Experimental Insights for International Legal Theory

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Abstract

Insights from experimental psychology and economics have rarely been applied to the study of international law and never to the study of international legal theory. This article applies them to socio-legal international theory that has grosso modo two important background paradigms with several variants: rationalist and constructivist. In both paradigms, the interest in understanding and explaining international law by uncovering causal mechanisms in international cooperation and compliance and in asking how cooperation is sustained in a system as decentralized as international law is paramount. In both, fundamental assumptions regarding the behaviour of actors are made. However, regardless of the theoretical standpoint, both fall short of experimental evidence about their behavioural assumptions. The article uses experimental evidence provided by public good games as a conceptualization of how social order is constructed and upheld in systems without central authority such as international law. It aims to illuminate the behavioural basis of important building blocks of international cooperation and law by discussing the preferences of states and strategic interaction, reciprocity, sanctions, communication and trust as well as consent and legitimacy, reflecting on what the experimental insights teach us on the assumptions of rationalist and constructivist approaches to international legal theory. These experiments are one means to test behavioural assumptions in international legal theory.

1 Introduction

There is a general empirical and experimental turn – in law, in economics, in sociology and even in philosophy.[1] Also, legal theory is experiencing a recent turn to experimental studies.[2] Despite the widespread influence of the 'behavioural revolution'

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1   Knobe and Schaun, 'An Experimental Philosophy Manifesto', in J. Knobe and N. Schaun (eds), *Experimental Philosophy* (2008) 3.

2   Hoeft, 'The Force of Norms? The Internal Point of View in Light of Experimental Economics', 32 *Ratio Juris* (2019) 339; Donelson and Hannikainen, 'Fuller and the Folk: The Inner Morality of Law Revisited', in T. Lombrozo, J. Knobe and S Nichols (eds), *Oxford Studies in Experimental Philosophy* (forthcoming), vol. 3; Kneer and Machery, 'No Luck for Moral Luck', 182 *Cognition* (2019) 331.

in economics and national law, behavioural insights have begun to be applied to the study of international law.[3] International legal philosophy as well as international legal theory[4] have hitherto been uninformed by experimental insights,[5] although they are drawing ever more often on background paradigms deriving from international relations theories using social science and are thus not purely analytical.[6] One of the basic questions asked by socio-legal international theorists is how (well) international law influences state behaviour and how order is sustained in a decentralized system.[7] Having a legal order, including an international legal order, is a prominent example of successful social cooperation. It is important to understand what factors influence behaviour and thus enhance and sustain this cooperation.

The predominant background paradigms of international legal theory for addressing those questions are often rationalist or constructivist. Within those paradigms, there is a lot of differentiation, and there have been attempts at reconciling them[8] and using them simultaneously for the explanation of the emergence of norms and compliance.[9] For the purpose of this article, a focus on a few, long-held paradigmatic thoughts seems adequate, even at the price of not doing justice to differentiation. Both of these paradigms make fundamental assumptions regarding the behaviour of actors. However, regardless of the theoretical standpoint, both fall short

[3]   But see references in van Aaken and Broude, 'The Psychology of International Law: An Introduction', 30 *EJIL* (2019) 1225, on the diverse topic in international law. Others use behavioural insights to explain state behaviour in the economic realm using empirical evidence to improve our assumptions about what states seek, including breaking up the black box state. J. Jupille, W. Mattli and D. Snidal, *Institutional Choice and Global Commerce* (2013) (*status quo* bias); L. Paulson, *Bounded Rationality and Economic Diplomacy* (2015); Van Aaken and Kurtz, 'Beyond Rational Choice: International Trade Law and the Behavioral Political Economy of Protectionism', 22 *Journal of International Economic Law* (2019) 601, with further references to the few studies using behavioural insights on domestic politics of international trade. For the incorporation of psychological insights into international relations scholarship, see R. McDermott, *Political Psychology in International Relations* (2004); J. Davis, *Psychology, Strategy and Conflict* (2013); Hafner-Burton *et al.*, 'The Behavioral Revolution and International Relations', 71(S1) *International Organization* (*IO*) (2017) 1.

[4]   There is no agreed definition of both. Whereas S. Besson and J. Tasioulas (eds), *The Philosophy of International Law* (2010), contains entries on sources, legitimacy and democracy, and many entries take a constructivist approach, the book by J. Dunoff and M. Pollack (eds), *International Legal Theory: Foundations and Frontiers* (2019), contains next to positivism, sociological approaches and transnational legal process rationalist approaches, and the same holds for A. Bianchi, *International Law Theories* (2016). A. Bianchi (ed.), *Theory and Philosophy of International Law* (2017), vols 1, 2, has very diverse entries as well.

[5]   Behavioural economics is not the same as experimental economics, but the former uses mainly the experimental method. Furthermore, those experimental methods are used by both economists and psychologists.

[6]   See Dunoff and Pollack, *supra* note 4, for the diversity of approaches.

[7]   Hathaway and Shapiro, 'Outcasting: Enforcement in Domestic and International Law', 212 *Yale Law Journal* (2011) 252, at 256.

[8]   For early attempts to reconcile them, see Checkel, 'Theoretical Pluralism in IR: Possibilities and Limits', in W. Carlsnaes, T. Risse and B.A. Simmons (eds), *Handbook of International Relations* (2002) 220, which is not based on experimental research; for a general comparison on their assumptions, see Fearon and Wendt, 'Rationalism v. Constructivism: A Skeptical View', in Carlsnaes, Risse and Simmons, *ibid.*, 52.

[9]   Abbott and Snidal, 'Values and Interests: International Legalization in the Fight against Corruption', 31 *Journal of Legal Studies* (2002) 141.

of experimental evidence about their behavioural assumptions. To the extent that they have adapted or revised their assumptions in the face of observational data or history, they are not truly untested. But experiments provide an additional means of testing assumptions and illuminating the causal effects.[10]

The rationalist paradigm has been thoroughly challenged since the 1970s by experimental (psychological and economic) research, both on cognitive (thin rationality) and motivational (thick rationality) accounts,[11] and its insights can also inform constructivist theory. The defining characteristic of this development has been the use of empirical, mainly experimental, research on preferences, beliefs and decision-making to modify choice- and game-theoretic models. Having a realistic picture about human and/or state behaviour should be the basis for any (international) legal theory since law, including international law, is assumed and meant to change the relevant actors' behaviour (through various means). It is worth exploring a combination of the behavioural assumptions of both paradigms, based on experimentally validated insights, complemented by other methods of empirical research.[12] This may provide a foundation for bridging still existing differences in assumptions of important background paradigms of international legal theory.

I concentrate on the classical building blocks of cooperation in any theory of international law. These are certainly assumptions about preferences (and their change), strategic interaction, reciprocity, sanctions, communication and trust as well as consent and legitimacy. All of these building blocks have been experimentally explored for individual actors and, thus, also lend themselves to experimental insights for international legal theory since they give a realistic picture on how actors behave.[13]

Following this introduction, Part 2 surveys the behavioural assumptions of the rationalist paradigm and the constructivist schools, without being able to do justice to the fine-grained differences in these paradigms. Part 3 discusses the building blocks of international law and theory—preferences of states and strategic interaction, reciprocity, sanctions, communication and trust as well as consent and legitimacy—reflecting on what the experimental insights teach us about the assumptions of rationalist and constructivist approaches to international legal theory. The article closes in Part 4 with a recapitulation of the possible bridges for the gap in behavioural assumptions and directions for future research.

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[10] For details, see van Aaken and Broude, *supra* note 3.

[11] For an excellent overview, see E. Zamir and D. Teichman, *Behavioral Law and Economics* (2018); Tversky and Kahneman, 'Judgment under Uncertainty: Heuristics and Biases', 185 *Science* (1974) 1124; Tversky and Kahneman, 'The Framing of Decisions and the Psychology of Choice', 211 *Science* (1981) 453; Camerer, 'Behavioral Economics: Reunifying Psychology and Economics', 96 *Proceedings of the National Academy of Science* (1999) 10575; Rabin, 'Psychology and Economics', 36 *Journal of Economic Literature* (1998) 11.

[12] This article presupposes that there is common epistemological ground between rationalism and at least part of constructivism – namely, that insights can be generated by a scientific theory testing method.

[13] For a discussion on using experiments in international law and international legal theory, see van Aaken and Broude, *supra* note 3.

2 A Sketch of Rationalist and Constructivist Approaches in International Legal Theory

Constructivists and rationalists share the interest in understanding and explaining social reality by uncovering causal social mechanisms and constitutive relations and asking how cooperation is sustained in international law, a decentralized system without central authority. They assume different mechanisms but do not rely in their assumptions on experimentally identified factors. Without being able to do justice to the fine-grained differences in both background paradigms, the following part will sketch some long-held assumptions of rationalism and constructivism.

A *A Sketch of Rationalism*

The central tenets of the rationalist paradigm are utility maximization, stable self-interested preferences, rational expectations and optimal processing of information.[14] A change in behaviour is attributed to a change in constraints or incentives (a change in prices or legal constraints). For analytical reasons, preferences are assumed to be fixed – that is, prior and exogenous to the analysis. This assumption is made since one wants to predict how choices will change if constraints change. The law is one such constraint. A thin notion of rationality that relies on transitivity and completeness, in principle, can only be filled with any preferences actors may be assumed to have (profit, power, reputation and so on) in a given context, including values. The analysis focuses on actors, not on structures or systems; it is methodologically individualistic.[15]

On the international level, it is routine for many proponents of the rationalist paradigm to assume that states strategically pursue their own individual material self-interests,[16] not only when discussing questions of law-making but also questions on when and whether states comply with international law.[17] Liberal international relations scholars focus on preference change at the state level as well, thereby rejecting the institutionalist and realist assumptions of the stable preferences of states.[18]

Rationalists differ on the assumed content of preferences and the role of institutions and law. Some '[r]ealists believe that power is the currency of international politics', power being based on the material capabilities of a state, such as military or economic prowess.[19] Classical realists assume that (international) politics is rooted in an unchanging human nature that is basically self-regarding and that states have an

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[14] G. Becker, *The Economic Approach to Human Behavior* (1976), at 14.

