory Interpretation in the Administrative State*, 133 U. PA. L. REV. 549, 551 (1985).

169. Jerry L. Mashaw, *Agency Statutory Interpretation*, in 2 ISSUES IN LEGAL SCHOLARSHIP: DYNAMIC STATUTORY INTERPRETATION, *supra* note 167, art. 9, at 9; Rubin, *supra* note 167, at 2.

updating policies without statutory basis or judicial rebuke over the last few decades.¹⁷⁰

Statutory interpretation is particularly dynamic when the statute is old and the original assumptions and expectations underlying the policy have been overtaken by later developments. This lapse in time—usually due to legislative inertia—is doubly significant because new information emerges over time, leading to learning and potentially altered policy preferences on the part of various interpreters.¹⁷¹ The degree of elasticity in statutory meaning can be extremely broad: Statutes can evolve not only *beyond* their language and original legislative intent but also *against* them.¹⁷² Such evolution and learning can, in turn, inform subsequent legislative overrides, whether for the purpose of restoring or updating.

C. Institutions

Political scientists and sociologists have theorized about the genesis and evolution of domestic legal and political institutions.¹⁷³ “Institution” is defined as formalized obligatory rules, typically involving rights and obligations that “may be enforced by calling upon a third party.”¹⁷⁴ Prior scholarship on punctuated equilibrium and path dependence drew a sharp distinction between the sudden innovation and upheaval that occurs when institutions are created, radically reorganized, or dismantled and the prolonged periods of relative stability in between.¹⁷⁵ More recently, authors such as Kathleen Thelen and Wolfgang Streeck have argued that such frameworks overlook

170. See, e.g., Christiansen & Eskridge, *supra* note 160, at 1478 (discussing examples of regulatory agencies that have radically changed regulatory policies, including the Federal Energy Regulatory Commission, the Federal Communications Commission, the Food and Drug Administration, the Environmental Protection Agency, and the Patent Office).

171. Eskridge, *supra* note 156, at 379.

172. See Daniel A. Farber, *Statutory Interpretation and Legislative Supremacy*, 78 GEO. L.J. 281, 282 (1989).

173. See e.g., JAMES MAHONEY & KATHLEEN THELEN, *EXPLAINING INSTITUTIONAL CHANGE: AMBIGUITY, AGENCY, AND POWER* (2010); KATHLEEN THELEN, *HOW INSTITUTIONS EVOLVE: THE POLITICAL ECONOMY OF SKILLS IN GERMANY, BRITAIN, THE UNITED STATES, AND JAPAN* (2004); T.J. PEMPEL, *REGIME SHIFT: COMPARATIVE DYNAMICS OF THE JAPANESE POLITICAL ECONOMY* (1998); *BEYOND CONTINUITY: INSTITUTIONAL CHANGE IN ADVANCED POLITICAL ECONOMIES* (Wolfgang Streeck & Kathleen Thelen eds., 2005).

174. Wolfgang Streeck & Kathleen Thelen, *Introduction: Institutional Change in Advance Political Economies*, in *BEYOND CONTINUITY*, *supra* note 173, at 1, 10. “Institution” is distinguished from informal norms such as mores and customs, and from voluntary social interactions in which breach of an expectation leads only to strategic responses by those affected. *Id.* at 9–12.

175. See, e.g., Stephen D. Krasner, *Sovereignty: An Institutional Perspective*, 21 COMP. POL. STUD. 66, 77–80 (1988) (discussing the punctuated equilibrium model of institutional change); Ann Swidler, *Culture in Action: Symbols and Strategies*, 51 AM. SOC. REV. 273, 278–82 (1986) (drawing a distinction between “unsettled” times when social transformation and new cultural complexes are possible and “settled” times).

gradual yet significant institutional developments.¹⁷⁶ They set out to rethink what constitutes change and how it can be detected in the absence of overt disruption to formalized rules.

Historical studies of key domestic institutions governing the political economies of select countries reveal that immense transformations can result from gradual, incremental adjustments to the implementation of the very institutions that are being reformed or dissolved.¹⁷⁷ This gradual change originates from the normal yet contested “everyday implementation and enactment of an institution.”¹⁷⁸ Rules are put into action by an array of actors with divergent interests engaged in an ongoing struggle to shape the rules’ meaning.¹⁷⁹ Some of these actors are rule-makers who set the rules; others are rule-takers who are expected to comply with obligations.¹⁸⁰ Some may favor a sincere application of the rule in good will; others may try to revise or circumvent the rule in the process of implementation. The sum of their interactions gives rise to a “continuous probing of the boundary between the legal and the illegal” as new interpretations are invented and tested.¹⁸¹ No single actor controls this process, which can open an unpredictable gap between the institution as designed by its creators and the actual behavior put in motion underneath it. Over time, the gap may widen with far-reaching implications.¹⁸²

Because this type of change occurs through the mechanics of an institution’s everyday implementation, complications arising from that process—problems with interpretation, implementation, enforcement, and compliance—are windows of opportunity for change. These everyday problems uncover ambiguities and open up space for existing rules to be administered or extended in novel ways.¹⁸³ Change often results from skirmishing, as implementers with different preferences struggle to resolve implementation problems in their own favor.

176. See MAHONEY & THELEN, *supra* note 173, at 4; THELEN, *supra* note 173; Streeck & Thelen, *supra* note 174, at 8–9.

177. Their case studies focus predominantly on wealthy, Western democracies such as the United States, United Kingdom, France, Germany, and Japan. For example, they examine the transformation of national institutions during the 1980s and 1990s to become increasingly capitalist. Streeck & Thelen, *supra* note 174, at 2–4.

178. *Id.* at 11 (emphasis omitted).

179. See Jack Knight, *Explaining the Rise of Neoliberalism: The Mechanisms of Institutional Change*, in THE RISE OF NEOLIBERALISM AND INSTITUTIONAL ANALYSIS 20 (John L. Campbell & Ove K. Pedersen eds., 1999) (describing institutional development as “a contest among actors to establish rules which structure outcomes to those equilibria most favorable to them”).

180. Streeck & Thelen, *supra* note 174, at 13.

181. *Id.* at 15.

182. *Id.* at 8; PAUL PIERSON, POLITICS IN TIME: HISTORY, INSTITUTIONS, AND SOCIAL ANALYSIS 13 (2004) (“Some causal processes and outcomes occur slowly because they are incremental—it simply takes a long time for them to add up to anything.”).

183. MAHONEY & THELEN, *supra* note 173, at 4.

Gradual change of this kind tends to be subtler and may be difficult to detect until it becomes fully apparent in hindsight. This delayed effect calls for longitudinal studies tracing, over time, the contestation between various actors to implement rules in their preferred way. Based on such studies, scholars propose that there are a handful of analytically distinct modes of gradual institutional change.¹⁸⁴ I do not discuss them here, but I draw on them below in examining the strategies for implementation dynamism.¹⁸⁵

III. INFORMAL IMPLEMENTATION DYNAMISM

Having highlighted some common themes in how the everyday implementation of domestic contracts, statutes, and institutions contributes to their evolution over time, I return to the subject of treaties. This Part shines a spotlight on what I call “informal implementation dynamism”: change that stems from the ongoing, everyday process of implementing a treaty on the ground. I understand implementation to encompass all the events and activities mobilized in translating a treaty into action¹⁸⁶—including some measure of interpretation to give meaning to treaty text. Implementers are all the actors who have a hand in or wield influence over these events and activities. I focus on *informal* implementation dynamism, meaning changes in practice that are not accompanied by official change under the rules of the Vienna Convention or the rules of the treaty at issue, or official acts of implementation by state parties.¹⁸⁷

184. See *id.* at 15–18; Streeck & Thelen, *supra* note 174, at 18–30.

185. See *infra* Section III.C.

186. This definition follows that of other prominent authors writing about implementation. See David G. Victor et al., *Introduction and Overview*, in *THE IMPLEMENTATION AND EFFECTIVENESS OF INTERNATIONAL ENVIRONMENTAL COMMITMENTS: THEORY AND PRACTICE* 1, 4 (David G. Victor et al. eds., 1998) (defining implementation as “the process by which ‘intent gets translated into action’” and “those events and activities that occur after the issuing of authoritative public policy directives, which include the effort to administer and the substantive impacts on people and events” (first quoting Martin Rein & Francine Rabinowitz, *Implementation: A Theoretical Perspective*, in *AMERICAN POLITICS AND PUBLIC POLICY* 308 (Walter Dean Burnham & Martha Wagner Weinberg eds., 1987); and then quoting DANIEL A. MAZMANIAN & PAUL A. SABATIER, *IMPLEMENTATION AND PUBLIC POLICY* (1983))).

187. My usage of the term “informal” is similar to Laurence Helfer’s usage. Helfer distinguishes “formal” flexibility mechanisms, such as reservations, escape clauses, and withdrawal provisions that are “incorporate[ed] . . . into . . . multilateral and bilateral agreements,” from “informal” flexibility mechanisms, such as *de facto* modifications through conduct, auto-interpretation, and withholding of financial support. Helfer, *supra* note 12, at 176, 177. By contrast, other scholars use “informal” to characterize the form of an international agreement, the process by which it was reached, or the actors involved. The form of the agreement can range from an intricate written document to an exchange of notes, a joint communiqué, an oral or tacit bargain, or a norm. The process can range from the elaborate procedures of a traditional intergovernmental organization and domestic procedures for consent and ratification to those employed by a loosely organized network. The actors involved can range from those typically involved in diplomacy (heads of state, foreign ministries, and embassies) to other branches, lower level bureaucracies, or sub-federal entities. See,

The process of implementing a treaty on the ground is akin to a strategic game that takes place over time, as implementers—including those unsatisfied with the treaty as negotiated—jostle to implement the treaty according to their own preferences. I map the range of implementers engaged in this game—including countries, international organizations, and epistemic communities—and highlight the importance of looking inside institutions and bureaucracies to understand how front-line decisions about informal implementation are made. I characterize three key strategies implementers might pursue to drive or forestall change: (1) converting the treaty from within through altered practice; (2) eroding the treaty through neglect or actively resisting adaptation in the face of drifting circumstances; and (3) shifting to another institutional option to solve the underlying problem.

