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"Research Methods in International Law: A Handbook"

Tracing Influence in International Law: Beyond the Antagonism between Doctrine of Law and Social Science

Maiko Meguro[1]

Abstract

While international lawyers constantly deal with the concept of influence, there is a significant lack of specification about what is meant by influence, as well as the methodology to identify under what conditions influence exists. Yet, without a realistic picture about the way actors of international law actually behave, the competition of theory propositions is continuously perpetuated along the lines of differences in assumptions rather than the accuracy of explanations. Process-tracing, as is presented in this chapter, is a useful methodology to study and capture the process where consequences is brought about. This chapter particularly explains why and how most existing studies stop short of elaborating on the mechanism that links the causal elements and the consequence (1). Then, it moves onto the insights given from the process-tracing, and how it can help international legal scholarship to overcome its weakness identified in the chapter (2). Lastly, it ends with a few remarks on legal studies in general and suggests a move beyond ontological contestations between legal orthodoxy and social science, as well as a use of insights of process-tracing to empower those actors currently held in the periphery by international law's assumptions and doctrines (3).

Key words: International Law, Legal Theories, Behavioural Studies, Causality, Lawmaking Process

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Introduction

In this chapter, process-tracing refers to a set of procedures widely deployed to explain historical events or actors' behaviours by unearthing the process in which the outcome was brought into being, usually within a single case study. Under the widely-cited definition by George and Bennett, process-tracing is a method that "attempts to identify the intervening causal process – the causal chain and causal mechanism – between an independent variable (or variables) and the outcome of the dependent variable'.[2] In short, process-tracing is a useful methodology to study and capture the 'influence' that links causal elements to consequences.

International lawyers are familiar with projects that seek to map, capture, explain or evaluate the influence of a rule, of a doctrine, of sets of facts, of a precedent, of specific interpretation, etc. It is not an exaggeration to say that the question of influence has always been a major concern in international legal studies. For example, increasing number of legal studies deal with the question of whether international law really matters for states[3], if and how non-state actors influence

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[2] Alexander L. George, and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (MIT Press 2005), p.206.

[3] For example, Harold Koh 'Why Nation Obey International Law' (1997) 106 The Yale Law Journal 2599; Andrew Guzman 'Why LDCs Sign Treaties that Hurt Them: Explaining the Popularity of Bilateral Investment Treaties' (1998) 38 Virginia Journal of International Law; Oona A. Hathaway 'Why Do Countries Commit to Human Rights Treaties?' (2007) 51 Journal of Conflict Resolution 588; Jay Goodliffe and Darren G. Hawkins, 'Explaining commitment: States and the convention against torture' (2006) 68 The Journal of Politics 358; Friedrich Kratochwil and John G. Ruggie 'International organization: A state of the art on an art of the state' (1986) 40 International Organization 753; Jack Donnelly 'International human rights: A regime analysis' (1986) 40 International Organization 599 ; Jack Goldsmith and Eric Posner, *The Limits of International Law* (2005).

international law-making[4], or what role soft law should play in enhancing the rule-based behaviour of states in international law.[5] Different traditions of international legal thoughts have tried to answer these questions, and among them all, the predominant approaches to this question have been either doctrinal or based in social science.[6]

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[4] For example, Alan Boyle and Christine Chinkin, The Making of International Law (OUP Oxford 2007) ; Math Noortmann, August Reinisch, Cedric Ryngaert, Non-State Actors in International Law (Hart, 2017);Math Noortmann and Cedric Ryngaert (eds), Non-State Actor Dynamics in International Law: From Law-Takers to Law-Makers (Routledge 2013).; Andrew Clapham, 'The Role of the Individual in International Law' (2010) 21 European Journal of International Law 25; Anna Peters et al. (eds), NON-STATE ACTORS AS STANDARD SETTERS (Cambridge University Press 2009); Jean d'Aspremont (ed.), Participants in the International Legal System – Multiple Perspectives on Non-State Actors in International Law, (Routledge 2011) ; Andrea Bianchi, 'Fight for Inclusion: Non-State Actors and International Law - Oxford Scholarship', From Bilateralism to Community Interest (Oxford University Press 2011); Alexander Orakhelashvili, 'The Position of the Individual in International Law' (2001) 31 California Western International Law Journal 241; Anne-Marie Slaughter, 'International Law in a World of Liberal States' (1995) 6 European Journal of International Law 503; Kal Raustiala 'Form and Substance in International Agreements' (2005) 99 The American Journal of International Law 581.

[5] For example, Richard Baxter, 'International Law in "Her Infinite Variety"' (1980) 29 International & Comparative Law Quarterly 549; Christiana Chinkin, 'The Challenge of Soft Law: Development and Change in International Law' (1989) 38 International and Comparative Law Quarterly 850;Hartmut Hillgenberg, 'A Fresh Look at Soft Law' (1999) 10 European Journal of International Law 499; Edith Brown Weiss and American Society of International Law, International Compliance with Nonbinding Accords (American Society of International Law 1997); Kenneth W Abbott and Duncan Snidal, 'Hard and Soft Law in International Governance' (2000) 54 International Organization 421; Charles Lipson, 'Why Are Some International Agreements Informal?' (1991) 45 International Organization 495.