[15] *Cf.* List and Spieckermann, 'Methodological Individualism and Holism in Political Science: A Reconciliation', 107 *American Political Science Review* (*APSR*) (2013) 629, holding that those approaches can and should be reconciled. I follow their view also for international legal theory.

[16] For rationalist accounts, see A. Guzman, *How International Law Works: A Rational Choice Theory* (2008); J. Goldsmith and E. Posner, *The Limits of International Law* (2005).

[17] B. Koremenos, *The Continent of International Law* (2016).

[18] See Moravcsik, 'Taking Preferences Seriously: A Liberal Theory of International Politics', 51 *IO* (1997) 513.

[19] Mearsheimer, 'Structural Realism', in T. Dunne, M. Kurki and S. Smith (eds), *International Relations Theories: Discipline and Diversity* (3rd edn, 2013) 71, at 72.

interest at a minimum in their own security and survival rooted in a quest for power (*animus dominandi*).[20] For structural realism, it is the architecture of the international system that forces states to pursue power. Thus, in a system without a higher authority, and where there is no guarantee that one will not attack another, it makes sense for each state to be powerful enough to protect itself in the event it is attacked.[21] So-called 'neorealists' assume competition for security in the anarchical system of international relations.[22] Law is epiphenomenal to international relations;[23] there is surely no preference for complying with international law.[24] Following John Austin,[25] realists have often argued that 'law' must have a centralized authority for interpretation and enforcement in order to be 'law'.[26]

Much then depends on whether states want to achieve relative or absolute advantages over other states.[27] Whereas some argue that realism can be associated with relative gains strongly impeding cooperation, others find that the relative-absolute gains distinction is over-stated and again others contend that relative gains is a poor substitute for existentialist problems in an absolute gains world.[28] Institutionalists tend to assume that states look for joint cooperative gains, exhibiting a more positive worldview.[29] Institutions and law matter. States build institutions in order to cooperate, and those international institutions affect the behaviour of states or other international actors as well as the domestic audience.[30] Whereas the realist and institutionalist schools tend to adhere to the unitary actor assumption, liberal international relation scholars often break up the 'black box' state and see states as disaggregated, comprising multiple agents with often divergent interests and domestic dynamics.[31]

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[20] H.J. Morgenthau, *Scientific Man versus Power Politics* (1965), at 192.

[21] Mearsheimer, *supra* note 19, at 72.

[22] K. Waltz, *Theory of International Politics* (1979).

[23] See Goldsmith and Posner, 'A Theory of Customary International Law', 66 *University of Chicago Law Review* (1999) 1113; Onuf, 'International Legal Order as an Idea', 73 *American Journal of International Law (AJIL)* (1979) 244, at 247: 'It (realism; AvA) tends to disregard international law as empirically over-rated and theoretically irrelevant.'

[24] Goldsmith and Posner, *supra* note 16, at 10.

[25] J. Austin, *Lectures on Jurisprudence or the Philosophy of Positive Law*, edited by R. Campbell (1874), at 3.

[26] Morgenthau, 'Positivism, Functionalism and International Law', 34 *AJIL* (1940) 260, criticizing legal positivism since it is 'sociological context of economic interests, social tensions, and aspirations of power, which are the motivating forces in the international field' (at 269). For an overview, see O. Jütersonke, *Morgenthau, Law and Realism* (2010).

[27] Powell, 'Absolute and Relative Gains in International Relations Theory', 85 *APSR* (1991) 1303.

[28] On the controversy between Grieco, Powell and Snidal, see Grieco, Powell and Snidal, 'The Relative-Gains Problem for International Cooperation', 87 *APSR* (1993) 729.

[29] For an excellent overview of this approach to international law visiting different subject matters, see Koremenos, 'Institutionalism and International Law', in J.A. Dunoff and M.L. Pollack (eds), *Interdisciplinary Perspectives on International Law and International Relations: The State of the Art* (2013) 59.

[30] Abbott *et al.*, 'The Concept of Legalization', 54 *IO* (2000) 401; Keohane, *After Hegemony* (1984); Keohane, 'International Relations and International Law: Two Optics', 38 *Harvard International Law Journal* (1997) 487; R.O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (1984); Keohane, 'The Demand for International Regimes', 36 *IO* (1982) 325.

[31] An important attempt to explain states behaviour by looking inside the state can be traced back to Putnam, 'Diplomay and Domestic Politics: The Logic of Two-Level Games', 42 *IO* (1988) 427. Andrew Moravcsik and Anne-Marie Slaughter are other prominent representatives of this school.

Rationalists mostly model international relations and law[32] in game theoretic terms[33] – that is, the strategic interaction of rational actors.[34] Also, compliance questions are explained via game theory. Compliance theories are also theories about 'the nature and operation' of international law more generally.[35] Many rationalists are rather pessimistic, especially in realist thought (less so in institutional liberalism), *inter alia*, due to the so-called sanctioners' dilemma – that is, the expectation that states prefer to freeride on the sanctions of other states.[36] Pervasive, not occasional, non-compliance impacts the very idea of international law since many notions of law rely heavily on social efficacy.

Rationalists accept that, in iterative scenarios, cooperative outcomes may vary. In bilateral relationships, reciprocity *strictu sensu* (weak reciprocity) can act as a device for upholding cooperation. Furthermore, credible commitments (for example, an enforceable contract) and the shadow of the future (in repeated games) may sustain cooperation, also via reputation.[37] This is much harder in larger groups: rationalists are more pessimistic about the cooperative outcome in multilateral games.[38] Because of the anticipated sanctioning dilemma, freeriding and cheap talk, rationalists expect that promises are likely to be either unenforceable or, at best, under-enforced.[39] Agreements with no or limited enforcement mechanisms are expected not to have any impact on behaviour except in simple coordination games.[40]

This view may miss important factors that contribute to upholding cooperation. Rationalism does not offer coherent hypotheses for when actors will achieve more or less socially desirable outcomes. The assumptions do not completely square with the available empirical evidence.[41] The evidence does not require a rejection of rationalist approaches. Indeed, underlying the incentive structures of a problem to be solved (for example, environmental law versus bilateral trade treaties), the roles of strategic interests and numerous other rationalist foundations remain of fundamental importance,

[32] E.g. Norman and Trachtman, 'The Customary International Law Game', 99 *AJIL* (2005) 541.

[33] Snidal, 'The Game Theory of International Politics', 38 *World Politics* (1985) 25, at 27, 28.

[34] Instead of many, see Guzman, *supra* note 16.

[35] Kingsbury, 'The Concept of Compliance as a Function of Competing Conceptions of International Law', 19 *Michigan Journal of International Law* (1998) 345, at 346. For a rationalist treatment in the field of international relations, see Downs, Rocke and Barsoom, 'Is the Good News about Compliance Good News about Cooperation?', 50 *IO* (1996) 379.

[36] See Thompson, 'The Rational Enforcement of International Law: Solving the Sanctioners' Dilemma', 1 *International Theory* (2009) 307, at 311, using rationalist game theory but being more optimistic based on including political costs.

[37] One may argue that, in the international arena, games are usually infinite: states usually do not die and they often interact with each other. But one needs to distinguish the actors. For governments, games can be finite. Also, there might be special games with finite rounds, such as wars or allocation and the exploitation of resources.

[38] For details, see R. Cornes and T. Sandler, *The Theory of Externalities, Public Goods, and Club Goods* (1986); for global public goods, see S. Barrett, *Why Cooperate? The Incentive to Supply Public Goods* (2007).

[39] For details, see Goldsmith and Posner, *supra* note 16, at 195–196.

[40] E.A. Posner and A.O. Sykes, *Economic Foundations of International Law* (2013), at 232.

[41] Ostrom, 'A Behavioral Approach to the Rational Choice Theory of Collective Action', 92 *APSR* (1998) 1, at 2.

to be sure, to any theory attempting to explain international cooperation, but they also remain insuffiently complex.

B *A Sketch of Constructivist Assumptions*

Interest-driven approaches of rationalism are contrasted with the value and idea-driven approaches of constructivism.[42] Materialism and rationalism are criticized.[43] As in rationalism, there is a lot of diversity within the constructivist research agenda, and it is impossible to do justice to all of them here. Constructivist approaches in international law have been generally more optimistic about interstate cooperation and the causal influence of law on state behaviour, more generally, and compliance, more specifically.[44] Constructivists stress the constructed nature of interests, meaning that interests and preferences might never be 'fixed'[45] but are 'shapeable'; as Martha Finnemore puts it, 'States do not always know what they want. They and the people in them develop perceptions of interest and understandings of desirable behaviour from social interactions with others in the world they inhabit'.[46] They focus on the ideas and beliefs that inform the actors, stressing learning effects, shared understandings, socialization and social norms as factors determinative for the behaviour of states. Language and rhetoric are used to construct the social reality of the international system – that is, the framing of beliefs and the influence of beliefs on behaviour is crucial for constructivists: words and communicative action matter by creating expectations influencing the other's side behaviour.[47]

Shared ideas, expectations and beliefs about appropriate behaviour 'give the world structure, order, and stability'.[48] The claim is not that ideas are more important than power and interests or that they are autonomous from them. It is rather that the latter have the effects they do 'in virtue of the ideas that make them up. Power and interests explanations *presuppose* ideas'.[49] They regard identity and its strategic consequences

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[42] See Adler, 'Constructivism and International Relations', in W. Carlsnaes, T. Risse and B.A. Simmons (eds), *Handbook of International Relations* (2002) 95.