Relying on insights from domestic analogues and vignettes from the history of international infectious disease regulation, I argue that informal implementation dynamism is important, yet easily overlooked. It is important because informal change via implementation can be a more accessible alternative to the formal avenues of change set out in the Vienna Convention or in the treaty itself. Its impact over time can be transformative both on the ground and as a precursor to revision of the treaty at a later time. It is easily overlooked because it is often subtler in form, smaller in scale, and its documentation less publicly available. Informal implementation dynamism may be difficult to detect as it is occurring, and its influence may not be evident except in hindsight.

I develop and illustrate this Part through historical examples from the international regulation of infectious disease—an area that is exceptional in some ways, but illustrates clearly patterns that have been observed elsewhere as well.¹⁸⁸ In an effort to control the cross-border spread of epidemics while limiting interference with international trade and traffic, states convened conferences and concluded a series of conventions beginning in the nineteenth century. Those conferences and conventions eventually led to the formation of the first international health organization in 1907,¹⁸⁹ which was absorbed into the WHO at its establishment following World War II in 1948. The earlier conventions were consolidated, renamed, and updated under the WHO's auspices. Infectious disease is thus one of the oldest continuous areas of international regulation, persisting to this day.

e.g., Joost Pauwelyn et al., *An Introduction to Informal International Lawmaking*, in *INFORMAL INTERNATIONAL LAWMAKING* 1, 3 (Joost Pauwelyn et al. eds., 2012); Charles Lipson, *Why are Some International Agreements Informal?*, 45 *INT'L. ORG.* 495–501 (1991).

188. *See infra* Part IV.

189. The International Office of Public Hygiene (Office International d'Hygiène Publique) was founded in Paris for the purpose of overseeing the then-existing conventions on infectious disease regulation. *See* GOODMAN, *supra* note 17.

The particular examples I discuss deal with the emergence and recent evolution of the now-in-force 2005 IHR. One of the most widely subscribed to instruments of international law,¹⁹⁰ the 2005 IHR came into effect for most state parties in 2007¹⁹¹ and governed recent high-profile outbreaks such as Ebola and Zika. Although called a revision, the 2005 IHR is widely considered “[a] revolution in the governance of global infectious disease.”¹⁹² It not only updated the prior 1969 IHR but also introduced an entirely new approach to infectious disease control.

The old “barrier approach” under the 1969 IHR¹⁹³ covered only a handful of specific infectious diseases,¹⁹⁴ while relying solely on self-reporting by state parties to track epidemics.¹⁹⁵ The overall objective was to prevent the movement of the covered diseases across national borders. By contrast, the “epidemiological approach” under the 2005 IHR covers “all events which may constitute a public health emergency of international concern.”¹⁹⁶ The epidemiological approach establishes a broader and more active surveillance system managed by the WHO¹⁹⁷ that relies heavily on internet surveillance tools.¹⁹⁸ The overall objective is the rapid detection and swift control of epidemics at their source with unprecedented requirements for state parties to develop their internal public health capacities.¹⁹⁹

On the surface, examined through the lens of formal change mechanisms, the transformation from the 1969 IHR to the 2005 IHR began in 1995

190. The 2005 IHR currently has 196 state parties. *States Parties to the International Health Regulations (2005)*, WORLD HEALTH ORG., http://www.who.int/ihr/legal_issues/states_parties/en/ (last visited Mar. 1, 2018).

191. *Id.*

192. Fidler, *supra* note 20, at 799.

193. While the details changed over time, the barrier approach persisted from the beginning of international infectious disease cooperation in the mid-nineteenth century until the 1969 IHR. It extended across numerous agreements and several international health institutions, culminating in the 1969 IHR under the WHO’s auspices. Wang, *supra* note 28, at 17.

194. “The specific diseases covered varied over time” and at different points “included cholera, plague, yellow fever, typhus, relapsing fever, and smallpox.” *Id.* Prior to the adoption of the 2005 IHR, the 1969 IHR covered cholera, plague, and yellow fever. *See* 1969 IHR, *supra* note 19.

195. 1969 IHR, *supra* note 19, arts. 3–7.

196. 2005 IHR, *supra* note 18, arts. 6(1), 9.

197. *Id.* art. 5(4) (requiring the WHO to “collect information regarding events through its surveillance activities”).

198. Director-General, WHO, *Implementation of the International Health Regulations (2005): Report of the Review Committee on the Functioning of the International Health Regulations (2005) in Relation to Pandemic (H1N1) 2009*, at 72–73, WHO Doc. A64/10 (May 5, 2011) (noting that thirty-five percent of initial outbreak information came from open sources in 2009 and that internet surveillance tools, such as ProMED and the Global Public Health Intelligence Network, are used for “international epidemic intelligence”).

199. 2005 IHR, *supra* note 18, annex 1.

with a WHO resolution delegating the organization's staff to prepare an update for the old law.²⁰⁰ Prior to 1995, the 1969 IHR appeared superficially stable: The cholera provisions were slightly adjusted in 1973 and smallpox was taken off of the list of reportable diseases due to its eradication in 1981.²⁰¹ The 1995 resolution led to three weeks of intergovernmental negotiations in 2004 and 2005, and the new law was adopted in May 2005.²⁰² The ensuing illustrative examples dig below this superficial narrative to uncover an entirely different story: The transformation in fact began decades earlier as the 1969 IHR triggered persistent disagreement about how infectious diseases should be governed; changes originated in the very implementation of the old law that was gradually being overridden; and entrepreneurial implementers tested the policies underlying the 2005 IHR on the ground, which in turn facilitated the law's subsequent enactment. A final example looks at the evolution of one aspect of the 2005 IHR's implementation since it came into effect.

A. *The Game*

Treaties can change through the everyday process by which they are informally implemented on the ground. Implementation is a source of dynamism because contestation over what an international agreement should be does not end the moment it is negotiated. Rather, it extends into the treaty's implementation as a host of implementers, each motivated by their own interests and ideas for how the treaty should work, engage in a strategic game to move the treaty in the direction they favor.²⁰³ The implementation game

200. World Health Assembly Res. 48.7, *supra* note 25. There is universal accord in the literature on the 2005 IHR that it originates with this resolution. See, e.g., Obijiofor Aginam, *Globalization of Infectious Diseases, International Law and the World Health Organization: Opportunities for Synergy in Global Governance of Epidemics*, 11 NEW ENG. J. INT'L & COMP. L. 59, 69 (2004); Michael G. Baker & David P. Fidler, *Global Public Health Surveillance Under New International Health Regulations*, 12 EMERGING INFECTIOUS DISEASES 1058, 1058 (2006); David Bishop, *Lessons from SARS: Why the WHO Must Provide Greater Economic Incentives for Countries to Comply with International Health Regulations*, 36 GEO. J. INT'L L. 1173, 1175 (2005); David P. Fidler & Lawrence O. Gostin, *The New International Health Regulations: An Historic Development for International Law and Public Health*, 34 J.L. MED. & ETHICS 85, 85 (2006).

201. See WHO, *International Health Regulations (2005)* 1 (3d ed. 2016) [hereinafter 2005 IHR (3d ed. 2016)], <http://apps.who.int/iris/bitstream/handle/10665/246107/9789241580496-eng.pdf?sequence=1>.

202. World Health Assembly Res. 58.3, *Revision of the International Health Regulations*, at 2, WHO Doc. A58/VR/8 (May 23, 2005).

203. Following other authors' writing about domestic statutes, I use the analogy of a game metaphorically, not in the game theory sense. See *supra* Section II.B; see also Daniel Peat & Matthew Windsor, *Playing the Game of Interpretation: On Meaning and Metaphor in International Law*, in INTERPRETATION IN INTERNATIONAL LAW 3, 28 (Andrea Bianchi et al. eds., 2015) (similarly describing treaty interpretation metaphorically as a "game" in which the players deploy "rhetorical strategies" to "secure adherence to their preferred interpretation").

is played not only by strategizing within the ambiguities of the existing agreement, but also by pushing the boundary between what the law condones or authorizes and what it does not, blocking change to promote the treaty's attrition and seeking opportunities to move management of the underlying problem away from the treaty and toward a more favorable institutional option. For the proponents of change who are unsatisfied with the treaty as negotiated, these may be more accessible ways to chip away at the compromise that was struck.

Political economist Carolyn Deere describes this dynamic at work in the context of the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS"). She wrote that the negotiated agreement "left both proponents and detractors dissatisfied, provoking post-agreement efforts from both sides to revise the contested text, sway its interpretation, and influence how it was implemented."²⁰⁴ She described TRIPS implementation as a "complex political game" that is closely connected to debates about possible revisions to the treaty text.²⁰⁵

That same dynamic was at work in the early history of the 1969 IHR, when there were conflicting perspectives on the nature and importance of the infectious disease threat. On the one hand, domestic public health reforms, improvements in water sanitation, and medical discoveries such as antibiotics and vaccines created a sense of optimism in developed countries. In 1967, the Surgeon General of the United States, William H. Stewart, famously declared that "the war against infectious diseases has been won."²⁰⁶ On the other hand, patterns of infectious disease spread were shifting due to increased air travel, new interactions between humans and the environment, and new transformations in human demography and behavior. In 1976, American academic William McNeill warned that pathogens were a perpetual threat against which continued vigilance was necessary.²⁰⁷

These perspectives gave rise to disagreement over the 1969 laws, which was a barely-altered update to the 1951 International Sanitary Regulations ("1951 ISR").²⁰⁸ In the course of implementing these laws, new patterns in infectious disease spread were uncovered. A 1958 WHO report remarked that the 1951 ISR had "come into action remarkably readily and well."²⁰⁹

204. DEERE, *supra* note 32, at 3.

205. *Id.*

206. David M. Morens, Gregory K. Folkers & Anthony S. Fauci, *The Challenge of Emerging and Re-Emerging Infectious Diseases*, 430 NATURE 242, 242 (2004) (quoting William H. Stewart, Surgeon General of the United States).