[6] Critical legal studies is known for casting skepticism to both doctrinal and social

Traditionally, international lawyers have explained why international law matters to states by *intuitively* referring to the certain quality of legal norms or judicial pronouncements being, for example, binding, legitimate, authoritative, or democratic without validating how the states actually react to these qualities. Socio-legal approaches are largely deployed by scholars who have embraced the turn to 'empiricism', and building upon the criticism of traditional approach, have 'tended to *assume,* rather than examine, the efficacy of international law and cooperation'.[7] These scholars, in attempting to study the conditions under which 'it has effects in different contexts, aiming to explain variation',[8] seek to explain why states obey and do not obey international law by borrowing the frameworks of political science, such as realism, rationalism, constructivism and others.

However, contrary to what they claim, these socio-legal approaches also fall into a typical pitfall, namely, that scholarship actually relies only on *assumptions* about the state behaviours. For example, in explaining state behaviours regarding international law, rationalist international lawyers rely on the self-interest, and particularly, fear of reputational damage as explanatory elements.[9] Yet, these arguments do not necessarily explain how this fear is translated into the decision of a state to obey international law despite other competing interests. The same criticism goes to other approaches – realists or constructivists applied in international law to use the mere fact of variation in state preferences as the decisive evidence without excluding the alternative hypothesis.[10] Except for a

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science approaches for their 'objectivism' in their foundations. This point is briefly discussed in the conclusion of this chapter.

[7] Gregory Shaffer and Tom Ginsburg 'The Empirical Turn in International Legal Scholarship' 106 The American Journal of International Law 1, p. 1.

[8] Ibid, p. 2.

[9] For example, Goldsmith and Posner (n 3), Guzman (n 3), Lipson (n 5).

[10] Moravcsik, who famously criticized constructivism as a discipline, expounded the problem here. See Andrew Moravcsik 'Is something rotten in the state of Denmark?' Constructivism and European integration' (1999) 4 Journal of European Public Policy.

few studies, these proposed theories remain untested in the light of the question of how and under what conditions these causes actually influence state behaviours.

While international lawyers constantly deal with the concept of influence, there is a significant lack of specification about *what is meant by influence*, and *methodology to identify under what condition influence exists*. Without a realistic picture about the way states actually behave, the competition among the theories is simply perpetuated by differences in assumptions. In this sense, the nature of current legal debates for both doctrinal and interdisciplinary is ontological rather than theoretical. This is why international legal scholarship must come up with an approach to fill out the missing pieces in the study of influence, where the hypothetical causes bring about the consequence – the state behaviour. Process tracing is the methodology, which enables the researcher to uncover this mechanism.

This chapter argues that insights from process-tracing elucidate and can remedy methodological weaknesses of current international legal scholarship. First, this chapter explains why and how most existing studies stop short of elaborating on the mechanism that links the causal elements and the consequence (1). Then, it moves on to explain the insights that are given from the process-tracing, and how it can help international legal scholarship to overcome weakness in identifying the influence in international law (2). Lastly, it ends by a few remarks on the future of legal studies, particularly, in the light of common ground to determine what makes for a valid legal argument, suggesting a path to move beyond ontological contestation between legal orthodoxy and social science. (3)

1. Current limitations of the modes to capture 'influence' in international legal scholarship

As is laid down in the introduction, there is a significant lack of specification

about what is meant by influence. Both doctrinal and socio-legal approaches mainly focus on the causes that would have influenced the state behaviours, but disregard how these causes actually lead to the consequence. If the 'how' question remains unanswered, readers cannot actually distinguish whether the linkage between the cause and the state behaviours is coincidence, correlation or causation. Merely turning to explanatory elements (e.g. legitimacy, reputational losses, external pressures etc) is nothing more than making assumptions, unless the researchers test how these elements are actually linked to the changed behaviour of states. A researcher cannot know if the influence is really explained by the hypothetical elements - 'legitimacy' or 'power' until the researchers identify the mechanism in which the cause produced the consequence. As a state is not a human with a mind, it is necessary to look into the different domestic entities and their relationships in shaping a decision that leads to the state behaviour in question. In this chapter, the term *mechanism* refers to the actors and their relationships in shaping a state behaviour. Without studying this mechanism, the researcher cannot exclude the possibility that other explanatory elements have intervened in shaping the outcome.

In terms of legal theories, this lack of attention to the behavioural mechanism can be one of the sources for self-referential attitudes that are frequently seen among different traditions of international legal theories. As was noted above, current legal studies tend to leave the conditions of decision-making as a blackbox in illustrating influence where the hypothetical causes bring about the consequence (of specific state behaviour). In dealing with the concept of influence, most studies simply refer back to their respective assumptions of either doctrinal or socio-logical natures about the manner in which a state should react to the hypothetical causes, without experimentally justifying these assumptions nor their theory itself. Due to this self-referential nature of international legal studies, the scholarly debate is rather intensified by the different assumptions than by the relevance of competing causes in explaining the consequence.

A typical example of theoretical argument caused by different assumptions is found among the debates on non-state actors' influence on international law-

making. The role of non-state actors is a topic of heated debate in international legal theories. It is particularly relevant for international environmental law since it is often labelled as the most dynamic area for the international legal system[11] for 'historically unparalleled opportunity for participation by private, non-governmental organization ('NGOs')'.[12] Indeed, under the major multilateral environmental agreements (MEAs), non-state actors are formally incorporated into treaty-making processes as observers.[13] This increasing visibility of non-state actors has drawn the attention of international legal scholarship, and a large number of studies have attempted to provide an intellectual framework to capture and incorporate these non-conventional actors into international law.