[43] Extensively, see Wendt, 'Constructing International Politics', 20 *International Security* (1995) 71: 'Critical IR "theory", however, is not a single theory. ... What unites them is a concern with how world politics is "socially constructed", which involves two basic claims: that the fundamental structures of international politics are social rather than strictly material (a claim that opposes materialism), and that these structures shape actors' identities and interests, rather than just their behaviour (a claim that opposes rationalism)'.

[44] For constructivist approaches in international law, see, instead of many, J. Brunnée and S.J. Toope, *Legitimacy and Legality in International Law: An Interactional Account* (2010).

[45] N.G. Onuf, *World of Our Making: Rules and Rule in Social Theory and International Relations* (1989).

[46] M. Finnemore, *National Interests in International Society* (1996), at 128.

[47] F. Kratochwil, *Rules, Norms, and Decisions: On the Conditions of Practical and Legal Reasoning in International Relations and Domestic Affairs* (1991), arguing that norms influence choices by providing reasons rather than by being causes for action.

[48] *Cf.* Wendt, *supra* note 43, at 73; Finnemore and Sikkink, 'International Norm Dynamics and Political Change', 52 *IO* (1998) 887, at 894.

[49] A. Wendt, *Social Theory of International Politics* (1999), at 135 (emphasis in original). Indeed, one may argue at the extreme that there are no preferences, just ideas – that is, '[i]deas all the way down?' (at 92); see also the response of Keohane, 'Ideas Part-Way Down', 26 *Review of International Studies* (2000) 125.

as being crucial.[50] Thus, international 'anarchy is what states make of it'.[51] Shared belief systems are a systematic set of doctrines or beliefs that reflect the social needs and aspirations of groups and also states: 'Normative (or principled) beliefs are beliefs about right and wrong, and they imply associated standards of behavior' – for example, the role of human rights norms.[52]

Constructivists analyse the ability of international norms to shape beliefs and identity, taking into account communication.[53] They are interested in the construction of social reality by norms as well as by rights[54] and the normative implications of such constructions.[55] Norm influence is, by some, understood to be a three-stage process. The first stage is 'norm emergence', often initiated by 'norm entrepreneurs', and fairness norms and legitimacy play a considerable role in this stage (as well as in later stages) just as moral considerations do.[56] Especially in the phase of norm emergence, norm entrepreneurs call attention to issues or even 'create' issues by using language that names, interprets and dramatizes them and, thus, use 'framing', creating alternative perceptions of both appropriateness and interest.[57] The second stage involves broad norm acceptance ('norm cascade'), and the third stage involves internalization: 'The first two stages are divided by a threshold or "tipping" point, at which a critical mass of relevant state actors adopt the norm.'[58] It is observed that '[m]ore recent strands of constructivism have shown that norms emerge, change or fade through processes of social learning and contestation'.[59] Once a norm is internalized, policy options in conflict with the respective norm often seem 'off the table' or in such fundamental conflict with the state's own identity that they are not even suggested by policy-makers.[60]

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[50] For sure, the variable of identity has also reached economics. *Cf.* Akerlof and Kranton, 'Economics and Identity', 115 *Quarterly Journal of Economics* (2000), 715, which is still not mainstream and has only recently been applied to explain current international trade policy by the same authors who developed a rationalist political economy account of trade theory. *Cf.* Grossman and Helpman, 'Identity Politics and Trade Policy', NBER Working Paper 25348 (2018), at 1, available at www.nber.org/papers/w25348.

[51] Wendt, 'Anarchy Is What States Make of It' 46 *IO* (1992) 394.

[52] Tannenwald, 'Ideas and Explanation: Advancing the Theoretical Agenda', 7 *Journal of Cold War Studies* (2005) 13, at 15.

[53] F. Kratochwil, *Rules, Norms, and Decisions on the Conditions of Practical and Legal Reasoning in International Relations and Domestic Affairs* (1991).

[54] Alkopher, 'The Role of Rights in the Social Construction of Wars: From Crusades to Humanitarian Interventions', 36 *Millennium* (2007) 1.

[55] Price, 'Moral Limit and Possibility in World Politics', 62 *IO* (2008) 191. Early on, see Onuf, *supra* note 23, at 245.

[56] T.M. Franck, *Fairness in International Law and Institutions* (1998); Tyler, 'A Psychological Perspective on the Legitimacy of Institutions and Authorities', in J.T. Jost and B. Major (eds), *The Psychology of Legitimacy* (2001) 416.

[57] Finnemore and Sikkink, *supra* note 48, at 897.

[58] *Ibid.*, at 895, 897.

[59] Brunnée and Toope, 'International Law and the Practice of Legality: Stability and Change', 49 *Victoria University of Wellington Law Review* (2018) 429, at 432.

[60] Wuerth, 'Compliance', in J. d'Aspremont and S. Singh (eds), *Concepts of International Law: Contributions to Disciplinary Thought* (2018) 117.

Experimental insights provide support for long-held constructivist assumptions about some important factors for cooperative behaviour – for example, the issue of framing for decision-making, normative beliefs and the importance of communication.

3 Experimental Evidence on Building Blocks Contributing to Sustained Cooperation in a Decentralized System

(How) can international law yield order in the absence of central authority?[61] Careful attention to the factors that lead to cooperation in experiments is needed if these are to be useful to inform international legal theory. Although experimental game theory has a rationalist starting point of strategic interaction concerning its pedigree and tools, experiments hint at additional insights that were long stressed by constructivist scholars. The emerging middle ground of behavioural assumptions between rationalists and constructivists can be backed up with strong experimental evidence. Strategic interaction and the self-interest of states are surely fundamental in any evidence-based theory of international law and in practice. But not only is this self-interest refined with other motivational factors, but this strategic interaction is also more subtle than presumed by many rationalists, and this is where psychological insights and constructivist theories come in. These insights are backed up by international law *de lege lata*, which uses these insights in different issue areas of international law.

The rationalist explanation of cooperation in international law relies heavily on traditional game theory.[62] One example of successful cooperation is having a legal order, including an international legal order. Game theoretically, this is conceptualized as a public good game.[63] The incentive structure of public good games is mirrored in the incentive structure of international law on two levels. First, the games can be applied to genuine public good constellations in international law, such as environmental law.[64] Second, and the focus of this article, they can be applied on

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[61] This question has vexed international legal theorists and international relations scholars equally. See only Onuf, *supra* note 23, at 250.

[62] Snidal, 'The Game Theory of International Politics', 38 *World Politics* (1985) 25, with an excellent overview on how game theory can be used in international relations. Power, although looming large in international relations scholarship, is not only difficult to define (for example, hard versus soft) but is also mostly not modelled in game theory. The same applies to behavioural game theory. See Prates, 'Power in Game Theory', 7 *Contributions to Game Theory and Management* (2014) 282.

[63] Gächter, 'Human Pro-Social Motivation and the Maintenance of Social Order', in E. Zamir and D. Teichman (eds), *Handbook on Behavioral Economics and the Law* (2014) 28, at 29. A typical public good game is designed as follows (but they come in many variants): n subjects are each given an initial endowment of money. They may contribute some, all or none of their endowment to the public good. The contribution to the public good is multiplied by some factor k, where k is greater than one but less than n. This enlarged pot is then shared equally between all group members. Thus, a subject s who contributes one unit to the public good benefits the group as a whole, since k is greater than one, but s loses out herself, since $k \div n$ is less than one.

[64] Barkin and Rashchupkina, 'Public Goods, Common Pool Resources, and International Law', 111 *AJIL* (2017) 376; van Aaken, 'Behavioral Aspects of the International Law of Global Public Goods and Common Pool Resources', 112 *AJIL* (2018) 67; Paine, 'International Adjudication as a Global Public Good?', 29 *European Journal of International Law (EJIL)* (2018) 1223.

a conceptual level since constructing an international legal order is itself a public good. These games mimic the basic structure of the international system, which lacks centralized enforcement and thus allows freeriding, and have been used to explore under which conditions cooperation arises and is sustained – a basic question of international legal theory.