207. WILLIAM H. MCNEILL, PLAGUES AND PEOPLES 257 (1976).

208. WHO, International Sanitary Regulations—World Health Organization Regulations No. 2, May 25, 1951, 175 U.N.T.S. 214 [hereinafter 1951 ISR].

209. WORLD HEALTH ORG., THE FIRST TEN YEARS OF THE WORLD HEALTH ORGANIZATION 265–74 (1958).

Ten years later, a subsequent WHO report warned of the “persisting and dangerous potentialities of cholera, plague and yellow fever,” as well as the appearance of new diseases and the increased prevalence of existing diseases not covered by the 1969 IHR.²¹⁰

Some within the WHO lambasted the 1969 IHR for its failure to cover the most relevant diseases and its reliance on inadequate self-reporting by state parties. Erik Roelsgaard, head of the WHO’s Department of Epidemiology, argued in 1974 that diseases subject to the 1969 IHR were “pestilential diseases of the past.”²¹¹ Similarly, Ian Carter, the WHO’s Chief of Epidemiological Surveillance of Communicable Diseases, advocated in 1981 for “the surveillance of a disease and interchange of relevant information not on the basis that it is included in a list but because it is of public health importance.”²¹² In 1985, a report on the functioning of the 1969 IHR lamented that the law allows “only official information supplied by national health authorities [to] be taken into account and disseminated,” though an outbreak “ha[d] been reported in the media for several days.”²¹³ Even as the 1969 IHR was being negotiated in 1968, Deputy Director-General Pierre Dorolle remarked that the 1951 ISR were “no longer adequate” and that a “thorough and unbiased examination of the causes of failure of the present system and the possible remedies is not only timely but long overdue.”²¹⁴

In 1978, staff within the WHO prepared and distributed to member states a document discussing the IHR’s long-term future. The document contained a skeletal version of a proposed new set of regulations based on a shift away from the traditional “barrier” approach that focused on preventing infections from crossing borders and toward an “epidemiological” approach aimed at detecting and containing outbreaks at their source.²¹⁵ It also envisioned a wider scope of disease coverage because “today’s developing technologies will continue to uncover diseases which are at present unknown.”²¹⁶ The proposal received uneven responses: Some countries were positive, some

210. WORLD HEALTH ORG., *THE SECOND TEN YEARS OF THE WORLD HEALTH ORGANIZATION: 1958–1967*, at 94 (1968).

211. Erik Roelsgaard, *Health Regulations and International Travel*, 28 CHRON. WORLD HEALTH ORG. 265, 267 (1974).

212. Letter from Ian D. Carter, Chief of Epidemiological Surveillance of Communicable Diseases, World Health Org., to Jacobo Finkelman, Chief of Epidemiological Surveillance for the Reg’l Office of the Ams., World Health Org. (Feb. 10, 1981) (on file with author).

213. World Health Org., *Functioning of the International Health Regulations for the Period 1 January to 31 December 1985 (Part I)*, 61 WKLY. EPIDEMIOLOGICAL REC. 385, 388 (1986).

214. Pierre Dorolle, *Old Plagues in the Jet Age. International Aspects of Present and Future Control of Communicable Disease*, 4 BRIT. MED. J. 789, 792 (1968).

215. World Health Org., *The Long-Term Future of the International Health Regulations*, 32 CHRON. WORLD HEALTH ORG. 439, 439, 441 (1978).

216. *Id.* at 440.

were firmly against it, and some took the intermediary position of approving the suggestions in theory but “inferr[ing] that time the was not yet ripe.”²¹⁷

After the global eradication of smallpox in 1979, an obvious opportunity arose to revise the 1969 IHR. Anticipating that proposals for modifying the law might soon be made, an internal policy memorandum forcefully argued against a complete revision of the regulations. The memorandum emphasized the immense costs such a revision would entail and the unlikelihood that significant changes would be possible: “[A] formal discussion of these proposals [for revision] . . . could only lead to a compromise which would not be satisfactory to any.”²¹⁸ Consequently, smallpox was removed from the list of reportable diseases in 1981 without attempting to pursue further textual change. Even in 1989, when the emergence of the AIDS epidemic made it impossible to overlook the irrelevance of the 1969 IHR, the WHO’s legal counsel maintained that “no one today seems to seriously contemplate increasing the number of ‘diseases subject to the Regulations.’”²¹⁹

Though members of the WHO’s staff strategically bypassed an infeasible revision of the 1969 IHR, they pushed for changes to the law’s implementation in informal practice. In 1980, an internal memorandum recognized the inadequacy of the old law while advising “one should avoid rushing [toward revision] and instead, in the meantime, prepare the ground for a change by educational efforts, training and drawing the attention of the health officials to the need for an epidemiological approach to the control of the spread of diseases internationally.”²²⁰

B. The Players

A wide range of players were engaged in the dynamic and decentralized game of informally implementing the 1969 IHR. Prominent among them were state parties to the treaty, international organizations tasked with carrying out parts of the agreement, non-governmental organizations (“NGOs”) operating in the area, private entities, and epistemic communities of experts.

Implementation empowers actors who may not have had a substantial say in the treaty’s initial formulation, either because they did not have enough bargaining power or because they did not have a seat at the negotiating table. Even within the same entity or organization, implementation may vest authority in a different subunit than was involved in negotiating the treaty’s

217. Memorandum from Ian D. Carter, Chief of Epidemiological Surveillance of Communicable Diseases, World Health Org., to Halfdan T. Mahler, Dir.-Gen., World Health Org. (Dec. 13, 1979) (on file with author).

218. *Id.*

219. Claude-Henri Vignes, *The Future of International Health Law: WHO Perspectives*, 40 INT’L DIG. HEALTH LEGIS. 16, 18 (1989).

220. Memorandum from Boris Velimirovic to Ian D. Carter, *supra* note 41.

text. As Eskridge notes with respect to domestic statutes, many interpretive decisions are not made at the top of organizational hierarchies but rather at the front-line: the lawyer's office; the police officer's beat; the bureaucrat's desk.²²¹ Similarly, the implementation of treaties lends influence to lower-level officials with technical knowledge, concrete information, and direct involvement on the ground. Due to their technical training, proximity to real-life events, and bureaucratic incentives, these front-line implementers may have their own preferences for what the treaty should be.

Countries. States are typically treated as unitary actors in the international sphere.²²² This may be an adequate simplification when states send a small team of diplomats to negotiate treaty text, but the assumption quickly falls apart after the treaty comes into force, and implementation depends on action by a myriad of sub-state actors.²²³ The U.S. team that negotiated the 2005 IHR consisted principally of three delegates and a support team,²²⁴ while implementing the agreement involves the Centers for Disease Control and Prevention, the Department of Health and Human Services, as well as many state agencies, local governments, and individual hospitals and doctors across the country.²²⁵ Medical experts from within national public health agencies frequently sit on advisory committees convened by the WHO and make recommendations that are at odds with what the foreign affairs department can actually agree to in formal negotiations.²²⁶ Sub-state actors are key drivers of implementation dynamism.²²⁷

221. ESKRIDGE, *supra* note 157, at 71–72.

222. *See, e.g.*, JACK L. GOLDSMITH & ERIC A. POSNER, *THE LIMITS OF INTERNATIONAL LAW* 4 (2005) (explaining why the authors “give the state the starring role” as opposed to sub-state entities such as the President or governmental departments).

223. *See, e.g.*, Rachel Brewster & Adam Chilton, *Supplying Compliance: Why and When the United States Complies with WTO Rulings*, 39 *YALE J. INT’L L.* 201, 202 (2014) (noting that carrying out a treaty “often requires action from different parts of the domestic government”).

224. For the November 2004 round of negotiations, the core team consisted of the Ambassador to Geneva, a state department representative, and the Health Attaché of the Permanent Mission to Geneva, who was replaced by a representative from the Department of Health and Human Services part way through. Intergovernmental Working Grp. for the Revision of the Int’l Health Regulations, WHO, *List of Participants*, at 8, WHO Doc. A/IHR/IGWG/DIV/3 Rev.1 (Nov. 4, 2004). For the round of negotiations that took place in 2005, the team consisted of the Ambassador to Geneva, the Health Attaché of the Permanent Mission to Geneva, and a state department representative. Intergovernmental Working Grp. for the Revision of the Int’l Health Regulations, WHO, *List of Participants*, at 8, WHO Doc. A/IHR/IGWG/2/DIV/3 Rev.2 (May 12, 2005).

225. The United States adopted the 2005 IHR subject to a contentious reservation maintaining “the right to assume obligations under these Regulations in a manner consistent with its fundamental principles of federalism.” 2005 IHR (3d ed. 2016), *supra* note 201, app. 2, at 60.

226. *See infra* Section III.C.

227. The possibility that minor government officials might bring about treaty changes beyond the control of foreign affairs departments was one reason the draft Vienna Convention article allowing treaties to be modified by altered subsequent practice was rejected. Nolte, *supra* note 87, at 200–01 n.229.