For example, Raustiala, in his article 'participatory revolution', argues that very presence of NGO in international processes 'marks a break with historical practice'[14] in treaty making of international environmental law. With regard to the influence to international law provided by the increasing visibility of non-state actors, he examines several multilateral treaties that provided formal participant status to NGOs. Particularly for MEAs, Raustiala argues that the varied forms of NGO influence to international rule settings are not a threat to states' exclusive power of international law-making beneficial for states, but

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[11] Jeffrey L. Dunoff 'From Green to Global'(1995)19 Harvard Environmental Law Review 241, p. 241.

[12] Kal Raustiala 'The Participatory Revolution in International Environmental Law Note' (1997) 21 Harvard Environmental Law Review 537, p.538.

[13] For example, article 7 of UNFCCC (1992) provides 'Anybody or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by the Convention, and which has informed the secretariat of its wish to be represented at a session of the Conference of Parties as an observer, may be so admitted unless one-third of the parties present object. The admission and participation of the observers shall be subject to the rules of procedure adopted by the Conference of Parties.'

[14] Raustiala (n 12), p. 538.

rather beneficial to states.[15] In his theory of the co-beneficial relationship of NGO participation and states' regulatory powers, Raustiala bases his argument on the framework of liberal theory. In doing so, he derives his assumption about state behaviour from the idea of liberal democracy modelled on American experience in domestic administrative law.[16] In his assumption, NGOs play a representative role to convey 'the voice of voiceless'.[17] In his view of democratic legitimacy, states benefit from the presence of NGOs as they can regulate with less political friction, which shapes state behaviour to strengthen the cooperation under international law.[18] Yet, it is unexplained why American domestic experience would be beneficial to explain so-called participatory revolution at an international level. In his article, the details of the very mechanism in which the NGOs influence possibly brings about the consequence more than ontological proposition on liberal democracy.

Alkoby, on the contrary, starts from criticism of the democratic liberal theory for being dependent on domestic analogy.[19] In order to distinguish the role played by individuals in international sphere from that in domestic sphere, Alkoby turns to the IR constructivist theory as the basis that allows him to place the concept of legitimacy at the centre of the inclusive framework for international law-making.[20] Drawing upon social constructivism, Alkoby turns to the interactional account of Brunnée and Toope and to Lon Fuller's moral account of international law in laying down the framework to justify the increased role of NGOs from the behavioural assumptions that legitimate rules are 'self binding and do not depend for their existence only upon enforcement'[21], and legal norms are

[15] Ibid, p. 551.

[16] Ibid, p.573.

[17] Ibid, p. 567.

[18] Ibid, pp.583-584.

[19] Asher Alkoby 'Non-State Actors and the legitimacy of international environmental law' (2003) 3 Non-State Actors and International Law, pp. 50 - 56.

[20] See especially, pp. 86-96.

[21] Ibid, 91.

legitimate when the varied actors that constitute the states participate to 'the process of mutual construction, namely, through "institutionally shaped rhetorical practices" which create commonly shared understandings'.[22] Upon this constructivist assumption for state behaviour, Alkoby argues for 'horizontal legitimacy' as an inclusive framework for the varied actors involved in the international law-making process at different levels of governance.[23]

In short, while both studies aim to provide a conceptual framework to fully recognise non-state actors as essential contributors in international law-making, the level of their inter-disciplinary analysis remains at the level of comparing assumptions without actual evaluative yardsticks to show why the provided account provides better explanatory value in capturing the influence of non-state actors. This lack of an evaluative framework makes their argumentation more in the nature of ontology building rather than theory building.[24] Raustiala and Alkoby rely on different frameworks of legitimacy to give full recognition to non-state actors, but neither of them actually examines *how* the non-state actors at an international level related to the other domestic actors, and *under what conditions* these interactions culminated into a specific state position on international-law-making.

What has just been demonstrated is the problem at the core of international legal theories and doctrines - a self-referential attitude, which creates circular reasoning in legal argumentation. Both scholars argue the framework to capture significance of NGO activities by establishing the assumptions, which are chosen to corroborate the significance of the NGOs activities. In the whole art of legal

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[22] Ibid.

[23] Ibid, p. 94.

[24] For example, Alkoby argues that casual and constitutive explanations are different, and constructivism contributes for latter (at p. 74). In Alkoby's understanding of constructivism, the constructivist account is established as the ontology that 'non-state actors' matters rather than building a testable hypothesis to analyze whether non-state actors indeed matters for international law making.

argumentation, one argument is supported by the framework to showcase the argument, which does not necessarily reflect the actual behavioural practice by States. For example, although Alkoby consciously deployed the IR framework due to its 'comparative advantage in formulating generalizable hypotheses about State behaviour and in conceptualizing the basic architecture of the international system',[25] he does not justify his constructivist assumption about the way the actors should react to the certain normative qualities. In combating Raustiala's assumption built on the liberal democracy, Alkoby brought another assumption based on constructivism. In this self-referential manner of argumentation readers are left without a picture for the substantial questions – *whether* NGOs really matters for international law-making, and if so *how* - which are somehow taken for granted by both authors' arguments.