Public good games are a classical prisoner's dilemma – a game that has guided rationalist thinking about international legal theory and law, especially in security and environmental law. The best outcome for group welfare would be if each subject contributed her full endowment to the public good. However, each subject has an incentive to freeride on everyone else's contributions. In this scenario, standard rationalist theory predicts that nothing will be contributed to the public good. This prediction, known as the 'strong freerider' hypothesis, is challenged by results in the lab and in the field: real human beings are not strong freeriders; they do in fact contribute to the public good and punish others who do not, even at some cost to themselves (putting into question the rationalists' sanctioner dilemma). Clearly, the result is that 'predictions based on [rational choice] model[s] are not supported in field research or in laboratory experiments in which individuals face a public good ... problem and are able to communicate, sanction one another, or make new rules'.[65] Put differently, 'the principle of rationality, unless accompanied by extensive empirical research to identify the correct auxiliary assumptions, has little power to make valid predictions about political phenomena', such as law.[66]

Repeated findings that individuals systematically engage in collective action without an external authority enforcer[67] have led some to label such outcomes 'better than rational'.[68] Such outcomes occur where 'reciprocity, reputation, and trust can help to overcome the strong temptations of short run self-interest'.[69] The experiments suggest that international legal theories need to take the following factors that are relevant for cooperation into account (and partially already do so): (i) reciprocity; (ii) the distinction between (perceived) fair and unfair sanctions as well as the many ways of sanctioning; (iii) altruism, spitefulness and preferences for equality; (iv) the role of trust and communication; (v) the intentions of the other players; and (vi) the 'type' of actor. It has been suggested that these factors are 'probably relevant in all domains in which voluntary compliance matters'.[70] The implications for international law are manifold. In the following discussion, the rationalist and constructivist assumptions on important building blocks of international legal theory are discussed – namely, (i) preferences of states and strategic interaction; (ii) intentions of states and reciprocity;

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[65] Ostrom *et al.*, 'Revisiting the Commons: Local Lessons, Global Challenges', 284 *Science* (1999) 278, at 279.

[66] Simon, 'Human Nature in Politics: The Dialogue of Psychology with Political Science', 79 *APSR* (1985) 293, at 293.

[67] Ostrom, *supra* note 41, at 2.

[68] Cosmides and Tooby, 'Better Than Rational: Evolutionary Psychology and the Invisible Hand', 84 *American Economic Review* (1994) 327.

[69] Ostrom, *supra* note 41, at 3.

[70] Fehr and Rockenbach, 'Detrimental Effects of Sanctions on Human Altruism', 422 *Nature* (2003) 137.

(iii) communication and trust; (iv) sanctions; and (v) consent and legitimacy. All of these building blocks are analysed in the light of experimental insights, and examples of the practice of international law are given.

A *Preferences, Framing and Moral Judgments*

Strategic interaction based on the self-interest of the actors, including states, is a good starting point for understanding international relations and international law. Traditional game theory assumes rational self-interested actors, common knowledge of game structure and the fact that the actors' beliefs are correct and consistent.[71] In the real world, actors do not always play self-interestedly, they play irrationally, they are uncertain about which game is being played and their beliefs might be incorrect. Even more experiments, as discussed below, show how important framing, fairness preferences and the perceived (good) intentions of other actors are for strategic interaction.

Experiments on social preferences – that is, motivational factors – use game theory, including the ultimatum game,[72] the dictator game[73] and trust games,[74] which have been extensively played in different forms. Plenty of experimental research has shown that individuals are also motivated by other-regarding/altruistic and social preferences and have proven that the purely self-regarding preference assumption of rational choice theory is wrong.[75] This has been found to be decisive for explaining collective action and multilateral cooperation.[76] It is attributed to fairness and moral

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[71] The notion of belief is used in many different ways. In experimental economics, motivated reasoning is at the forefront of research, see the 'Special Issue on Motivated Reasoning', 30 *Journal of Economic Perspectives* (2016) 133.

[72] The experiments started with the so-called ultimatum game. See Güth, Schmittberger and Schwarze, 'An Experimental Analysis of Ultimatium Bargaining', 3 *Journal of Economic Behavior and Organization* (1982) 367. The proposer makes an offer of how to share a given amount (usually money), and the recipient can accept or reject the offer. In case of acceptance, the offered division is implemented; in case the recipient rejects, both get nothing. If the recipient is motivated solely by monetary payoffs, he or she will accept every offer. Therefore, the proposer will only offer the smallest money unit: this is expected by the *homo oeconomicus* hypothesis but not found in the experiments. This is attributed to fairness considerations, which are, when left unfulfilled, punished even if costly to the punisher.

[73] The 'dictator' determines how to split an endowment (such as a cash prize) between himself and the second player. The second player simply receives the remainder of the endowment left by the dictator. Most people all over the world share the endowment, although there is no sanction for not doing so. This contradicts the rational choice assumption. For a meta-analysis, see Engel, 'Dictator Games: A Meta Study', 14 *Experimental Economics* (2011) 583. For details, see Fehr and Schmidt, 'The Economics of Fairness, Reciprocity and Altruism – Experimental Evidence and New Theories', in S. Kolm and J. Mercier Ythier (eds), *Handbook of the Economics of Giving, Altruism and Reciprocity* (2006), vol 1, 615.

[74] The trust game is similar to the dictator game, but with an added first step. First, one participant decides how much of an endowment to give to the second participant, and this amount is typically multiplied by the researchers. Then the second participant (now acting as a dictator) decides how much of this increased endowment to allocate to the first participant.

[75] For details on the experiments, see Fehr and Schmidt, *supra* note 73.

[76] *Ibid.*

preferences, based on social and internalized norms.[77] Whereas rationalists usually do not inquire about the formation of preferences, and, if they do, they are self-regarding and interest based, constructivists have proposed an alternative model that emphasizes the social nature of preferences and processes of socialization, including the internalization of social or legal norms incorporating fairness or moral factors.

One important element in this is framing. Individual decisions depend on the framing of a decision situation. A framing effect exists 'when different ways of describing the same choice problem change the choices that people make, even though the underlying information and choice options remain essentially the same'.[78] Framing effects violate the rationalist axiom of 'descriptive invariance'.[79] Many experiments explore those effects,[80] including in public good games.[81] It has also been explored in the political economy context, including studies of voting and public opinion, campaigns, policy-making and foreign policy and a variety of other topics.[82] The mechanism at work is one that influences beliefs, and beliefs in turn influence behaviour,[83] which is a long-held constructivist assumption.[84] Specific examples abound: framing ultimatum games as a product of resource scarcity generates higher offers and fewer rejections;[85] framing negotiations as taking place in an international rather than a business context triggers more cooperative behaviour;[86] and, supposedly, framing the prisoner's dilemma as an assurance game can increase cooperation.[87] Many experiments could thus show that behaviour is more cooperative or less cooperative depending on how the situation is framed. For constructivist scholars, framing – although not referring to the psychological experiments, except in the field of political psychology of international relations[88] – has always played a role, including in the norm cascade discussion.[89] The experiments confirm that it matters how a decision situation is presented,

[77]   Rege and Telle, 'The Impact of Social Approval and Framing on Cooperation in Public Good Situations', 88 *Journal of Public Economics* (2004) 1625; Fehr and Schmidt, *supra* note 73, at 617: '[T]he real question is no longer whether many people have other-regarding preferences, but under which conditions these preferences have important economic and social effects.'

[78]   Cookson, 'Framing Effects in Public Goods Experiments', 3 *Experimental Economics* (2000) 55; Ellingsen *et al.*, 'Social Framing Effects: Preferences or Beliefs?', 76 *Games and Economic Behavior* (*GEB*) (2012) 117, at 118, for different theories about framing.

[79]   Cookson, *supra* note 78, at 55; Tversky and Kahneman, 'Framing of Decisions', *supra* note 11.

[80]   Ellingsen *et al.*, *supra* note 78.

[81]   Tversky and Kahneman, 'Framing of Decisions', *supra* note 11; Tversky and Kahnemann, 'Rational Choice and the Framing of Decisions', in R.M. Hogarth and M.W. Reder (eds), *Rational Choice* (1987) 67.

[82]   Druckmann, 'Political Preference Formation: Competition, Deliberation and the (Ir)relevance of Framing Effects', 98 *APSR* (2004) 671.

[83]   Dufwenberg, Gächter and Hennig-Schmidt, 'The Framing of Games and the Psychology of Play', 73 *GEB* (2011) 459.

[84]   See notes 47, 48 above.

[85]   C.F. Camerer, *Behavioral Game Theory: Experiments in Strategic Interaction* (2003), at 75.

[86]   Eiser and Bhavnani, 'The Effect of Situational Meaning on the Behaviour of Subjects in the Prisoner's Dilemma Game', 4 *European Journal of Social Psychology* (1974) 93.

[87]   Brian Skyrms, *The Stag Hunt and the Evolution of Social Structure* (2004), framing prisoner's dilemma as a trust game.

[88]   McDermott, *supra* note 3; Davis, *supra* note 3.

[89]   See Brunnée, 'The Kyoto Protocol: A Testing Ground for Compliance Theories?', 63 *Heidelberg Journal of International Law* (2003) 255, at 257; Finnemore and Sikkink, *supra* note 48.

which implies that a prisoner's dilemma – for example, in disarmament treaties or peace negotiations as well as in environmental law – can be framed as an assurance game with consequences for designing treaties (with trust-building mechanisms) and for the behaviour of states, inducing potentially more cooperative behaviour. Framing can also activate moral sentiments, such as fairness norms,[90] allowing behavioural game theory to expand on rationalist game theory by adding emotions[91] and learning.[92]

International law uses framing[93] and other-regarding considerations in many instances in treaty law; indeed, much of the emergence of human rights law, humanitarian law (IHL) and refugee law is based on other-regarding preferences and can hardly be explained by pure self-regarding preferences or weak reciprocity. The establishment of humanitarian agencies within the realm of the United Nations (UN), such as the UN Children's Fund or the World Food Program, is equally hard to explain by purely rationalist approaches, unless spillover effects from humanitarian crises are to be expected, like migration. Likewise, the existence of other actors, such as Medicins sans Frontière as the richest agency funded by private donations, is hardly explicable by purely rationalist approaches, even if one assumes rational 'norm entrepreneurs'. Furthermore, international law can set moral standards (even in contrast to political authorities),[94] shaping state and non-state actors' preferences. These mechanisms must be taken into account when asking how international law can create order without an enforcement authority.