International organizations. Many treaties delegate responsibilities to a centralized international organization with some autonomy.²²⁸ The 1969 IHR, for example, relied on the WHO to receive disease notifications²²⁹ and to disseminate that information back to state parties.²³⁰ The 2005 IHR relies on the WHO even more—to conduct independent surveillance,²³¹ to verify disease reports,²³² to determine whether a “public health emergency of international concern” is occurring,²³³ and to collaborate with state parties in responding to outbreaks.²³⁴ Yet, international organizations can develop and pursue their own interests separate from those of its member states.²³⁵ These organizational interests typically stem from epistemic preferences surrounding a shared professional identity and common vision of what “good policy” entails²³⁶ or bureaucratic incentives relating to job security, prospects for advancement, and contests for funding.²³⁷ In implementing treaties, international organizations may take actions that are undesired by member states by minimizing efforts (shirking) or by shifting policy preferences to their own (slippage).²³⁸ Just as domestic administrative agencies are particularly well-positioned to drive change in the dynamic game of statutory interpretation,²³⁹ international organizations are well-positioned to push for new ways of treaty implementation.

NGOs and private entities. NGOs and private entities may also have a hand in and seek influence over a treaty’s implementation. They may be regulated parties, such as airlines and cruise lines that are affected by international trade and travel restrictions required or authorized under infectious

228. See Kenneth W. Abbott & Duncan Snidal, *Why States Act Through Formal International Organizations*, 42 J. CONFLICT RESOL. 3, 4 (1998) (arguing that states use international organizations as vehicles for cooperation because of the efficiency gains from centralization and the legitimacy gains from a degree of autonomy).

229. 1969 IHR, *supra* note 19, arts. 3–8.

230. *Id.* art. 11.

231. 2005 IHR, *supra* note 18, art. 5(4).

232. *Id.* art. 10.

233. *Id.* art. 12.

234. *Id.* art. 13(3).

235. See Michael N. Barnett & Martha Finnemore, *The Politics, Power, and Pathologies of International Organizations*, 53 INT’L ORG. 699, 699 (1999) (arguing that international organizations can exude “dysfunctional, even pathological, behavior” when they “exercise power autonomously in ways unintended and unanticipated” by the states that created them).

236. MICHAEL BARNETT & MARTHA FINNEMORE, *RULES FOR THE WORLD: INTERNATIONAL ORGANIZATIONS IN GLOBAL POLITICS* 5 (2004).

237. Barnett & Finnemore, *supra* note 235, at 716–17.

238. Darren G. Hawkins et al., *Delegation Under Anarchy: States, International Organizations, and Principal-Agent Theory*, in *DELEGATION AND AGENCY IN INTERNATIONAL ORGANIZATIONS* 8 (Darren G. Hawkins et al. eds., 2006).

239. See *supra* Section II.B.

disease regulations.²⁴⁰ They may be activist NGOs promoting their own agendas or operating through another organization. Doctors Without Borders, for instance, treated over ten thousand patients during the recent Ebola epidemic²⁴¹ and was one of the most vocal critics of the WHO and the 2005 IHR.²⁴² Private donors, such as the Bill & Melinda Gates Foundation and pharmaceutical companies, are also able to influence implementation indirectly through their monetary contributions to the WHO, individual countries, and outbreak control efforts.²⁴³ Approximately eighty percent of the WHO's program budget comes from voluntary donations,²⁴⁴ including significant amounts over ten percent from the Bill & Melinda Gates Foundation.²⁴⁵ These non-governmental and private actors have shaped the implementation of international infectious disease law.

Epistemic communities. Implementation may be shaped by loose networks of technical experts with an authoritative claim on policy knowledge within an issue area. Peter M. Haas calls these networks “epistemic communities” and defines them by their members’ shared normative beliefs, causal beliefs, and common policy enterprise.²⁴⁶ Epistemic communities can influence implementation choices by controlling information, framing issues, and suggesting solutions.²⁴⁷ The Federation of American Scientists, for instance, played a critical role in developing internet outbreak surveillance tools during the 1990s, as discussed below. Epistemic communities also exert influence when their members weave in and out of other institutions. One example is

240. The International Shipping Federation, the International Air Transport Association, and the International Council of Cruise Lines all submitted comments to the WHO in 2004 prior to the 2005 IHR's negotiation. See Comment, Int'l Shipping Fed'n, Draft International Health Regulations (Mar. 1, 2004), <https://www.who.int/ihr/revisionprocess/IHr.pdf?ua=1>; Comment, Int'l Air Transp. Ass'n, Comments of International Air Transport Association (IATA) on Draft International Health Regulations (Apr. 21, 2004), <https://www.who.int/ihr/revisionprocess/iatacomments.pdf?ua=1>; Comment, Int'l Council of Cruise Lines, Draft International Health Regulations (July 28, 2004), https://www.who.int/ihr/revisionprocess/ICCL2004_07_28.pdf?ua=1.

241. MEDECINS SANS FRONTIERES, EBOLA 2014–2015 FACTS & FIGURES: KEY FINANCIAL DATA ON MSF'S RESPONSE TO THE EBOLA EPIDEMIC IN WEST AFRICA 2 (2016), http://www.msf.org/sites/msf.org/files/ebola_accountability_report_low_res.pdf.

242. See Dr. Joanne Liu, Int'l President, Medecins Sans Frontieres, Remarks at the Gates Foundation Global Partner Forum (May 8, 2015), <http://www.msf.org/en/article/remarks-international-president-msf-dr-joanne-liu-gates-foundation-global-partner-forum> (stating that the WHO's slow response and lack of capacity and expertise to respond to epidemics “caused untold suffering and death”).

243. See *infra* note 245 and accompanying text.

244. World Health Assembly Res. 68.1, *Programme Budget 2016–2017* (May 22, 2015). The WHO's program budget for the 2016 to 2017 financial period consisted of \$4385 million in total funding, \$3456 million of which were voluntary contributions. *Id.*

245. WHO, *Voluntary Contributions by Fund and by Contributor, 2016*, at 8, WHO Doc. A70/INF./4 (May 16, 2017).

246. Peter M. Haas, *Introduction: Epistemic Communities and International Policy Coordination*, 46 INT'L ORG. 1, 2–3 (1992).

247. *Id.* at 2.

David Heymann, who was appointed the WHO's Assistant Director-General for Communicable Diseases in 2007.²⁴⁸ He held various other roles within the WHO, led the WHO's response to the SARS outbreak in 2003, previously worked for the U.S. Centers for Disease Control and Prevention, and is now a Professor of Infectious Disease Epidemiology at the London School of Hygiene and Tropical Medicine, where he authors works pushing for changes to the 2005 IHR's implementation.²⁴⁹

C. *The Strategies*

In theory, those unsatisfied with a treaty as written can withdraw, seek its formal interpretation or reinterpretation by an authoritative adjudicatory body, or lobby to revise its text according to the Vienna Convention or revision provisions within the treaty itself. But withdrawal is a blunt tool available only to state parties; authoritative adjudication rarely occurs even when formal procedures for dispute resolution exist; and revision is typically infeasible until the political climate leading to the initial compromise shifts.

During the decades after the 1969 IHR came into force, each of these constraints were in place. Nearly all of the WHO's member states were state parties to the 1969 IHR,²⁵⁰ yet no party withdrew despite well-recognized problems with the treaty. The 1969 IHR contained a formal adjudicatory process by which disputes not settled by the WHO's executive head could then be referred to a committee within the WHO and finally to the ICJ.²⁵¹ But disputes were almost exclusively dealt with through the WHO's informal mediation efforts. A WHO committee was convened only once—to address a 1970 controversy involving Turkey, Romania, and Bulgaria²⁵²—and no disputes have been referred to the ICJ. As noted above, proposals from the WHO's staff to dramatically revise the text of the 1969 IHR did not receive enough support from member states to be politically feasible.²⁵³ Consequently, the 1969 IHR was revised in only marginal ways prior to 2005. In 1973, the provisions on cholera were adjusted; and in 1981, smallpox was removed from the list of reportable diseases in view of its eradication.²⁵⁴

248. Hannah Brown, *WHO Director-General Announces Senior Team*, 369 LANCET 893, 894 (2007).

249. See *Professor David Heymann CBE*, CHATHAM HOUSE, <https://www.chatham-house.org/expert/prof-david-l-heyman-cbe> (last visited Oct. 21, 2018) (describing his experiences in global health).

250. See 1969 IHR, *supra* note 19, annex I.

251. *Id.* art. 93.

252. DAVID M. LEIVE, 1 INTERNATIONAL REGULATORY REGIMES: CASE STUDIES IN HEALTH, METEOROLOGY, AND FOOD 54–64 (1976).

253. See *supra* note 220 and accompanying text.

254. See 2005 IHR (3d ed. 2016), *supra* note 201, at 1.

These modest revisions belie the far-reaching changes that were in fact occurring gradually via the law's implementation in practice.

Implementation offers those seeking change unique opportunities that might otherwise be unavailable. It presents new questions or new permutations of old questions, which, in turn, open up space to redefine the boundary between what the law condones or authorizes and what it does not, or to layer additional informal practices on top of those connected to the existing treaty.²⁵⁵ Informal implementation dynamism is easier to achieve because the change is initially limited to a particular instance and the particular parties involved in that instance. It, therefore, requires less consensus and less commitment. And, it curtails concerns about uncertainty and sovereignty since the circumstances are concrete and known.²⁵⁶ Informal implementation changes are frequently not announced as a "change" to the treaty at issue and do not require sign-off by the same high-level officials or high-profile departments whose approval would be needed to alter the treaty's text. For the same reasons, informal implementation dynamism is harder to detect and block for those not in favor of the change.

Informal implementation-level change also has drawbacks and limits. It is smaller in scale, less official, and its impact initially limited to the instance at hand. A change in implementation may be abandoned soon after it is invented, or its impact may grow over time—gradually expanding until what happens on the ground bears little relation to the original intention of the treaty-makers or the words of the treaty. Informal implementation-level change can also initiate a learning process by which new information is generated, uncertainty reduced, and preferences altered such that a textual amendment becomes more likely in the future.