The self-referential practice of international legal scholarship could be derived from the two premises that pertain to the common thinking pattern in legal scholarship and also the concept of influence. For international legal scholarship, the legal reasoning, which is a method of thought and argument for the lawyers, is self-referential practice by its nature. The idea of a legal system is constructed through the legal reasonings, which constantly mediate the assumption of system as a unity and divergent socio-legal facts.[26] While the creativity of thoughts and argument of law is limited by the need to maintain unity, this limitation is tactfully hidden from the eyes of lawyers in applying the law. Lawyers are, by their academic background, trained to be skilled in a specific argumentative template in which 'modes of legal reasoning are axiomatically organized and where only a limited number of combinatory possibilities can be accepted to build a legal argument.'[27] These 'axiological' legal reasonings are, by

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[25] Ibid, p.64. Quote from Anne Marie Slaughter.

[26] For the idea that legal system as a unity is construction of the techniques of legal reasonings, e.g. Julius Stone, Legal System and Lawyers' Reasonings (Stanford University Press 1964), pp.21-26.

[27] Jean d'Aspremont, *International Law as a Belief System* (Cambridge University Press 2017), p.49.

nature, no different from the other legal reasonings that ordinary lawyers daily craft and use. Yet, in international legal scholarship, the specific legal reasonings are treated as the point of reference in legal practices, like the data and experimental procedures that the scientists refer back to. By becoming proficient with the craftmanship of legal reasoning, lawyers are caught deep in the cage of self-referentiality built to keep 'the loop closed' for the concept of international legal order. For lawyers, what is essential is having a consistent and reasonable assumption to demonstrate the significance of international law. Hence, going into the fields and collecting the data to build a realistic picture of what states actually do is either secondary or can even be 'harmful' for the sake of having a reasonable explanation to establish the consistency of legal order.

Second, the understanding of causality put forward by the previous social science approaches is formulated as a linear relationship between the cause X and the consequence Y.[28] As will be delineated in the next section, this understanding does not explain the way causal power is transmitted between X and Y ('blackbox understanding of the causal mechanism'). The experimental design of causal analysis for this linear causality is to compare multiple cases to identify presence or absence of X in assessing the relevancy between the cause X and the consequence Y. In this design, it can explain the correlation of X and Y, yet it is not possible to identify the inferential power of the hypothesis (assumption A), and hence, if not impossible, still difficult to exclude alternative explanations (assumption B, C, D) that may also link X and Y.

The next section will sketch out a theory that process tracing addresses the inherent weakness of self-preferentiality in international legal scholarship by providing the methodology to open up this 'blackbox' of influence mechanism. It provides a set of procedures to identify the influence by focusing on the

[28] Many textbooks on qualitative causality methods published in since late 1990s refers to this version of causal relationship conceptualized by Gary King, Robert O. Keohane, and Sydney Verba, *Designing Social Inquiry: Scientific Inference in Qualitative Research* (Princeton University Press 1994).

conditions in which the cause X brings about the consequence Y. It bridges the theories for addressing behavioural questions and what states actually did (do), which technically create a 'Plan-Do-Check-Adjust(PDCA) cycle' in the development of international legal theory.

2. Capturing 'influence' and the benefits of process-tracing methodology

2.1. 'influence' as a causal mechanism

Influence is one of the most frequently used terms in social science. However, its precise definition still largely remains undetermined.[29] Among them all, the most prevalent definition is influence as causal power. For example, Nagel, in his book 'the Descriptive Analysis of Power' states that influence is 'generally understood as an actor's ability to shape a decision in line with her preferences; in other words, "a causal relation between the preferences of an actor regarding an outcome and the outcome itself"'.[30] Knoke defines influence as ' a relational dimension of power because a communication channel must exist between influencer and influence.' [31] Scruton provides a more precise definition of influence, which is distinguished from the other categories of power such as control or coercion in terms of the strength in shaping the others' preference. He argues that 'the influenced agent, unlike the agent who is coerced, acts freely. He may choose to ignore those considerations which influence him, and he may himself exert control over the influencing power.'[32]

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[29] Margaret Marini, and Burton Singer, 'Causality in the Social Sciences' (1988) 18 Sociological Methodology 347, p. 348; Paul Shaffer 'Two Concepts of Causation: Implications for Poverty' (2014) 46 Development and Change 148, p. 148.

[30] Jack H Nagel, *The Descriptive Analysis of Power* (Yale University Press 1975), p. 29.

[31] David Knoke, *Political Networks: The Structural Perspective* (Cambridge University Press 1994), p. 3.

[32] Roger Scruton, *A Dictionary of Political Thought* (Basingstoke:Macmillan 1996), p. 432.

In defining the influence as the causal power conveyed from X to Y, the next question would be what causality is, because causality is also a protean concept that is not self-explanatory. In the broadest sense, there are at least two concepts of causality that have been employed in the studies of social science.

The first category of causality is understood as regularity that associates X and Y. Causality in this meaning provides the predicational condition for the certain outcome to follow, hence it allows the readers to go beyond what is immediately present.[33] Specification of the causality is fundamentally a matter of regularities, hence the statistical correlation of X and Y is what is chased after.[34] In other words, the causality is reduced as somehow being homogeneous and linear[35] which are necessary conditions for comparative and statistical analysis (quantitative methods). This linear conceptualization of causality is also found in the literature of qualitative methods,[36] yet as Mahoney aptly described 'this definition unfortunately does not go beyond correlational assumption'[37] for explaining social phenomenon.