But do those non-standard preferences have any influence on the behaviour of states in compliance questions? Actors can have an interest in the existence of a norm and a legal system at a given moment (norm emergence) and no interest in norm following at a later point of time. Experimental economists make a distinction (just as legal theorists do) between the motivation (the reasons for action) and the behaviour itself. Punishment (that is, external sanctioning) plays an important role in this but does not need to in all circumstances: an (international legal) order can be sustained, to some extent, by internalized norms of proper conduct (internal reasons for action), even in the absence of any formal enforcement. This may be especially important if one analyses a two-level game where national actors play a role – for example, social norm entrepreneurs, like non-governmental organizations. Here, morality can play an important role as well, validating constructivist insights, where internalized norms

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[90] Matthew, 'Incorporating Fairness into Game Theory and Economics', 83 *American Economic Review* (1993) 1281.

[91] Emotions have also been experimentally explored in international relations scholarship in negotiations. See Renshon, Lee and Tingley, 'Emotions and the Micro-Foundations of Commitment Problems', 71(S) *IO* (2017) S189.

[92] *Cf.* Camerer, *supra* note 85.

[93] Van Aaken and Elm, 'Framing in and through International Law', in A. Bianchi and M. Hirsch (eds), *International Law's Invisible Frames: Social Cognition and Knowledge Production in International Legal Processes* (forthcoming).

[94] See Strezhnev, Simmons and Kim, 'Rulers or Rules? International Law, Elite Cues and Public Opinion' 30 *EJIL* (2019) 1281.

of cooperation are assumed to be crucial in the observance of international law. But it remains unclear why this is so.

Experiments show that cooperation is sustained by emotions such as guilt and shame; moral (or legal) norms may be underlying those emotions. People are willing to enforce moral or fairness norms; they react strongly to freeriders even if such a re-action is very costly to themselves.[95] If non-contribution is perceived as intentional as well as unfair and 'unkind', stronger reactions are to be expected. Anger and guilt are especially pertinent in the context of social cooperation[96] (as tested in public good games) because freeriding is perceived to be morally blameworthy, triggering anger in the cooperator and guilt in the freerider. Guilt is a negative emotion that can serve as 'internal punishment' and therefore provide an intrinsic reason for action.[97]

This may translate into state action as well. To be sure, fairness and equity are rela-tive notions and can be framed. But many wars cannot be understood well using these notions nor can reactions to peace treaties.[98] Research from the hard case of why non-state actors follow IHL (while admittedly often they do not) shows that, next to very instrumental reasons, 'self-image is one of the most powerful generators of respect for IHL' – that is, the actors feel guilt if they do not respect the most fundamental norms of IHL such as the protection of civilians.[99] Compared with self-image, perception by others remains a secondary concern for most armed groups.[100] Recognizing the role of these emotions permits the expansion of the range of potential sanctions to include not just traditional external sanctions but also 'internal punishment'. The cooperation of state and non-state actors can thus be supported to the extent that important con-stituencies within states, or states' representatives, think cooperating is morally the right thing to do and feel guilty at the prospect of breaking the international norm.

Furthermore, potential freeriding states might expect punishment from angry co-operative states and thus act cooperatively on the basis of an extrinsic self-regarding incentive to avoid punishment. Thus, whereas the calculus of the violating state may have a rational basis, the expected reaction by the punishing state(s) can often not be explained on purely rationalist grounds. For example, this is evidenced in costly economic sanctions by third states whose rights have not been violated and where no spillover effects occur.[101] Another example is the recent case brought by the Gambia

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[95]   Surveyed in Gächter and Herrmann, 'Reciprocity, Culture, and Human Cooperation: Previous Insights and a New Cross-Cultural Experiment', 364 *Philosophical Transactions of the Royal Society B – Biological Sciences* (2009) 791. Gowdy, 'Behavioral Economics and Climate Change Policy', 68 *Journal of Economic Behavior and Organization* (2008) 632, at 633, with further references to experiments.

[96]   Gächter, *supra* note 63, at 38ff.

[97]   *Ibid.*, at 38. For a discussion of how guilt aversion influences behaviour, see Haidt, 'The Moral Emotions', in R.J. Davidson, K.R. Sherer and H.H. Goldsmith (eds), *Handbook of Affective Sciences* (2003) 852; Charness and Dufwenberg, 'Promises and Partnership', 74 *Econometrica* (2006) 1579.

[98]   See, e.g., the discussion on the Treaty of Versailles on the 'unfair' treatment of Germany. Franck and Sughrue, 'International Role of Equity as Fairness', 81 *Georgetown Law Journal* (1993) 563.

[99]   O. Bangerter, 'Reasons Why Armed Groups Choose to Respect International Humanitarian Law or Not', 93 *International Review of the Red Cross* (2011) 353, at 358.

[100]   *Ibid.*, at 361.

[101]   E.g. by Canada against Russia after the invasion of Crimea. Government of Canada, available at www. international.gc.ca/world-monde/international_relations-relations_internationales/sanctions/russia-russie.aspx?lang=eng.

against Myanmar, demanding provisional measures before the International Court of Justice because of the alleged violation of the Genocide Convention due to the treatment of the Rohingya group.[102] The Gambia did not experience any material spillover effects but, potentially, immaterial ones since it is predominantly a Muslim country, as the Rohingyas are. If state action is perceived as non-cooperation, punishment by cooperating states takes place, at least sometimes. This hints that the sanctioning dilemma is less strong than postulated by many rationalists.

Experimental game theory attempts to capture these insights without giving up the strategic interaction basis. Experiments shed light on the causal mechanisms of how normativity works. The emotions of guilt and shame are interesting for legal theory since they trigger two different potential enforcement mechanisms of norms – external and internal punishment. Whereas the former has been a cornerstone of rationalist thinking, the latter has been fundamental for constructivist thinking. Legal designers or international negotiators can take advantage of these insights by using framing to express a view on what is 'the right thing to do'. Indeed, this may be one of the most important functions of international law, guiding behaviour by normativity as well as by justified beliefs on what others will do.[103] Law is more reliable than social norms in generating normative expectations since it is governed by authority. Christoph Engel and Michael Kurschilgen argue that two important empirical questions lie at the heart of the debate: 'Do normative expectations have any autonomous effect on people's behavior? If so, does this effect rest on the fact that the underlying norm is perceived to be law?'[104] They find evidence for both in public good games, in case sanctions are also present. Law can act as a frame in two ways: it can enhance beliefs of what others will do (normative expectations), and it can express a view on what is 'the right thing to do'. Whereas the first element has also been acknowledged by rationalists, the latter has always been stressed by constructivists.[105]

B *Reciprocity and Types of Actors*

Standard rationalist theory predicts that contracts that are not fully enforceable will not be concluded since the expectation of the parties is that at least one party will not meet its obligations, entailing foregone gains or efficiency losses. This prediction is systematically violated: in reality (in national legal orders and in the international legal order) as well as in experiments. The rule and not the exception in actual behaviour is that actors do not always exploit the opportunity to violate agreements at the expense of others, and, thus, it becomes rational to enter agreements that are not fully enforceable. The question is why this is the case.

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[102] Convention on the Prevention and Punishment of the Crime of Genocide 1948, 78 UNTS 277.

[103] Instead of many on expressive law theory, see R.H. McAdams, *The Expressive Powers of Law: Theories and Limits* (2015).

[104] Engel and Kurschilgen, 'The Coevolution of Behavior and Normative Expectations: An Experiment', 15 *American Law and Economics Review* (2013) 578 at 579.

[105] Fearon and Wendt, *supra* note 8; Brunnée and Toope, *supra* note 44.

One prominent answer lies in reciprocity. Despite definitional ambiguities, reciprocity as tit-for-tat (weak reciprocity) is recognized as being foundational to modern society and international order,[106] including international law.[107] Specifically, humans can learn reciprocity norms to enhance returns from collective action.[108] Weak reciprocity, which maps onto what Robert Keohane has called 'specific' reciprocity,[109] emphasizes rational and self-interested behaviour in which each cooperative or retaliatory act is motivated by future benefits. Weak reciprocity seems indeed to act as a strong driver of cooperating and also of sanctioning. International law takes account of that in the Vienna Convention on the Law of Treaties (Article 60 on termination and Article 21 on reservations) and the Draft Articles on State Responsibility (countermeasures under Article 49) when taking into account the circumstances under which reciprocal actions can be taken.[110] It thus mirrors the rationalist idea of weak reciprocity. Is the exclusive reliance on weak rationality exhaustive?

Insights from experiments show the importance of intentions in reciprocity. A reciprocal individual responds to actions she perceives to be kind in a kind manner and to actions she perceives to be hostile in a hostile manner. Thus, preferences do not only depend on material payoffs but also on intentions – that is, on beliefs about why an agent has chosen a certain action. This modelling requires the tools of behavioural game theory.[111] If the other actors are perceived as moral and legitimate, cooperation is fostered; if actors are deemed unfair, cooperation is undermined. Under which conditions punishment takes place is thus a question of beliefs about the (intentions) of other actors, normative expectations and (moral) norms.[112] International law itself distinguishes between different causes of non-compliance in many instances and accounts for intentions. Classical examples of sorting legal consequences according to intentions are the Kyoto Protocol[113] and Article 2(I) of the International Covenant on

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[106] Keohane, 'Reciprocity in International Relations', 40 *IO* (1986) 1, at 3; see also, extensively, S. Bowles and H. Gintis, *A Cooperative Species: Human Reciprocity and Its Evolution* (2011).