Below, I sketch three mechanisms of informal implementation-level change: (1) erosion of the treaty through neglect or active efforts; (2) transition to another institutional option for addressing the underlying problem; and (3) conversion of the treaty from within via altered practice.²⁵⁷ These three mechanisms are presented along with illustrative examples from the international regulation of infectious disease. For the sake of coherence, they are presented in the chronological order in which the historical episodes occurred. This Section presents these mechanisms in isolation, but as the examples show, they often operate in tandem.

255. This insight draws both from the history of international infectious disease regulation and the literature on institutional change. *See supra* Section II.C.

256. The advantages of implementation dynamism are similar to those of soft law. *See* Abbott & Snidal, *supra* note 36, at 423.

257. These mechanisms are observed from the history of international infectious disease regulation, the literature on institutional change, and they draw insights from the literature on institutional change. *See infra* notes 258–316 and accompanying text.

*Erosion of the treaty through neglect or active efforts.*²⁵⁸ This mechanism of implementation dynamism is driven by inaction in the face of change. Contextual conditions shift while the treaty remains constant, opening up gaps between the existing agreement and the real world, and weakening the treaty's impact on the ground. Such failure to upkeep a treaty may occur due to neglect or abdication of responsibilities, or it may be deliberately cultivated through intentional decisions and actions that promote a treaty's atrophy.

This mechanism is a more moderate version of Article 62 of the Vienna Convention, which allows a state party to terminate or withdraw from a treaty when circumstances constituting an "essential basis of the consent of the parties" change fundamentally and unforeseeably such that "the extent of obligations still to be performed under the treaty" is "radically . . . transform[ed]."²⁵⁹ Compared to Article 62, which has never been successfully asserted judicially or in a diplomatic setting,²⁶⁰ erosion in the face of drifting circumstances is more common, gradual, and subtle. Over time, erosion can radically transform a treaty's significance and impact in practice, even in the absence of termination, withdrawal, or any other formal change.

Within the context of international infectious disease regulation, erosion of the 1969 IHR accompanied the strategic decision to pursue informal implementation change on the ground. Once the WHO's staff and likeminded members of the epistemic community determined that the revisions they sought to the 1969 IHR were politically infeasible, they chose to deliberately neglect the law and, in some instances, to push it toward irrelevance. In an internal memorandum explaining the decision, one WHO official recalled the "serious attempt" that was made to revise the 1951 ISR between 1966 and 1969, with significant investment in time and money.²⁶¹ He bemoaned that no significant amendment could be agreed upon except for the removal of typhus and relapsing fever and "[c]ertainly the revision has had no effect on the day to day administration of the IHR."²⁶²

Not only was the decision to neglect the 1969 IHR considered, but it was actively cultivated in an effort to minimize the law's import while it remained on the books. In a number of incidents and publications, the 1969 IHR was increasingly framed not as an independent mandate, but as one aspect of a larger strategy for infectious disease control. In 1970, the WHO's

258. This mechanism of erosion is similar to what scholars of institutional change call "drift." See MAHONEY & THELEN, *supra* note 173, at 17 ("Drift occurs when rules remain formally the same but their impact changes as a result of shifts in external conditions."); Streeck & Thelen, *supra* note 174, at 24–26 (also discussing drift).

259. Vienna Convention, *supra* note 1, art. 62.

260. See *supra* note 82 and accompanying text.

261. Memorandum from Ian D. Carter to Halfdan T. Mahler, *supra* note 217.

262. *Id.*

staff publicized information regarding a cholera outbreak in Guinea that had not been reported under the 1969 IHR.²⁶³ In so doing, WHO officials acknowledged that they were operating outside the 1969 law but justified the act by reference to a broader mandate: “[I]n order to fulfil the Organization’s obligations under Article 2 of the WHO Constitution, the presence of cholera should be disclosed in the absence of notification when reliable technical evidence is available.”²⁶⁴ The implication was that the Secretariat’s wider and more ambiguous mandate under the WHO’s Constitution took priority over its narrower mandate under the 1969 IHR—an argument that had little legal or historical basis.

The 1969 IHR was further relegated to a lower status in a 1985 WHO publication on the functioning of the IHR. That publication argued that reporting under the 1969 IHR “represents *one of the ways* in which epidemiological information circulates among countries” but “would not be sufficient in isolation, because unusual events need to be detected and brought to the notice of other countries as and when they happen.”²⁶⁵ The focus on “unusual events” rather than the three diseases requiring notification at the time is significant: The same report on the functioning of the IHR documented not only the status of those three diseases but also included a section on “[o]ther diseases,” including influenza, malaria, and poliomyelitis.²⁶⁶ Notifications under the 1969 IHR gradually occupied a smaller and smaller part of the Weekly Epidemiological Record²⁶⁷ and constituted only one small paragraph at the end of a lengthy report by the early 1980s.

*Transition to another institutional arrangement.*²⁶⁸ This mechanism of change involves multiple institutional options for managing an underlying

263. World Health Org., *Cholera: Situation in the Eastern Mediterranean and Africa*, 45 WKLY. EPIDEMIOLOGICAL REC. 377, 377 (1970).

264. *Id.*

265. World Health Org., *supra* note 213, at 385–86 (emphasis added).

266. This section is omitted in the reprint of the report in Volume 61, Number 50 of the Weekly Epidemiological Report, *see* World Health Org., *supra* note 213, at 385–91, but is in the original report located in the WHO Archives for the 1969 IHR. *See* WHO, *Functioning of the International Health Regulations for the Period 1 January to 31 December 1985* (Dec. 1986) (on file with author).

267. The *Weekly Epidemiological Record* is a weekly publication disseminating standardized health statistics that began in 1929 under the Health Organization of the League of Nations. Margaret Harris, *A Journey Through 90 Years of the Weekly Epidemiological Record*, 91 WKLY. EPIDEMIOLOGICAL REC. 169, 169 (2016).

268. This mechanism of transition is similar to two mechanisms identified by scholars of institutional change: displacement (“when new institutions are introduced and directly compete with (rather than supplement) an older set of institutions”) and layering (“when new rules are attached to existing ones, thereby changing the ways in which the original rules structure behavior”). MAHONEY & THELEN, *supra* note 173, at 16. The difference between the two mechanisms is that displacement “introduce[s] wholly new institutions or rules,” whereas layering “involves amendments, revisions, or additions to existing ones.” *Id.*; *see also* Streeck & Thelen, *supra* note 174, at 19–24. I do not differentiate between wholly new rules and additions to existing ones because that distinction is often difficult to make in the international infectious disease regulation context. There is

problem. One of these institutional options is the treaty at issue. The others may take a number of forms: another international treaty, a domestic law, or perhaps a policy implemented by the same or different actors or agencies, whether international or local. The other institutional option may already exist and is repurposed, or it may be created—through the active sponsorship of new rules or policies on top of or alongside existing ones—for the purpose of moving away from the disfavored treaty. In either case, the problem is reframed or resituated such that it comes under the purview of a different institutional structure. The mechanism may not initially look like a change to the treaty at all since the development begins outside of the treaty. But as the transition progresses, there is a gradual shifting of relative prominence away from the treaty and toward the other institutional option, potentially leading to the crowding out of the disfavored treaty.

Transitions to both existing alternative institutional arrangements and newly created ones played important roles in the history of international infectious disease regulation. A well-recognized weakness of the 1969 IHR was its reliance on self-reporting of covered diseases by state parties. The WHO neither had the capacity to conduct its own surveillance nor the authority to publish unreported information even when such information “ha[d] been reported in the media for several days.”²⁶⁹ In a 1979 policy memorandum, one WHO official wrote: “The one thing that [the Department of Epidemiological Surveillance of Diseases] does not do in the true sense of the word is the surveillance of communicable disease.”²⁷⁰ When the WHO’s staff decided not to pursue an amendment to the 1969 IHR and instead to minimize its importance, they also began undertaking concurrent efforts to move infectious disease reporting beyond the confines of the 1969 law.

Movement to an existing alternative institutional arrangement is illustrated by the above example concerning the 1970 cholera outbreak in Guinea.²⁷¹ There, neglect and violation of the 1969 IHR was facilitated by an appeal to another mandate—the WHO’s Constitution. Movement to a newly created alternative is illustrated by the WHO’s development of novel outbreak surveillance tools and policies during the 1990s. Here, the WHO collaborated with domestic actors and agencies to devise additional channels of reporting that initially seemed unrelated to the 1969 IHR. These channels became more salient over time and received post hoc approval, first through two WHO resolutions and then by the adoption of the 2005 IHR.

With the popularization of the internet in the 1990s, the WHO collaborated with a community of national medical experts to develop two global

much cross-referencing across WHO reports, resolutions, and laws, making it difficult to tell whether a new initiative or rule is an addition or wholly new.

269. World Health Org., *supra* note 213, at 388.

270. Memorandum from Ian D. Carter to Halfdan T. Mahler, *supra* note 217.

271. *See supra* notes 263–264 and accompanying text.

surveillance tools that provided an alternative to official reporting under the 1969 IHR. The first was the Program for Monitoring Emerging Diseases (“ProMED”). Created in 1993 by attendees at a conference co-sponsored by the WHO and the Federation of American Scientists, ProMED is an e-mail-based system for providing early warnings of emerging epidemics involving humans, animals, and plants.²⁷² It began with forty subscribers and opened to the public at no cost in November 1994.²⁷³ By April 2004, ProMED reached nearly 35,000 direct subscribers in over 180 countries in addition to secondary disseminators.²⁷⁴ Its subscribers include WHO personnel, UN humanitarian agencies, national public health agencies, and interested members of the public.²⁷⁵

The second surveillance tool was the Global Public Health Information Network (“GPHIN”), a cooperative venture between Health Canada and the WHO, developed in the mid-1990s.²⁷⁶ GPHIN gathers information by monitoring global media sources twenty-four hours a day, seven days a week. Using news aggregators such as Factiva,²⁷⁷ GPHIN filters items first through an automated scanning system that identifies keywords, and then by human analysts working in multiple languages. Subscription to GPHIN is restricted to organizations with an established public health mandate, such as the WHO, the United States Centers for Disease Control and Prevention, the European Centre for Disease Prevention and Control, and military agencies.²⁷⁸

Over the course of the next few years, ProMED and GPHIN were increasingly relied on for early warnings of outbreaks and became routinely used both within and without the WHO. ProMED posted early warnings of the 1995 Ebola outbreak in Zaire, the 1996 cholera outbreak in the Philippines, and the Ebola outbreak in Gabon that same year—with the latter two outbreaks being publicized on ProMED before the WHO was authorized to report them. The WHO used this information to initiate conversations with national governments, verify the rumored outbreaks, and offer assistance in containing the outbreaks. Between July 1998 and August 2001, the WHO

272. Lawrence C. Madoff & John P. Woodall, *The Internet and the Global Monitoring of Emerging Diseases: Lessons from the First 10 Years of ProMED-mail*, 36 ARCHIVES MED. RES. 724, 724 (2005).