The second category of causality appears in explaining events that happened in the past: showing which earlier conditions best provide the ground for later conditions. The patterns of causality conceptualized here are more complex than statistical correlations, heterogeneous and can be case-specific. [38] As Elster aptly

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[33] E.g. Lawrence B Mohr, *The Causes of Human Behavior* (University of Michigan Press 1996), p. 66.

[34] Ibid.

[35] E.g. Marini and Singer (n 29), p. 348.

[36] E.g. King et el (n 28); George, and Andrew Bennett (n 1).

[37] James Mahoney 'Beyond Correlational Analysis: Recent Innovations in Theory and Method'(2001) 16 Sociological Forum 575, p. 578.

[38] Derek Beach and Rasmus Pedersen, *Process-Tracing Methods: Foundations and Guidelines* (University of Michigan Press 2013), p. 25; Andrew Sayer, *Method in Social Science: Revised 2nd Edition* (Routledge 1992), pp.60-61. For general reference to the two different approaches of empirical studies/question of causation, see Elizabeth Mertz

said, a social mechanism consists of 'frequently occurring and easily recognisable causal patterns that are triggered *under generally unknown conditions* or with indeterminate consequences.'[39] If the conditions – as a part of mechanism that links X and Y are not explained, the outcome of study does not make much difference from the description of correlation in terms of ability as a tool of measurement. Hence, for this definition, the focus is on 'the theoretical process whereby X produces Y and in particular in the transmission of what can be termed causal forces from X to Y.'[40] This focus on the process, which is construed as a causal mechanism – is what underlies the methodology of process-tracing.

2.2. Conceptualizing a causal mechanism

Process-tracing is the methodology to unveil the causal mechanism, which is what Ester called 'generally unknown conditions' for the cause X to produce the consequence Y. While a mechanic understanding of social phenomenon is commonly seen among the social science approaches, there is no clear consensus about the form of mechanisms. As was sketched out by Beach and Pedersen, the

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and Mark C. Suchman, 'A New Legal Empiricism? Assessing ELS and NLR', (2010) Annual Review of Law and Social Science Vol. 6, pp. 555-579. Also for the qualitative methods, W C Salmon, 'Scientific Explanation and the Causal Structure of the World', (1988) Philosophical Review 97(3); Jeffery Pfeffer and Lawrence Mohr 'Explaining Organizational Behavior' (1983) 321 Administrative Science Quarterly 28(2); A. Michael Huberman and Matthew B. Miles, *Qualitative data analysis: An expanded sourcebook* (Thousand Oaks, 1994); Joseph A. Maxwell, 'Using Qualitative Methods for Causal Explanation' (2004) 16 Field Methods 243; James Mahoney, 'Beyond correlational analysis: Recent innovations in theory and methods'(2001) 575 Sociological Forum 16 (3); Tullia G. Falleti and Julia F. Lynch, 'Context and Causal Mechanisms in Political Analysis'(2009) Comparative Political Studies 42(9); Colin McGinn 'Conceptual Causation: Some Elementary Reflections' (1991) 100 Mind 573.

[39] Jon Elster 'A plea for mechanism', in Peter Hedstrom and Richard Swedberg (eds), Social Mechanism (Cambridge University Press 1998), p. 45.

[40] Beach and Pedersen (n 38), p. 25.

large number of past studies conceptualize the causal mechanism as a sequence of events or intervening variables between X and Y.[41] However, identifying the events or variables do not explain *how* and *why* one event leads to another. For using process-tracing for international legal scholarship to evaluate the different assumptions of theories, the focus should be 'a theory-guided analysis of whether evidence suggests that a hypothesized causal mechanism was present'[42] rather than events that were *somehow* present between X and Y.

X => causal mechanism => Y

Beach and Pedersen break down this causal mechanism as a system consisting of multiple parts, which are entities (natural persons, organizations, social systems, etc) that engage in activities (lobbying, protesting etc).

X => entity 1 => entity 2 => entity 3 => Y
activity 1 activity 2 activity 3

All variants of process-tracing researches 'share an understanding of the parts of a causal mechanism, where they should be conceptualized as insufficient but necessary parts of an overall mechanism'.[43] Hence, in both building hypothesis, if a part is found not necessary, it must be excluded from the mechanism.[44] Then, the researchers collect and analyse the empirical evidence to infer whether each part of the theorized causal mechanism was present in the case.

In making an inference based on the empirical evidence, we should recall the famous line by Sherlock Holmes, the detective character created by Sir Arthur Conan Doyle:

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[41] Ibid, p. 33.

[42] Ibid.

[43] Ibid, p. 30.

[44] Ibid.

'When you have eliminated the impossible, whatever remains, however improbable, must be the truth.'[45]

This maxim is called the Bayesian logic of inference in the study of logic.[46]

2.3. Logic of inference in process-tracing

The Bayesian logic of inference is deployed here as a format of inference to update confidence in the hypothetical causal mechanism after evaluating inferential weight of collected evidence.[47] For the sake of process-tracing, hypothesis is about the existence of each part of a (theorized) causal mechanism. In inferring whether the part was present or not, what Bayesian logic of inference goes after is how well the collected evidence updates confidence in the hypothesis (prior probability) against alternative explanations.