[107] See B. Simma, *Das Reziprozitätselement im Zustandekommen völkerrechtlicher Verträge. Gedanken zu einem Bauprinzip der internationalen Rechtsbeziehungen* (1972); B. Simma, *Das Reziprozitätselement in der Entstehung des Völkergewohnheitsrechts* (1970); from a rationalist perspective, see Guzman, *supra* note 16; Parisi and Ghei, 'The Role of Reciprocity in International Law', 36 *Cornell International Law Journal* (2003) 93.

[108] Gintis, 'Strong Reciprocity and Human Sociality', 206 *Journal of Theoretical Biology* (2000) 169.

[109] Keohane, *supra* note 106, at 4 (defining specific reciprocity as 'situations in which specified partners exchange items of equivalent value in a strictly delimited sequence').

[110] Vienna Convention on the Law of Treaties 1969, 1155 UNTS 331; International Law Commission, Articles on Responsibility of States for Internationally Wrongful Acts (ARSIWA), UN Doc A/56/83, 3 August 2001.

[111] Fehr and Schmidt, *supra* note 73.

[112] Attribution of fairness intentions is important in both the domains of negatively and positively reciprocal behaviour. See Falk, Fehr and Fischbacher, 'Testing Theories of Fairness: Intentions Matter', 62 *GEB* (2008) 287.

[113] Kyoto Protocol 1997, 37 ILM 22 (1998). The Compliance Committee of the protocol has two branches: a facilitative branch and an enforcement branch. The former aims to provide advice and assistance to parties in order to promote compliance, whereas the enforcement branch has the responsibility to determine consequences for parties not meeting their commitments.

Economic, Social and Cultural Rights;[114] both take into account the ability of the respective states to comply with norms, stating violations if states are able to comply but not if they do not have the capacity to do so. International law takes into account the intention of the non-compliant states and mandates different measures. It has mechanisms to validate beliefs about the intention of the other actors, such as commissions of inquiry and reporting, surveillance and peer review in order to understand the reasons for non-compliance.[115] Although these mechanisms exist in international law, they should be made stronger, and technological developments will help in this (for example, in the fishing industry).[116] It is by now well documented how the attribution of bad or good intentions to other players can change international order – for example, the international economic order.[117]

Furthermore, experimental economics points to different potential motivations for reciprocal behaviour, with different implications for international law. Strong reciprocity, corresponding roughly to Keohane's 'diffuse' reciprocity,[118] reflects a desire for balance driven by comparison and matching and is related to equality and fairness concerns.[119] Already the possibility of taking measures under Article 48 of the Draft Articles on State Responsibility for *inter omnes* violations can hardly be explained by weak reciprocity. It also shows up, for example, in areas of international law where the proportionality principle is used – for example, in human rights treaties and IHL.

The (perceived) type of actor also matters for reciprocity. Typically, different types of actors are to be found in field experiments as well as in lab experiments: (i) those who always behave in a narrow, self-interested way and never cooperate in dilemma situations (freeriders); (ii) those who are unwilling to cooperate with others unless assured that they will not be exploited by freeriders; (iii) those who are willing to initiate reciprocal cooperation in the hopes that others will return their trust; and (iv) perhaps a few genuine altruists who always try to achieve higher returns for a group.[120] The same is diagnosed, for example, in climate change law.[121] The expectation is that, if there are enough players 'in' and there is a reasonable expectation that other states will reciprocate, the majority of actors that are willing to invest trust – so-called conditional

[114] International Covenant on Economic, Social and Cultural Rights 1966, 993 UNTS 3.

[115] C. Henderson (ed.), *Commissions of Inquiry: Problems and Prospects* (2017); Becker and Nouwen, 'International Commissions of Inquiry: What Difference Do They Make?', 30 *EJIL* (2019) 819.

[116] Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Doc. FAO/C 2009/LIM/11-Rev.1, 22 November 2009. This agreement makes use of technology for surveillance. For a short introduction, see Ortiz, 'Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing', 55 *International Legal Materials* (2016) 1157.

[117] *Cf.* Roberts *et al.*, 'Toward a Geoeconomic Order in International Trade and Investment', 22 *Journal of International Economic Law* (2019) 655.

[118] *Ibid.*, defining diffuse reciprocity as 'conforming to generally accepted standards of behaviour'. Although Keohane captures the essence of this kind of reciprocity, his writing is not based on experimental insights and is less fine-grained in comparison with the experiments.

[119] See, e.g., Gintis, *supra* note 108; Bowles and Gintis, *supra* note 106, at 20.

[120] Ostrom *et al.*, *supra* note 65, at 279.

[121] Mitchell, 'Flexibility, Compliance and Norm Development in the Climate Regime', in J. Hovi, O. Stokke and G. Ulfstein (eds), *Implementing the Climate Regime: International Compliance* (2005) 65.

cooperators – will indeed cooperate, even if there are some resistant players. The tipping point is crucial. International law depends on the cooperation of the conditional cooperators to uphold order. Both groups – those who comply when they are assured that others will as well as those who initially cooperate – need trust-enhancing mechanisms such as reporting and monitoring as well as potentially credible dispute resolution mechanisms for a credible commitment. This is why trust-enhancing devices are so crucial in international law – if trust is not generated, a treaty may unravel. To sum up, international law can and does create institutions to support cooperation for conditional cooperators. The attribution of intentions is crucial in many areas of international law, just as in the experiments for reciprocity to play.

C *Communication and Trust*

Some realist (legal) scholars describe much of international law as weak 'cheap talk' – that is, costless, non-binding, pre-play communication.[122] Although signalling is taken into account by rationalists, it needs to be costly to be cooperation enhancing. Constructivists, in contrast, borrowing the concept of '*episteme*' from Michel Foucault, have a research programme on 'epistemic communities', stressing collective social learning, which involves international diffusion and the institutionalization of collective understandings via communication – thus, 'talking' is crucial.[123]

In experiments with individuals and field studies on commons, the 'cheap talk' hypothesis has been shown to be wrong: communication helps actors to achieve efficient results.[124] They suggest that credible reassurances by all partners of each other's commitment is crucial – and not merely 'cheap talk'. It is assumed that communication facilitates cooperation because it: (i) transfers information from those who figure out an optimal strategy to those who cannot determine what strategy is optimal; (ii) encourages the exchange of mutual commitments; (iii) increases trust and thereby affects expectations of others' behaviour; (iv) adds additional value to the subjective payoff structure; (v) reinforces prior normative values; and (vi) develops a group identity.[125] Additional relevant factors are group identity, social capital and perceived intention.[126]

Face-to-face communication and knowing the other participants with whom one is interacting thus improve cooperative outcomes.[127] Experiments have shown that important commitment mechanisms are promises, which operate on a potential

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[122] See, e.g., Goldsmith and Posner, *supra* note 16, at 170–184.

[123] Ruggie, 'International Responses to Technology: Concepts and Trends', 29 *IO* (1975) 557; M. Foucault, *The Order of Things: An Archaeology of the Human Sciences* (1970).

[124] See Charness, 'Self-Serving Cheap Talk: A Test of Aumann's Conjecture', 33 *GEB* (2000) 177. This has been shown in common pool resources (CPR) experiments as well. See Falk, Fehr and Fischbacher, 'Appropriating the Commons: A Theoretical Explanation', in T. Dietz *et al.* (eds), *The Drama of the Commons* (2002), 157, finding that there is less appropriation in CPR and more contribution to public goods if the institutional setup allows for (informal) sanctions and communication.

[125] Ostrom, *supra* note 41, at 7.

[126] Falk, Fehr and Fischbacher, *supra* note 112.

[127] Ostrom, *supra* note 41, at 7; Camerer, *supra* note 85, at 76, with further references.

cheater's internal value system. Experimental evidence shows why people keep their promises, identifying three motives. First, people feel duty bound to keep their promises regardless of whether promisees expect them to do so (promising effect *per se*). Second, they care about not disappointing promisees' expectations, regardless of whether those expectations were induced by the promise (expectations effect *per se*). Third, they are even more motivated to avoid disappointing promisees' expectations when those expectations were induced by a promise (interaction effect).[128] International law often relies on 'promises' that are not backed up by the high probability of sanctions – indeed, it has been argued that international law is nothing but promises. But they might still matter and are not mere cheap talk. The creation of stronger international organizations and the regular meeting of states parties to treaties after World War II thus have the potential to foster sustained international cooperation. From that angle, 'talking shops' like the G7 are important. Upholding communication is also one important rationale for diplomatic immunity.

Lab and field experiments validate that the communication of actors is crucial for shared understandings, trust and upholding cooperation. As Elinor Ostrom contends based on field studies, 'the relationships among trust, conditional commitments, and a reputation for being trustworthy are key links in a second-generation theory of boundedly rational and moral behaviour'.[129] Trust has gained prominence in international relations scholarship,[130] not only including strategic trust.[131] Trust involves the willingness to take risks and the expectation that others will honour particular obligations.[132] Experimentally, it has been shown that people's beliefs in the trustworthiness of others matter when contracts are incomplete, as in international law, and that these effects are causal for cooperating outcomes.[133] As has been discussed above, trust is crucial to secure the cooperation of conditional cooperators and for reciprocity to play a role. This may be one reason why international law not only states obligations but also exhibits many trust-enhancing devices – for example, treaty verification mechanisms, peer review and international organizations. Constructivist emphasis of communication is thus warranted since communication can foster trust. Trust-building institutions are important for upholding cooperation in the lab and also between states.