273. *Id.*

274. *Id.* at 725–29.

275. *Id.* at 726.

276. *About GPHIN*, PUB. HEALTH AGENCY OF CAN., https://gphin.canada.ca/cepr/aboutgphin-rmispnbref.jsp?language=en_CA (last modified Mar. 15, 2017) (last visited May 30, 2019).

277. Factiva aggregates thousands of news sources in 28 languages from nearly 200 countries. *Factiva: About*, PROQUEST, <https://proquest.libguides.com/factiva> (last visited May 13, 2019).

278. Interview with Abla Mawudeku, Chief of Glob. Pub. Health Info. Network, Ctr. for Emergency Preparedness and Response, Pub. Health Agency of Can., Ottawa (Jan. 5, 2007).

verified 578 outbreaks in 132 countries, fifty-six percent of which were initially picked up by GPHIN.²⁷⁹ Outbreaks reported through these surveillance tools included those within the scope of the 1969 IHR as well as those beyond it.²⁸⁰ By 2003, “nonstate sources delivered far more actionable surveillance” than official national reporting.²⁸¹

The use of unofficial sources of outbreak information received retrospective approval. In 1998, the WHO’s staff sought and received partial authorization for the practice in a resolution unrelated to the 1969 IHR. WHO officials drafted and submitted to member states a report describing the rapid emergence and spread of drug-resistant pathogens and outlining necessary solutions, including better surveillance to define the extent of resistance in different pathogens and populations.²⁸² Based on this report, member states adopted a resolution authorizing the WHO to “devise means for the gathering and sharing of information by countries and regions concerning resistance in certain pathogens.”²⁸³

That authorization was expanded in 2001 through another report and resolution on epidemic alert and response. This report noted that only twenty-three percent of outbreak notifications received by the WHO came from national self-reporting, “while the most significant source was the Global Public Health Information Network of Canada.”²⁸⁴ The resolution urged member states to “participate actively” in the verification of surveillance information.²⁸⁵

By the time negotiations for the 2005 IHR began in 2004, the WHO had been conducting independent surveillance and relying on unofficial sources of outbreak information for years. It was no longer controversial and did not receive much attention during the two rounds of negotiations.²⁸⁶ The 2005

279. WORLD HEALTH ORG., COMMUNICABLE DISEASES 2002: GLOBAL DEFENCE AGAINST THE INFECTIOUS DISEASE THREAT 60 (Mary Kay Kindhauser ed., 2003).

280. *See id.*

281. NAT’L ACADS. OF SCIS., ENG’G, & MED., *supra* note 27, at 19–20.

282. Director-General, WHO, *Emerging and Other Communicable Diseases: Antimicrobial Resistance*, at 1–3, WHO Doc. EB101/13 (Oct. 22, 1997).

283. World Health Assembly Res. 51.17, *Emerging and Other Communicable Diseases: Antimicrobial Resistance*, ¶ 2, WHO Doc. A51/VR/10 (May 16, 1998).

284. Exec. Bd., WHO, *Summary Records for Its Third Meeting of the 107th Session*, at 42, WHO Doc. EB107/2001/REC/2 (Jan. 16, 2001).

285. World Health Assembly Res. 54.14, *Global Health Security: Epidemic Alert and Response*, ¶ 2, WHO Doc. A54/VR/9 (May 21, 2001).

286. Although there is no publicly available verbatim record of the negotiations, the lack of attention to reliance on unofficial sources of outbreak information is evident by comparing several draft negotiating texts and the final adopted law. The provisions on unofficial sources remain largely the same. Compare Intergovernmental Working Grp. on Revision of the Int’l Health Regulations, WHO, *International Health Regulations: Working Paper for Regional Consultations*, at 7–9, WHO Doc. IGWG/IHR/Working paper/12.2003 (Jan. 12, 2004) (containing the draft negoti-

IHR explicitly requires the WHO to “collect information” concerning outbreaks “through its surveillance activities”²⁸⁷ and to “take into account reports from sources other than notifications” from state parties.²⁸⁸

Transition to another institutional option is particularly significant in the international context given the fragmented and nonhierarchical nature of the international sphere. Political science scholars have observed that many countries belong to a plethora of nested and overlapping international institutions, including those that are universal, regional, and issue specific.²⁸⁹ The rising density of international regulatory regimes has led to overlap across agreements, conflicts between them, and confusion regarding which obligations cover a given issue.²⁹⁰ Legal scholars describe the international legal system as diffuse, decentralized, and “shaped by dynamics of cooperation and competition over time.”²⁹¹ This environment of complexity and fragmentation gives rise to an abundance of opportunities to shift management of an underlying problem to other institutional options or actors, altering the implementation of a treaty on the ground without any explicit changes to the treaty itself.

*Conversion of the treaty from within through altered practice.*²⁹² Conversion is perhaps the most familiar mechanism of informal implementation dynamism to lawyers. It occurs when a treaty is directed toward new purposes by operating within the ambiguities of the text and pushing against the limits of what the text means. In the judicial context, conversion occurs through reinterpretation by authoritative adjudicative bodies. In the informal implementation context, conversion occurs when implementers work within and push against the limits of treaty text to put the agreement into practice in a new way. Since the 2005 IHR came into effect in 2007, there has been one

ating text as of January 2004, prior to the first round of intergovernmental negotiations), and Intergovernmental Working Grp. on Revision of the Int'l Health Regulations, WHO, *Review and Approval of Proposed Amendments to the International Health Regulations: Draft Revision*, at 9–10, WHO Doc. A/IHR/IGWG/3 (Sept. 30, 2004) (containing the draft negotiating text as of September 2004, prior to the first round of intergovernmental negotiations), and Chair of the Intergovernmental Working Grp. on Revision of the Int'l Health Regulations, WHO, *Review and Approval of Proposed Amendments to the International Health Regulations*, at 7–9, WHO Doc. A/IHR/IGWG/2/2 (Jan. 24, 2005) (containing the draft negotiating text as of January 2005, in between the two rounds of intergovernmental negotiations), with 2005 IHR, *supra* note 18, arts. 5–10.

287. 2005 IHR, *supra* note 18, art. 5(4).

288. *Id.* art. 9(1).

289. See Alter & Meunier, *Nested and Overlapping Regimes*, *supra* note 32, at 362–63; Alter & Raustiala, *supra* note 32, at 329.

290. Alter & Meunier, *The Politics of International Regime Complexity*, *supra* note 32, at 13.

291. Jenny S. Martinez, *Towards an International Judicial System*, 56 STAN. L. REV. 429, 443 (2003).

292. This mechanism is similar to what scholars of institutional change also call “conversion.” See MAHONEY & THELEN, *supra* note 173, at 17 (“Conversion occurs when rules remain formally the same but are interpreted and enacted in new ways.”); Streeck & Thelen, *supra* note 174, at 26–29.

minor amendment in 2014: The period of effectiveness for the yellow fever vaccination was extended from ten years to the life of the person vaccinated.²⁹³ By contrast, informal implementation conversion has introduced far more significant changes.

A critical subject of contention during the 2005 IHR negotiations was the proposed requirement that state parties develop a minimum level of core public health capacity so that they are able to detect, report, and respond promptly to “public health emergenc[ies] of international concern.”²⁹⁴ Numerous member states protested that the requirement was “very onerous,” expressed concern about sovereignty implications, demanded a commitment to transfer resources to the poorest countries, and argued that the law should allow adequate time for changes to take place.²⁹⁵

Negotiating states were not able to come to a consensus on many of these issues. Ultimately, the 2005 IHR postponed the law’s entry into force to two years after adoption (2007) and set the deadline for attaining core capacity requirements at five years (2012) with the possibility of two two-year extensions (to 2014 and 2016).²⁹⁶ The WHO must, “to the extent possible,” help states evaluate existing capacities and mobilize financial resources to support developing countries’ efforts to build and maintain the required capacities.²⁹⁷ State parties must “undertake to collaborate with each other, to the extent possible,” in developing capacities and in mobilizing financial resources for general implementation.²⁹⁸ No quantitative financial commitments were made. At the time of its adoption, scholars identified the law’s lack of stronger provisions for transferring financial and technical resources as a “a serious problem.”²⁹⁹

During the years after the 2005 IHR went into effect, capacity building was an area of persistent difficulty. After the H1N1 influenza pandemic in 2009, a review committee of national public health experts convened by the

293. World Health Assembly Res. 67.13, *Implementation of the International Health Regulations (2005)*, ¶ 2, WHO Doc. A67/VR/9 (May 24, 2014).

294. 2005 IHR, *supra* note 18, arts. 6(1).

295. See *WHO Proposals for the Revision of the International Health Regulations: Comments Received*, WORLD HEALTH ORG., <https://www.who.int/ihr/revisionprocess/comments/en/> (last visited May 13, 2019) (listing comments received from various countries and “other interested partners” prior to and between the two rounds of intergovernmental negotiations).