The theorem of logic is as follows:

$$P(h \mid e) = \frac{p(h)*p(e|h)}{p(e)} = \frac{p(h)*p(e|h)}{P(h)*p(e|h)+p(-h)*p(e|-h)} \quad (1)$$

$$= \frac{p(h)}{p(h)+\frac{p(e|-h)}{p(e/h)}*p(-h)} \quad (2)$$

The theorem of Bayesian logic as expressed in the formula (1) is a mathematical expression of the probability of hypothesis (prior probability) to the probability of evidence for or against the hypothesis. It can also be expressed as the formula (2). The prior probability is the probability of hypothesis based on prior knowledge such as existing studies about similar case studies. The formula (1)

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[45] Arthur Conan Doyle, *The Adventure of the Blanched Soldier* (1926).

[46] The similarities to pattern of thoughts in fictional detectives and Bayesian logic were described in Joseph B. Kadane 'Bayesian Thought in Early Modern Detective Stories: Monsieur Lecoq, C. Auguste Dupin and Sherlock Holmes' (2009) 24 Statistical Science.

[47] Beach and Pedersen (n 38), p. 87.

shows that the posterior probability about existence of causal mechanism between the cause and the consequence can be obtained by identifying the prior probability of hypothesis [p(h)] times the probability of evidence to support the hypothesis [p(e|h)] out of the probability of evidence for both affirming the hypothesis and the alternative hypothesis.

In short, the key component of Bayesian logic of inference consists of both a) affirmation of hypotheses and b) elimination of alternative hypothesis by assessment of the collected evidence. Hence, the researcher must conduct not only finding affirmative evidence, but also eliminating inductions about alternative explanations that would also suggest X produce Y.

As was mentioned, the Bayesian logic of inference is used to study how the collected evidence updates confidence in the hypothesis (prior probability) against alternative explanations. In this understanding, the prior probability is the subjective as it is the degree of confidence by the observer in the hypothesis according to the prior knowledge. The common criticism of Bayesian logic of inference is this subjectiveness of the prior probability. For Bayesian inference, evidences can confirm or disconfirm hypothesis only after the prior probability of hypothesis is established in the first place. In other words, the affirmation of hypothesis confirmation under Bayesian inference is scientific, yet the initial probability of hypotheses is purely subjective. This nature 'leaves the problem of justifying one's prior probabilities when there is limited evidence, which many view as a key challenge for Bayesian analysis'. [48]

Yet, it must also be noted that every scientist starts their observation and experiments from different opinions. The essence of scientific inference is reaching an evidence-based consensus from widely differing initial opinions

[48] Andrew Bennett 'Process Tracing: a Bayesian Perspective' in Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier (eds), *The Oxford Handbook of Political Methodology* (OUP 2008), p. 710. [also with reference to John Earman, *Bayes or Bust? A Critical Examination of Bayesian Confirmation Theory* (MIT Press 1992), pp. 58–59].

('washing out')[49]. Similarly, Bayesian inference applied to social phenomenon 'should converge on similar answers' under the circumstances with abundant materials to establish prior probability for different explanations.[50]

2.4. Evaluation of evidence

As was laid out in the previous section, collecting evidence for both affirming the theory and excluding alternative explanations is the key component of process-tracing. In assessing the probable value of respective evidence, what matters most is not the amount of evidence, but the power of evidence in distinguishing one theory, which is likely true from the rest, which are likely to be wrong.[51] In this regard, all the collected evidence must be evaluated for accuracy as well as processed in the light of the context before it is put to consideration for process-tracing.[52]

"*Four Major Evidence Tests*"(Van Evera, 1997)[53]

	Straw-in-the-wind test	*Hoop test*	*Smoking gun test*	*Doubly decisive test*
Hypothesis	A murdered B	A murdered B	A murdered B	A murdered B
Examples	B had bullied A hence A has a motive for	A does not have an alibi at the date and time when the	A was caught holding a smoking gun besides B's	A's commitment of murder was witnessed by a number of people

[49] Earman (n 48), p. 141; Bennet (n 48), p. 710.

[50] A typical response from the Bayesian scholars is that these expected probabilities are not purely subjective belief of the researchers as these are actually formed by the prior research. See Beach and Pedersen (n 38), p. 85.

[51] Bennet (n 48), p. 711.

[52] Beach and Pedersen (n 38), p.73.

[53] The table is made by the author referring to Stephen Van Evera, Guide to Method for Students of Political Science (Cornell University Press 1997), pp. 31-34 and Beach and Pedersen (n 38), pp.100 - 105.

	murder	murder took place	body	or a high-resolution surveillance camera
Nature	Sufficient ×	Sufficient ×	Sufficient ○	Sufficient ○
of the test	Necessary ×	Necessary ○	Necessary ×	Necessary ○

The 'straw in the wind test' is the weakest test of all. Only the fact that A had a motive for murder does not prove or disprove the hypothesis – 'A murdered B'.

The 'hoop test' is most frequently used evidences in social science to prove existence of a causal mechanism. In evaluating the hypothesis, finding the hoop test evidence is necessary. If the hypothesis fails the 'hoop test', it means that the hypothesis is disconfirmed. (If A has an alibi, A did not kill B). However, the evidence of the 'hoop test' allows the possibility of disproving that someone without alibi is actually not guilty. Hence, when the evidence passes the 'hoop test' and suggests the existence of the components of causal mechanism, it must be combined with other evidence to further exclude alternative explanations to raise the certainty of the hypothesis.