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[128] Mischkowski, Stone, and Stremnitzer, 'Promises, Expectations, and Social Cooperation', *Journal of Law and Economics* (forthcoming).

[129] Ostrom, *supra* note 41, at 7.

[130] B. Rathbun, *Trust in International Cooperation* (2011); Rathbun, 'Trust in International Relations', in E.M. Uslaner (ed.), *The Oxford Handbook of Social and Political Trust* (2018) 687, arguing that cooperation is better seen as a reflection of the beliefs people have about the trustworthiness of others, drawing on social psychology.

[131] A.H. Kydd, *Trust and Mistrust in International Relations* (2005).

[132] Hoffman, 'A Conceptualization of Trust in International Relations', 8 *European Journal of International Relations* (2002) 375.

[133] Bartling *et al.*, 'The Causal Effect of Trust', IZA Discussion Paper no. 11917 (2018), available at www.iza. org/publications/dp/11917/the-causal-effect-of-trust.

D *Sanctions*

As shown in the experiments, despite the influence of other mechanisms on (human or state) behaviour, sanctions remain necessary to uphold cooperation.[134] Still, there are reasons for scepticism about the efficacy of sanctions, if one takes a traditional, narrow view of what international legal sanctions are. As the 'managerialists' Abram and Antonia Chayes pointed out some time ago, authority to impose economic or military sanctions are 'rarely granted by treaty, rarely used when granted, and likely to be ineffective when used'.[135] Whereas rationalists do not expect costly punishment by other states and the sanctioners' dilemma features prominently in rationalist approaches to international law, experimental insights show that punishment by other players sometimes takes place and thus fosters cooperation.[136] Furthermore, non-material sanctions can be effective and are indeed used commonly in international law.

There are several venues where experiments can help us to understand how sanctioning works in international law. First, experiments confirm the potential efficacy of unilateral decentralized sanctioning and outcasting; the sanctioners' dilemma is thus alleviated. Second, experiments show that central enforcement is not necessary to uphold social order as long as a threat of sanctioning is present. International law generates threats of sanctioning not only in Chapter VII of the UN Charter but also in treaties, even if the sanctions are not realized in all cases. Third, third-party sanctioning can be effective if procedures are seen as fair, as is expected for international courts and tribunals or treaty bodies. Not all sanctions are alike, and experimental insights shed light on the many ways in which sanctioning in international law is possible as a decentralized system. In particular, as discussed below, sanctions in international law can be more or less fair, more or less centralized, may consist of forms of outcasting and may be more symbolic than real.

1 *Perceived Fairness of Sanctions*

In the experiments, sanctions perceived as selfish or greedy destroy cooperation; however, fair sanctions leave altruistic cooperation intact.[137] Importantly, sanctioning freeriders in public good games is perceived as fair:[138] welfare is maximized where a single player – either a third party or a designated group member – has sanctioning authority.[139] Under such conditions, the third party is most likely to punish a defector

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[134] Gürerk, Irlenbusch and Rockenbach, 'The Competitive Advantage of Sanctioning Institutions', 312 *Science* (2006) 108.

[135] See A. Chayes and A. Handler Chayes, *The New Sovereignty: Compliance with International Regulatory Agreements* (1998), at 32ff; see also Downs, Rocke and Barsoom, *supra* note 35.

[136] Gächter, *supra* note 63.

[137] Bowles and Gintis, *supra* note 106, at 28.

[138] This experimental research has also been validated by field research, most prominently by T.R. Tyler, *Why People Obey the Law* (1990).

[139] O'Gorman, Henrich and Van Vugt, 'Constraining Free Riding in Public Goods Games: Designated Solitary Punishers Can Sustain Human Cooperation', 276 *Proceedings of the Royal Society B-Biological Sciences* (2009) 323.

if the other players cooperated, reflecting internalized fairness considerations in sanctioning decisions.[140]

This research amounts to a validation of the important role of international courts and tribunals or special treaty bodies as, for example, UN human rights treaty bodies. As a third-party 'punisher', they not only guarantee fair procedures in their rules of procedure, but they are oftentimes only able to sanction symbolically (in rationalist terms), making the perception of fair sanctioning even more important. This has been shown to be important for maintaining collective action, hinting that sanctioning for upholding the international rule of law would be perceived as fair. This research also gives a rationale why collective sanctions by the UN Security Council (a designated third-party punisher) are seen as being more legitimate than unilateral sanctions, even if the UN Security Council fails to act.[141]

2 Outcasting and Decentralized Sanctioning

Non-violent outcasting is a practically pervasive, but neglected, enforcement mechanism in international legal theory, defined as the use of techniques to deny non-compliant states the benefits of social cooperation and membership or the use of markets.[142] The use of exclusion as punishment for non-cooperation (outcasting) converts public goods to excludable non-rivalrous goods in terms of consumption – that is, club goods.[143] It is used in quite an effective manner via treaty law (for example, Article 4 of the Montreal Protocol[144] banning the import of the controlled substances listed in the annexes from non-parties, the Convention on International Trade in Endangered Species of Wild Fauna and Flora,[145] or the Basel Convention[146]) and soft law (for example, the Financial Action Task Force for money laundering or terrorism financing or the Kimberly Process of Conflict Diamonds). Non-compliant states (and their economic actors) are shut out of the club with damaging consequences, but they can be (re-)admitted. Even more important, enforcement can also be external by third parties, not only other states but also international organizations and non-state actors. Many regional organizations like the African Union, the Organization of

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[140] Ginther *et al.*, 'Parsing the Behavioral and Brain Mechanisms of Third-Party Punishment', 36 *Journal of Neuroscience* (2016) 9420, showing that 'third-party punishment is ... crucial to the emergence and maintenance of elaborate human social organization and is central to the modern provision of fairness and justice within society'.

[141] Hofer, 'The Developed/Developing Divide on Unilateral Coercive Measures: Legitimate Enforcement or Illegitimate Intervention?', 16 *Chinese Journal of International Law* (2017) 175.

[142] Hathaway and Shapiro, *supra* note 7. Van Aaken, 'Effectuating Public International Law through Market Mechanisms?', 165 *Journal of Institutional and Theoretical Economics* (2009) 33.

[143] Van Aaken, *supra* note 142. For the definition of club goods, see Buchanan, 'An Economic Theory of Clubs', 32 *Economica* (1965) 1.

[144] Montreal Protocol on Substances that Deplete the Ozone Layer 1987, 1522 UNTS 29.

[145] Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973, 993 UNTS 243, Arts III, IV, V.

[146] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal 1989, 1673 UNTS 126.

American States and also the European Union have some sort of outcasting device for members that break the rules or principles (for example, by revoking voting rights).

Although the formation of club goods and outcasting has a rationalist basis as explanation, the experiments add to the explanation of its effectiveness. Experimentally, it has been shown that excluding defectors is a cheap and impactful sanctioning device.[147] Where exclusion is reversible ("redemption" in experimental terms), it is possible to achieve even larger contributions to the public good.[148] In addition to serving as a sanction, shifting from a pure public good to a club good also expresses one's affiliation to one's social group via positive in-group reciprocity, supporting cooperative behaviour within the group.[149] From a rationalist perspective, it is less costly for the punishers, and, thus, the sanctioning dilemma is alleviated. Outcasting works only with a normative benchmark, which provokes justified reactions by other actors. And it may work as a shaming device, such as, for example, the exclusion of Russia by the G7. The experiments add another argument why outcasting is probably the most effective sanctioning mechanism in international law and widely used.

Also, the sanctioning dilemma in international law seems less grave than assumed by most rationalists. Decentralized sanctioning via economic sanctioning, for example, although costly to the sanctioning state, is taking place in international law, even if it sometimes seems legally problematic.[150] Indeed, ever more unilateral sanctioning is taking place, even if the state is not directly injured (for example, like Canada's sanctions against Russia because of the annexation of Crimea). Furthermore, costly centralized sanctioning also takes place: states contribute, for example, to peacekeeping missions, even if not directly affected by the situation. Although there is freeriding, rationalists are, depending on the situation, at pains to explain peacekeeping missions at all. But if peacekeeping or sanctioning is viewed as a contribution to a public good – be it for humanitarian reasons or for upholding the international rule of law – it can be better explained by drawing on the cooperative elements in the experiments.

3 Symbolic Sanctioning

Finally, even purely symbolic sanctioning, such as disapproving statements or oral condemnations, can enlist cooperation. Experiments show that people are sensitive to the evaluation of others, including in part as a response to guilt and shame triggers.[151]

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[147] Cinyabuguma, Page and Putterman, 'Cooperation under the Threat of Expulsion in a Public Goods Experiment', 89 *Journal of Public Economics* (2005) 1421, finding 'that contributions rose to nearly 100% of endowments with significantly higher efficiency compared with a no-expulsion baseline'. On the efficacy of this device, see Charness and Yang, 'Public Goods Provision with Voting for Exclusion, Exit, and Mergers: An Experiment', working paper (2010), available at www.researchgatenet/publication/228687877_Public_Goods_Provision_with_Voting_for_Exclusion_Exit_and_Mergers_An_Experiment.

[148] Charness and Yang, *supra* note 147.

[149] Chakravarty and Fonseca, 'Discrimination via Exclusion: An Experiment on Group Identity and Club Goods', 19 *Journal of Public Economic Theory* (2017) 244, finding that club goods allow subjects to display their preferences for interaction with their in-group members as well as positive in-group reciprocity.

[150] See contributions in 'Symposium on Unilateral Targeted Sanctions', 113 *AJIL Unbound* (2019) 130.