296. 2005 IHR, *supra* note 18, arts. 5(1)–(2), 13(1)–(2), annex 1; 2005 IHR (3d ed. 2016), *supra* note 201, at 1.

297. 2005 IHR, *supra* note 18, art. 44(2).

298. *Id.* art. 44(1).

299. Fidler & Gostin, *supra* note 200, at 88.

WHO recommended first and foremost that the implementation of core capacities be accelerated.³⁰⁰ The Ebola outbreak in 2013 to 2016, which resulted in more than 11,000 deaths,³⁰¹ was attributed to “large-scale noncompliance” with the 2005 IHR’s capacity-building requirements in the three countries most affected by the epidemic—Guinea, Liberia, and Sierra Leone.³⁰² By November 2014, only thirty-three percent of state parties self-reported that they had met the capacity requirements, while forty-two percent requested a second extension to 2016, and twenty-five percent did not communicate their intentions to the WHO at all.³⁰³

Members of the infectious disease epistemic community identified several weaknesses in the capacity-building aspect of the 2005 IHR and argued that the law “need[ed] more teeth.”³⁰⁴ Chief among these weaknesses were reliance on self-assessment and self-reporting by member states and the absence of standing financial commitments³⁰⁵—issues that could not be resolved during the 2005 IHR’s negotiation and remained contentious in subsequent years.³⁰⁶ Legal and public health experts suggested independent evaluations of domestic public health capacities and clearer benchmarks,³⁰⁷

300. Director-General, WHO, *Implementation of the International Health Regulations (2005)*, ¶ 8, WHO Doc. A65/17 (Mar. 22, 2012).

301. Director-General, WHO, *Implementation of the International Health Regulations (2005): Rep. of the Review Committee on the Role of the International Health Regulations (2005) in the Ebola Outbreak and Response*, ¶ 1, WHO Doc. A69/21 (May 13, 2016).

302. David P. Fidler, *Epic Failure of Ebola and Global Health Security*, 21 BROWN J. WORLD AFF. 179, 187 (2015).

303. Director-General, WHO, *Implementation of the International Health Regulations (2005): Rep. of the Review Committee on Second Extensions for Establishing National Public Health Capacities and on IHR Implementation*, at 2, WHO Doc. EB136/22 Add.1 (Jan. 16, 2015).

304. Dr. Margaret Chan, Dir.-Gen., World Health Org., Report by the Director-General to the Special Session of the Executive Board on Ebola (Jan. 25, 2015), <http://www.who.int/dg/speeches/2015/executive-board-ebola/en/>.

305. See, e.g., Rebecca Katz & Julie Fischer, *The Revised International Health Regulations: A Framework for Global Pandemic Response*, 3 GLOBAL HEALTH GOVERNANCE 1, 9 (2010) (noting that lack of financial commitments was the 2005 IHR’s “greatest operational challenge”).

306. Suerie Moon et al., *Will Ebola Change the Game? Ten Essential Reforms Before the Next Pandemic. The Report of the Harvard-LSHTM Independent Panel on the Global Response to Ebola*, 386 LANCET 2204, 2209 (2015).

307. Director-General, *supra* note 303, ¶ 43 (recommending that the WHO “consider a variety of approaches for the shorter- and longer-term assessment and development of IHR core capacities,” including regional formal evaluations or meta-evaluations); COMM’N ON A GLOB. HEALTH RISK FRAMEWORK FOR THE FUTURE, THE NEGLECTED DIMENSION OF GLOBAL SECURITY: A FRAMEWORK TO COUNTER INFECTIOUS DISEASE CRISES 33 (2016) (suggesting that a “regular, independent, transparent, and objective assessment mechanism” be devised to evaluate national capacity building); Lawrence O. Gostin et al., *The International Health Regulations 10 Years on: The Governing Framework for Global Health Security*, 386 LANCET 2222, 2224 (2015) (recommending that the “WHO should establish an independent peer-review core capacity evaluation system”); Moon et al., *supra* note 306, at 2204 (“[A]ll governments must agree to regular, independent, external assessment of their core capacities.”).

which could be tied to the provision of external financing.³⁰⁸ A 2016 WHO report on the 2005 IHR concluded that, after Ebola, “exclusive use of this [self-assessment] approach is no longer appropriate” and that “over-reliance on self-assessment has led to incomplete and unreliable reporting of core capacities.”³⁰⁹

While there was discussion about revising the 2005 IHR to stipulate more concrete requirements for building public health capacities,³¹⁰ there was also fear that “reopening the full text could entail a multiyear negotiating process.”³¹¹ A number of experts recommended against “renegotiating the main text of the International Health Regulations,” and instead suggested pursuing the proposed legal reforms through “informal means” such as textual reinterpretation.³¹² Again, informal implementation-level change served as a more feasible alternative to formal change.

Over the last few years, the WHO and other members of the epistemic community have worked to convert the meaning of the 2005 IHR’s core capacity requirements while also transitioning some of its implementation to other institutional arrangements. In 2016, the WHO developed a “Joint External Evaluation Tool” for monitoring, assessing, and reporting core capacities.³¹³ That tool has been operationalized by a newly-formed Joint External Evaluation Alliance (“the Alliance”) comprised of seventy-two members, including thirty-one countries and a range of international organizations, development banks, NGOs, and private foundations.³¹⁴ The Alliance draws its legal mandate from not only the 2005 IHR, but also the UN’s sustainable development goal on good health and well-being, standards generated by the World Organisation for Animal Health, and the Sendai Framework for Disaster Risk Reduction.³¹⁵ As of May 24, 2019, ninety-six external evaluations have been conducted in six regions, with twenty-one more scheduled.³¹⁶

308. Moon et al., *supra* note 306, at 2209 (“Monitoring requirements should accompany external financing.”).

309. Director-General, *supra* note 301, ¶¶ 28, 29.

310. Lawrence O. Gostin & Eric A. Friedman, *A Retrospective and Prospective Analysis of the West African Ebola Virus Disease Epidemic: Robust National Health Systems at the Foundation and an Empowered WHO at the Apex*, 385 LANCET 1902, 1906 (2015) (“The World Health Assembly should revise the IHR to provide concrete steps for building health system capacities.”)

311. Gostin et al., *supra* note 307, at 2223.

312. *Id.*; see also COMM’N ON A GLOB. HEALTH RISK FRAMEWORK FOR THE FUTURE, *supra* note 307, at 33 (“It should not be necessary to open the 2005 IHR to renegotiation to determine new definitions and benchmarks [for national capacity-building requirements], since these could be developed through informal means . . .”).

313. See generally WORLD HEALTH ORG., JOINT EXTERNAL EVALUATION TOOL: INTERNATIONAL HEALTH REGULATIONS (2005) (2016), http://apps.who.int/iris/bitstream/10665/204368/1/9789241510172_eng.pdf?ua=1.

314. *Members*, JEE ALL., <https://www.jeealliance.org/members/> (last visited Apr. 1, 2019).

315. *About*, JEE ALL., <https://www.jeealliance.org/about/> (last visited Mar. 1, 2018).

316. *Joint External Evaluation (JEE)*, JEE ALL., <https://www.jeealliance.org/global-health-security-and-ihr-implementation/joint-external-evaluation-jee/> (last visited May 30, 2019).

IV. INVESTIGATING WRITTEN INTERNATIONAL LAW IN TIME

Peeling back the textual and formal façade of the 1969 and 2005 IHRs reveals a richly dynamic world of informal implementation that unfolded in unpredictable ways as the treaties were put into practice over long spans of time. This history cannot be captured by the Vienna Convention's doctrinal concept of subsequent practice, and suggests that treaty dynamism is far more varied and complex than depicted by existing scholarship. Focusing on formal change mechanisms generates a picture that is not only incomplete but also potentially misleading. It can underestimate the level of dynamism when a treaty is apparently static, overestimate the level of dynamism when a treaty is explicitly amended, and provide an inaccurate portrayal of how the underlying problem was in fact managed on the ground. In the infectious disease context, informal implementation-level change was neither secondary in importance, nor sequential in temporal order, to formal changes to the treaty's text, membership, or judicial interpretation.

Exposing the informal implementation dynamism of treaties opens up new questions while challenging assumptions at the heart of our current understanding of written international law.

Empirical questions. More empirical studies are needed to determine how generalizable insights drawn from the international regulation of infectious disease are to other areas of international law. The prevalence and significance of informal change has been noted by other scholars in areas such as intellectual property and trade, suggesting that similar dynamics are at work elsewhere.³¹⁷ Yet, the 1969 and 2005 IHRs are unique in certain respects. Unlike the usual opt-in and ratification processes, these agreements were adopted by a majority vote of the WHO's policy-making organ, composed of representatives from all member states,³¹⁸ and came into force after a period of time for all member states except those that opted out or submitted reservations.³¹⁹ Compared to other multilateral treaties, these agreements are very widely subscribed to, with the 2005 IHR now being legally binding on

317. See DEERE, *supra* note 32; Levit, *supra* note 32.

318. The WHO's policy-making organ is the World Health Assembly. See *World Health Assembly*, WORLD HEALTH ORG., <https://www.who.int/about/governance/world-health-assembly> (last visited June 3, 2019).

319. This streamlined treaty adoption process is set out in Article 21 of the Constitution of the World Health Organization and authorizes the World Health Assembly to adopt regulations on five specific subject areas, including the prevention of international disease spread. See WORLD HEALTH ORG., *Constitution of the World Health Organization*, in BASIC DOCUMENTS 1, 7–8 (48th ed. 2014).

196 state parties.³²⁰ And these treaties are administered by the WHO's centralized bureaucracy of experts³²¹ and concern a technical, "low politics" topic. The overall implication of these features for the likelihood of informal versus formal change is unclear. One might expect formal change to be easier and therefore informal change less prominent given the streamlined adoption and revision process; one might expect the opposite given the large number of state parties involved and the presence of a centralized bureaucracy. Both formal and informal change might be more difficult in a "high politics" area.