The 'smoking gun test' - this metaphor of a smoking gun indicates that a suspect who is caught holding a smoking gun can be held to be guilty with confidence. However, if the hypothesis fails the 'smoking gun test' (for example, A was found without the smoking gun, which killed B), the fact itself does not deny or decrease the confidence of the hypothesis, as A could have escaped from the crime site without being seen or caught.

The 'doubly decisive test' – this test requires a level of precision such that the hypothesis is confirmed with an extremely small possibility of alternative explanations. This level of precision is usually found in criminal investigation. However, in tracing the cause of events in the past, it is very unusual to find evidence, which passes the 'doubly decisive test'. Furthermore, the level of precision that the 'doubly decisive test' requires is higher than the methodology of process-tracing usually can confirm.

What must be noted here is no evidence can affirm or exclude the hypothesis with 100% certainty. However, evaluating all collected evidence according to these tests improves the quality of assessment in handling the concept of 'influence' in international legal scholarship. A considerable amount of international legal scholarship overlooks the nature and strength of evidence – and hence ends up relying on evidence that can only pass the 'straw in the wind test'. For the sake of process-tracing, the evidence must have the probable value of respective evidence that at least passes the 'hoop-test' or the 'smoking gun' test. If the evidence fails the 'hoop-test', as was sketched out above, the hypothesis is disproved, hence eliminated from consideration.

2.5. Steps of process-tracing analysis.

This section provides overview of 'to-do' list in designing research on process tracing. What this section highlight is the importance of developing a clear and testable hypothesis. Despite the importance of methodology is increasingly warranted for international law, theoretical imprecision cannot be cured by methodological sophistication. In this regard, theory building for process-tracing can also be combined by large-n studies to sophisticate the hypothesis on the research question.

1) Developing hypothesised causal mechanisms
   - Hypothetical cause X.
   - Hypothetical parts of causal mechanisms
   - Specification of observable manifestations to be determined

2) Developing/collecting alternative explanations

3) Collecting evidence

4) Assessment of inferential strength of evidence for or against the hypothesis

In building the hypothesis, it is useful to be aware of the different patterns of

causal questions that the research is meant to identify. Drawing upon the theory centred ('why' and 'how') understanding of process tracing, Beach and Pedersen classified three different instances of process-tracing according to the explanatory purposes of the study.[54] For all three patterns of causal inference, the examination starts with finding theories that potentially explain the outcome Y.

[Derek and Pederson: Three Types of Process Tracing]

Pattern 1. Theory-testing process tracing

- ✧ The possible cause X and the outcome Y are identified
- ✧ There seems to be a causal link between X and Y
- ✧ There is a hypothetical explanation on the causal link

Pattern 2. Theory-building process tracing

- ✧ The possible cause X and the outcome Y are identified
- ✧ There seems to be a causal link between X and Y
- ✧ The hypothetical explanation is unknown

Pattern 3. Explaining-outcome process tracing

- ✧ Only the outcome Y is known
- ✧ The purpose of study is to identify how and why Y happened by which variables(X) – which is commonly seen to the history studies.

Each has a different contribution to the development of international legal theories. Explaining outcome process-tracing is very similar to historical approach to study why certain event has happened (e.g. Why Japan lost the World War II). This type of process-tracing is also familiar with international legal studies while it is rather rare that the studies set objective methods in valuing the weight of evidence or discarding alternative explanations. Theory building and theory testing can happen simultaneously, as even testing existing

[54] Beach and Pedersen (n 38), Chapter 2.

theories (hypothesis) often requires reformulating it into a testable format. This section envisages that theory testing and theory building process-tracing would have a centre place in the validation and development of legal theories. Application of theory centred process tracing elucidates what has been considered as the work of 'theory building' was actually 'ontology building'. Ontology is, by nature, untestable hence unagreeable on the same ground.

While process-tracing as single case study is not meant to develop general theories, causal mechanisms that have been identified in a specific case study can be generalized for other cases as it is usually a highly theorized model that pertains to the state decision-making. The result of study can help to explain other case studies that involve similar situations, especially, in building the hypothesis for these cases. It goes without saying that every causal mechanism must be tested against empirical evidence according to the steps expounded in this chapter before its identification.

3. The way forward: renewing our understanding of influence in international legal studies

The previous paragraphs have sketched out the potential benefit of process-tracing in addressing weaknesses of current international legal scholarship for both doctrinal approaches and interdisciplinary approaches. For international legal studies, process tracing has the potential to provide a new tool to articulate constructive discussion on *how* and *under what conditions* states react to and create law, and more generally on the influence of certain inputs on state behaviour regarding the operation of international law. This concluding section limits itself to formulating three final observations on the potential benefit of process-tracing.

First, the concept of influence is, despite its frequent appearance in international legal studies, relatively unstudied and untheorized. In saying international law matters for states or arguing the case for the contribution of non-state actors in international law-making, identifying *what is meant by influence on states* is a key

conceptual step forward. Thus, process-tracing, as it was presented in this chapter, will remedy this dearth of conceptualization and theorization.