[151] Rege and Telle, *supra* note 77.

Symbolic sanctioning can be effective even when there is no prospect of a reduced material payoff (but less so than material sanctions).[152] Given the widespread use of symbolic sanctioning in international law, this is good news. Shaming is a common feature in international law and reflected in the remedy system of the Draft Articles on State Responsibility.[153] International courts often just state a violation without commending specific measures, and their judgments are still largely followed.[154] States often condemn other states' actions without material sanctions. Perceived fairness and legality as well as the expression of what is the 'right thing to do' are considered important in constructivist thought and are validated by experiments but neglected by rationalists; indeed, symbolic sanctioning is dismissed by rationalists as largely ineffective.

E *Legitimacy and Consent*

There has been a long debate in international law and international legal theory about the role of legitimacy and consent. The legitimacy among nations has been identified (and disputed by rationalists) as a main driver of compliance, one of its components being consent. For Thomas Franck, legitimacy is the missing link to solve the international legalist's puzzle: why are rules obeyed or not?[155] The compliance pull of international law depends, *inter alia*, on the historic origins of a rule or rule-making institution; Franck emphasizes the importance of the rule-making authority,[156] arguing that legitimacy occurs through a discursive validation whereas the 'procedures and presuppositions of justification are themselves ... the legitimating grounds'.[157]

Experiments can illuminate this debate by simultaneously comparing exogenously imposed law and endogenously chosen law (consent) and, thus, the pedigree of the norm and the effect of the norm pedigree on the necessity to sanction.[158] The effects of the pedigree on no, mild and severe legal sanctions in the provision of public goods have been experimentally researched. The results show that severe sanctions almost perfectly deter freeriding in accordance with the rationalist external incentive view. However, people also obey law backed by mild sanctions if it is endogenously chosen, but not if it is exogenously imposed.[159] It is argued that consensually generated laws

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[152] Masclet *et al.*, 'Monetary and Non-Monetary Punishment in the Voluntary Contributions Mechanism', 93 *American Economic Review* (2003) 366.

[153] ARSIWA, *supra* note 110, Art. 37 (just satisfaction for moral damages – for example, apologies).

[154] E.g. the European Court of Human Rights before the judgment of *Assanidze v. Georgia*, Appl. no. 71503/01, Judgment of 8 April 2004, issued decisions essentially declaratory in nature.

[155] T.M. Franck, *The Power of Legitimacy among Nations* (1990), at 7.

[156] *Ibid.*, at 94.

[157] *Ibid*, at 17.

[158] Tyran and Feld, 'Achieving Compliance When Legal Sanctions Are Non-Deterrent', 108 *Scandinavian Journal of Economics* (2006) 135.

[159] *Ibid.* They tested whether compliance through norm activation is induced by mild law and whether compliance depends on mild law being exogenously imposed or endogenously enacted. To test the hypothesis that exogenous mild law activates norms by expressing what one ought to do, they compared mild law to an otherwise identical condition with severe law and a condition without law. These two conditions served as benchmarks against which the effects of exogenous mild law was assessed. If a law

are like mutual promises: endogenously chosen law induces expectations of cooperation, and people tend to obey the law if they expect many others to do so. These expectations, in turn, are shown to increase cooperation. Indeed, people keep their promises in the absence of external enforcement mechanisms and reputational effects.[160] It was also shown in the experiments that exogenous variations of second-order expectations (promisors' expectations about promisees' expectations) lead to a significant change in promisor behaviour, providing evidence that a promisor's aversion to disappointing a promisee's expectation leads her to behave more generously. This is explained by conditional guilt aversion.[161] The explanation thus has three elements: commitment, conditional cooperation and guilt aversion. As mentioned above, the average person is a conditional cooperator who will make a positive initial contribution to the public good and then take the average contribution of the other group members as the new benchmark. Thus, a lot depends on the expectations of what others will do. Law can create exactly those expectations (norm activation) and prevent the breakdown of cooperation. Experiments thus show differences in the social effectiveness of the law: endogenously chosen law (consent as a promise) shows more effectiveness than exogenous law. The experiments have not been conducted in the context of international law but, rather, in the context of national legal orders. Thus, external validity may be problematic, and the transposition to the international realm needs to be treated with caution. Furthermore, the contextual effects of imposition – for example, the difference between a new law that is imposed versus one that has long persisted so that actors do not focus on its imposition – is not dealt with. Still, they give a first insight on how and why consent may induce compliance with laws.

International law is generally a system with mild sanctions, compared to municipal law, and is thus in need of consent for its effectiveness. Consent is still a cornerstone of international legal theory and also in central concepts of international law like the sovereign equality of nations, guarding sovereignty via the consent principle and protecting against exogenous or extraterritorial law. As international legal scholars would argue, treaties can show commitment via consent; it is endogenously chosen law.[162] Comparatively, treaty law possesses those features to a larger extent than customary international law, and parliamentary ratification more so than executive agreements. The experiments suggest that the pedigree of the norms matters much for compliance. They confirm what is suggested in constructivist legal theory about the relationship between consent, legitimacy and compliance[163] and call for caution

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is endogenously chosen, people vote in a referendum on whether or not to enact it. If a law is exogenously imposed, it is enacted by the experimenter. Their results were confirmed by Gallier, 'Democracy and Compliance in Public Goods Games', 121 *European Economic Review* (2020) 103346.

160 Ederer and Stremnitzer, 'Promises and Expectations', 106 *GEB* (2017) 161.

161 *Ibid.*

162 E.g. Guzman, *supra* note 16, at 42–45, but softening the argument, see Guzman, 'Against Consent', 52 *Virginia Journal of International Law* (2012) 747, at 753, holding that 'consent is a highly imperfect proxy for state willingness to comply with legal rules'.

163 Franck, *supra* note 155.

to head the arguments against consent.[164] Having a broad based, but shallow, Paris Agreement, for example, may have been the correct decision, in spite of the rationalist critique that described it as being 'weak on substance, strong on participation'.[165]

4 Outlook

International legal theory is a very diverse field and includes more background paradigms than rationalism or constructivism. Yet all of them view certain factors of cooperation as crucial – for example, reciprocity and sanctioning. Discussions between constructivist and rationalist theories (and others) of international law will not end. But they should be informed by the insights we have from social science, including psychology, about how people behave and under which conditions they cooperate, create and comply with norms. Experiments are one way of generating evidence on how social order, including the international order, can be constructed and upheld, although experiments are only one means of acquiring empirical evidence. It is safe to say that many of the experimental factors enhancing cooperation feature in international law *de lega lata* as well, although the experiments are not tailor-made to international law and external validity remains problematic.[166] Still, they aptly describe the richness of international law, and neglecting them may mean overlooking important factors in international legal theory. Behavioural insights have the potential to inform international legal theory about crucial building blocks of international cooperation and law, based on empirical insights about how people really behave.

The rationalist foundation of strategic interests is and remains a cornerstone of international relations, and I do not mean to put this into question. But these interests are more refined than assumed by rationalists. Interests and preferences can indeed be framed – the importance of framing in decision-making has been confirmed in many experiments and field studies. This is important for international legal theory in order to understand decision-making on the international, as well as the national, plane and to understand communication between relevant actors in international relations. New insights added by experimental research are the role of intentions in reciprocity, conditional cooperation, symbolic sanctioning and the effectiveness of outcasting with redemption. Neglecting them would blind us to the potential enrichment of international legal theory in order to build adequate institutions. Experiments also hint at the importance of trust-building institutions and communication. All of these

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[164] Guzman, 'Against Consent', *supra* note 162; Krisch, 'The Decay of Consent: International Law in an Age of Global Public Goods', 108 *AJIL* (2014) 1.

[165] Paris Agreement on Climate Change, UN Doc. FCCC/CP/2015/L.9/Rev.1, 12 December 2015. Falk, '*Voluntary*' *International Law and the Paris Agreement* (2016), available at https://richardfalkwordpresscom/2016/01/16/voluntary-international-law-and-the-paris-agreement/. But it exceeded the expectations of many people. See Vinuales, 'The Paris Climate Agreement: An Initial Examination (Part I of III)', *EJIL: Talk!* (7 February 2016), available at www.ejiltalk.org/the-paris-climate-agreement-an-initial-examination-part-i-of-ii/.

[166] For an extensive discussion, *cf.* van Aaken and Broude, *supra* note 10.

factors show that an international legal theory that does not account for the complex factors playing a role in international cooperation may not adequately understand the role of law in shaping international relations. The evidence on sanctions alone shows that international order can function without a central authority doling out material sanctions since the sanctioning dilemma is alleviated through many venues and symbolic sanctioning matters, if certain conditions are met such as consent, fair procedures and transparency about intentions.

The experimental research is relatively young.[167] Furthermore, it is still not tailor-made and sophisticated enough for many open questions in international legal theory. The role of norms, moral judgments and emotions such as guilt are the least understood determinants of cooperation in the social sciences. Although the role of consent has been tested by experiments for the compliance with norms, more empirical and experimental research on legitimacy and authority in international law is needed. But many of the building blocks of international legal theory are reflected in experimental insights, and bringing these insights into international legal theory seems a promising venture. Just as philosophy and legal theory has recently turned to experiments to contribute to some long-held questions,[168] international legal theory can profit from experimental insights.

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[167] Chilton and Tingley, 'Why the Study of International Law Needs Experiments', 52 *Columbia Journal of Transnational Law* (2013) 173.

[168] *Cf.* notes 1 and 2 above.