Studies across subject matters and treaty types are needed not only to test the extensibility of this Article's findings, but also to explore further empirical puzzles, including when informal implementation change is preferable to alternatives such as unilateral withdrawal and creating a rival agreement,³²² how the three mechanisms of informal implementation dynamism interact with each other, and when implementers choose one strategy over another. These empirical questions call for methodologies that are appropriate for investigating international law in time. Studies that are *deep* (delving beneath the text and authoritative interpretation of a treaty to examine the often-hidden actors and processes that translate it into practice), *wide* (examining not only the treaty at issue but other laws, policies, and institutions that might provide oblique channels for change), and *long* (looking past snapshots of the treaty to observe its continuous evolution across extended periods of time) are needed to see the full panoply of change in action.

Conceptual questions. The vast scope of change achievable through informal implementation dynamism and its ability to precipitate future textual amendment suggest that we need to rethink our very idea of what written international law is. For decades, the study of international law has been permeated with existential anxieties about enforcement problems and non-compliance,³²³ where measuring compliance "merely requires comparing the relevant activity with the treaty's requirements."³²⁴ Underlying this empha-

320. *States Parties to the International Health Regulations (2005)*, *supra* note 190.

321. Much like an executive agency, the WHO's day-to-day activities are run by its Secretariat—a permanent staff composed of thousands of experts that exercise some degree of autonomy. See *WHO—Organizational Structure*, WORLD HEALTH ORG., <https://www.who.int/about/who-we-are/structure> (last visited June 3, 2019).

322. I thank Laurence Helfer for pointing out this question.

323. See, e.g., Shima Baradaran et al., *Does International Law Matter?*, 97 MINN. L. REV. 743, 747 (2013); Francis A. Boyle, *The Irrelevance of International Law: The Schism Between International Law and International Politics*, 10 CAL. W. INT'L L.J. 193, 199 (1980); Rachel Brewster, *Unpacking the State's Reputation*, 50 HARV. INT'L L.J. 231, 231 (2009); Cogan, *supra* note 77, at 189; Anthony D'Amato, *Is International Law Really "Law"?*, 79 NW. U. L. REV. 1293, 1293 (1985).

324. Oona A. Hathaway, *Do Human Rights Treaties Make a Difference?*, 111 YALE L.J. 1935, 1964 (2002).

sis on compliance and the straightforward portrayal of the relationship between “the relevant activity” and “the treaty’s requirements” is an unspoken conceptual model that casts international agreements as blueprints awaiting faithful execution. The dynamism of “the relevant activity” and its capacity to sometimes leap ahead of and foreshadow “the treaty’s requirements” cuts at the very core of this model. In fact, treaties may more accurately be described as departure points for further bargaining among implementers as constraints and opportunities reveal themselves over time.³²⁵

Recognizing the full range of treaty dynamism brings to a head a number of criticisms on the study of compliance. Measuring the level of compliance provides little insight on its significance and consequences over time. A high rate of compliance does not necessarily signal that a treaty is effectively addressing the underlying problem,³²⁶ nor does it mean that a treaty has caused change in state behavior.³²⁷ Conversely, a low rate of compliance is not necessarily deleterious, since not all noncompliance is equal. Some noncompliance may be inevitable or may even serve a purpose.³²⁸ As observed from the international infectious disease case study, problems with enforcement are often opportunities that open up space for future change. More nuanced investigations are needed to untangle the relationship between compliance and informal implementation change.

325. Similar observations have been made about domestic policies and implementation. See Giandomenico Majone & Aaron Wildavsky, *Implementation as Evolution* (1979), in IMPLEMENTATION: HOW GREAT EXPECTATIONS IN WASHINGTON ARE DASHED IN OAKLAND; OR, WHY IT’S AMAZING THAT FEDERAL PROGRAMS WORK AT ALL THIS BEING A SAGA OF THE ECONOMIC DEVELOPMENT ADMINISTRATION AS TOLD BY TWO SYMPATHETIC OBSERVERS WHO SEEK TO BUILD MORALS ON A FOUNDATION OF RUINED HOPES 163, 164–68 (Jeffrey L. Pressman & Aaron Wildavsky eds., 3d ed. 1984) (discussing models of implementation as control and implementation as interaction).

326. See, e.g., George W. Downs et al., *Is the Good News About Compliance Good News About Cooperation?*, 50 INT’L ORG. 379, 380 (1996); Lisa L. Martin, *Against Compliance*, in INTERDISCIPLINARY PERSPECTIVES ON INTERNATIONAL LAW AND INTERNATIONAL RELATIONS: THE STATE OF THE ART, *supra* note 34, at 591–92.

327. Authors note the difficulty of establishing causation since the decision to commit to an international law is entangled with the decision to comply. See, e.g., Beth A. Simmons, *Treaty Compliance and Violation*, 13 ANN. REV. POL. SCI. 273, 275 (2010) (“[Almost] all studies of the influence of treaties on state behavior encounter serious issues of endogeneity and selection.”).

328. See, e.g., Abram Chayes & Antonia Handler Chayes, *On Compliance*, 47 INT’L ORG. 175, 188 (1993) (arguing that only infrequently is treaty violation the result of “willful flouting of legal obligation” whereas, most of the time, violations arise from “(1) ambiguity and indeterminacy of treaty language, (2) limitations on the capacity of parties to carry out their undertakings, and (3) the temporal dimension of the social and economic changes contemplated by regulatory treaties”); Cogan, *supra* note 77, at 190–91, 204–05 (discussing the benefits of “operational noncompliance,” which occurs when states breach international law even as they try to promote it, an example being the humanitarian intervention in Kosovo); Eric A. Posner & Alan O. Sykes, *Efficient Breach of International Law: Optimal Remedies, “Legalized Noncompliance,” and Related Issues*, 110 MICH. L. REV. 243, 245–46 (2011) (discussing efficient breach).

Normative questions. More thinking is also needed on the question of whether informal implementation dynamism is normatively desirable. On the one hand, informal change could undermine the formal negotiation and consent-based processes laid out in the Vienna Convention that currently underpins the legitimacy of written international law. Informal change can take international lawmaking out of public view and beyond the control of any one state party. It can detract from international law's predictability if a treaty might mean something different tomorrow than it does today. And it can weaken the commitment signaled by joining an international agreement in the first place if informal implementation change becomes widely expected.³²⁹

On the other hand, many scholars of global governance and public policy have criticized formal negotiation processes for giving an outsized voice to wealthy countries and special interests within those countries while treating developing countries and the people within them unfairly.³³⁰ By contrast, informal implementation dynamism could create openings for contestation by a broader set of actors, including developing countries, sub-state actors, NGOs, technical experts, and the permanent staff of international organizations, which could in turn give greater voice to those disempowered by the formal process. Further examples as well as a theoretical account are needed to elucidate this hypothesis. Such an account could be drawn from relational contracts,³³¹ dynamic statutory interpretation,³³² or the historical literature on imperialism.³³³ If this hypothesis holds water, then just as contract scholars have suggested a "movement away from the notion of consent as the binding

329. See Boockmann & Thurner, *supra* note 12, at 113 (noting that there is "a trade-off between treaty flexibility and commitment to the treaty").

330. See, e.g., EMILY JONES ET AL., *MANOEUVRING AT THE MARGINS: CONSTRAINTS FACED BY SMALL STATES IN INTERNATIONAL TRADE NEGOTIATIONS* (2010); Walter Mattli & Ngaire Woods, *In Whose Benefit? Explaining Regulatory Change in Global Politics*, in *THE POLITICS OF GLOBAL REGULATION 1* (Walter Mattli & Ngaire Woods eds., 2009); AMRITA NARLIKAR, *INTERNATIONAL TRADE AND DEVELOPING COUNTRIES: BARGAINING COALITIONS IN THE GATT & WTO* (2003).

331. Wessel, *supra* note 143, at 154; see also Speidel, *supra* note 145, at 375 (arguing "[c]omplete consent is a mirage" and, "[o]ver time, 'gaps' in the initial agreement will undoubtedly emerge"); Macneil, *supra* note 141, at 900–01 (stating that the notion of initial consent at the time of contract formation is often "stretch[ed] . . . beyond its actual bounds and by fictions to squeeze later changes within an initial consent framework").

332. See ESKRIDGE, *supra* note 157, at 13, 107 (noting the "archaeological . . . focus of traditional approaches to statutory interpretation is inspired in large part by anxiety that nonelected officials feel when they make policy decisions in a democracy").

333. See, e.g., LAUREN BENTON, *LAW AND COLONIAL CULTURES: LEGAL REGIMES IN WORLD HISTORY, 1400–1900*, at 3 (2002) (exploring how conquered and colonized groups responded to the imposition of law by colonial power through various strategies including "advocacy within the system"). I thank Amalia Kessler for pointing out this literature.

force and principal source of legal obligation,” international law scholars, too, might need to look beyond consent for legitimacy.³³⁴

V. CONCLUSION

I intend this Article to enrich our understanding of how treaties change over time. The Article cautions against an analysis of treaties that begins and ends with the treaty text, formal implementing mechanisms, and the written decisions of authoritative adjudicatory bodies. It invites scholars to undertake longitudinal studies and to look deep into the bureaucracies and epistemic communities that shape how a treaty plays out in the world.

The history of international infectious disease regulation reveals a set of ordinarily hidden actors and strategies whose interactions have made and remade treaties every day, even as those treaties appeared formally stable. Like the ship of Theseus, whose decaying planks were replaced one by one until none of the original pieces remained, infectious disease regulation shifted incrementally, from the ground up, making it difficult to pinpoint one specific moment when change occurred. Uncovering the complex relationship between stability and change casts fresh light on foundational questions in international law and ushers in new inquiries for future exploration.

334. Crootof, *supra* note 10, at 277–88 (challenging the presumption that consent based treaties are superior to custom).