Second, it is fair to say that, international legal studies have remained confined to their self-referential frameworks and have generally paid little attention to the *methodological questions pertaining to the measurement of influence*. This is true notwithstanding the increasing reliance in legal studies on interdisciplinarity and especially on the insights from social sciences when studying and theorizing state behaviours and their meanings under international law (e.g. realists, rationalist, constructivist, liberalist). Yet, often these insights are themselves built upon assumptions regarding state behaviours. In fact, simply borrowing the parameters of social science frameworks does not suffice to measure and verify the way states actually behave and its impact on law but just bring new assumptions in legal studies. Without adopting any methodology to unpack behavioural assumptions, inter-disciplinary ends up reproducing self-referential assumptions in legal thinking and argumentation. Process-tracing helps to elucidate all those common assumptions around which legal doctrines are constructed, even those that have been mechanically imported from other disciplines.

The above points lead to a third observation. The previous sections illustrated how the contestation between doctrinal approaches and social science approaches is determined by the different assumptions. To the extent that international lawyers speak about assumption rather than test it, this contestation will bring us nowhere. Process-tracing helps international lawyers to recognize this trap of ontology in their argumentation and move forward to turn their eyes to the conditions of what makes for a valid legal argument in a particular case.

The foregoing is not to claim objectivity of empirical methodology.[55] Without prejudice to the impossibility of objectivity raised by a phenomenology, it can be

[55] E.g. David Kennedy, 'Theses about International Law Discourse' (1980) 23 German Yearbook of International Law 353; Martti Koskenniemi, 'Miserable Comforters:

said process-tracing does not force the researcher to base their analysis on a specific assumption about why and how states should behave given the methodology to the filtration of individual biases at reasonable level. As was alluded to above, process-tracing does not help international lawyers to identify universal elements that are found in every case, at least, directly. Yet process-tracing may, by accumulating single case studies, help to have a 'reasonably' shared ground of behavioural understanding through testing of an explanatory hypothesis produced through theoretical endeavour by international legal scholarship.

Having said that, there is no doubt that a large part of international legal scholarship will continue to be doctrinal. As was alluded, legal reasoning in doctrinal approach, which is, by definition, self-referential, will continue to be experienced as necessary for the functioning of the 'international legal order'. In fact, from a doctrinal perspective, it seems to be 'roughly' working, especially if one turns to the practice of international trade law, international human rights law, international environmental law and other branches of international law. No matter if doctrines or common assumptions reflect 'the reality of the world', lawyers must play the game within the set boundaries. In this regard, process-tracing, together with other methodological endeavours to produce new behavioural insights in international law, is not going to be a game changer in the doctrinal landscape. After all, international law, despite all its problems, might be one of a few functioning mechanisms of international governance.

Yet, functioning does not offset the problems or even structural injustice of international law. Functioning would improve by knowing how and under what conditions international law actually works. Process tracing as an empirical methodology may not save the world, but it does have its use in improving international legal scholarship. It can contribute at least in two ways. First, by

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International Relations as New Natural Law' (2009) 15 European Journal of International Relations 395-422; Also, Koskenniemi 'Chapter 8 Beyond Objectivism', *Apology and Utopia* (Cambridge University Press 2006).

providing the common grounds for building and testing legal theories. As was alluded to above, previous scholarly propositions often lack the testable hypothesis about the very process through which the outcome is brought about. Without the focus on such processes that shape State behaviours, a large part of theoretical debates regarding topics such as identification of law, compliance, backlash, pluralisation – that concerns behaviours of States – are actually nothing more than an ontological competition. By opening up the process, it can offer the possibility to evaluate different theoretical propositions, which helps to establish common and constructive starting points of debate to offer more realistic explanation about making and operation of international law.

The second contribution that process-tracing possibly brings to existing studies of international law is an empowerment of those actors which have been structurally put in peripherical positions in the current settings of international law. Decades of theoretical endeavours have demonstrated that international law, its foundations, its discourses, the way it is analysed, etc are not neutrally termed, largely due to its pedigree as European public law.[56] Assumptions that define the operation of international law are based on custom and practice of a handful of States. Yet, the actors in peripherical positions cannot make even critiques in a credible term without relying on notions, vocabulary, and frameworks which technically put them in peripherical positions. The resort to process-tracing

[56] Jean d'Aspremont 'Critical histories of international law and the repression of disciplinary imagination' (2019) 7 London Journal Review of International Law 89 ; Martti Koskenniemi 'Histories of International Law: Significance and Problems for a Critical View' (2013) Temple International Law and Comparative Law Journal; Anthony Anghie 'Colonialism and the Birth of International Institutions: Sovereignty, Economy, and the Mandate System of the League of Nations' (2002) 34 New York University Journal of International Law and Politics; Arnulf Becker Lorca,'Universal International Law: Nineteenth-Century Histories of Imposition and Appropriation'(2010) 51 Harvard International Law Journal ; Yasuaki Onuma, *International Law in a Transcivilizational World* (Cambridge University Press 2017); B.S. Chimni, *International Law and World Order: A Critique of Contemporary Approaches* (Cambridge University Press 2017).

empowers those actors by providing a new set of language and tools to open up the unquestioned assumptions of international law.[57]

[57] See also Maiko Meguro, "Backlash against international law by the East? How the concept of 'transplantation' helps us to better understand reception processes of international law", Völkerrechtsblog, 11 January 2019, at https://voelkerrechtsblog.org/backlash-against-international-law-by-the-east/