Bridging Minds and Practices
Integrating Cognitive Psychology and Practice Theory in Legal Reasoning

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Prelude For Engel-Angel

Not winged, nor robed in light,
but in the quiet brilliance
of listening without hurry.

He walks the corridors of the Max Planck House
where thought waits in shadow,
drawing it into the open
with the gentlest of questions.

He walks the Socratic path –
not to display what he knows,
but to draw forth what others can see.

He does not bind thought
with the iron of finality;
he lets it breathe,
turning the law over
like a stone in the river
to see what lies beneath.

Empirical evidence is his compass,
jurisprudence his map –
together they lead him
through the fog of opinion
toward the clearer shore.

He listens to data whispered in columns, charts and LLMs,
testing each claim
against the weight of evidence,
the light of reason.

Fairness is his north star,
and in the constellations of academia

he charts a course
that keeps even the smallest vessel
from drifting into darkness.

He glows in the patience
with which he hears another's thought
all the way to its quiet end,
and in the careful questions
that make it rise again,
stronger, surer, more itself.

And so, the name fits,
though not for flights above us,
but for walking beside us,
reminding us that
knowledge,
like justice,
is best pursued
with open hands, hearts, and minds.

A. Introduction

The work of Christoph Engel has spanned many issue-areas and working with Christoph Engel is always following a path of intellectual inquiry. A project we have collaborated upon led us from experiments with front-line humanitarian negotiators to practice theory in international law and international relations. I would like to explore this path further in this chapter, albeit in a more conceptual manner and without self-conducted empirical research – which is so dear to Christoph Engel.

Faute-de-mieux, the chapter remains exploratory concerning the intersection of cognitive psychology and practice theory to provide a more holistic understanding of legal interpretation, particularly in international law – the issue area of law which was the starting point of Christoph Engel in his intellectual journey.[1] Legal decision-making has long been one of

1 Christoph Engel, *Völkerrecht als Tatbestandsmerkmal deutscher Normen* (Duncker & Humblot 1989).

the interests of Christoph Engel.[2] While practice theory emphasizes the social and embodied nature of interpretive routines, cognitive psychology can offer insight into the mental processes that underlie those routines. The tools for legal reasoning used – interpretative methods – often determine the outcome of interpretation.[3] Research has concentrated on showing experimentally that adjudicators fall prey to biases in *substantive* decisions, focusing on experimental variations in substantive law or facts. They have not looked at the *second order rules of interpretation* and how their use may be influenced by cognitive biases. Yet those rules of interpretation have been the subject of practice theory as applied in adjudication. Interpretative methods are especially crucial if a treaty is incomplete or if there is no settled or coherent jurisprudence. These methods have been deemed to be an instrument of power:[4] they are not neutral, but they may be decisive for the outcome of a case. To paraphrase Emanuel Kant: "Substantive law without interpretational methods is blind; interpretational methods without substantive law are empty."

Commonly, the choice of interpretative methods is attributed *inter alia* to the legal culture.[5] Although this can be captured by practice theory, the cognitive dimension is missing – given that the choice of different tools may be provoked by different cognitive biases and heuristics which in turn are embedded in practice. The question is thus how can cognitive processes (like perception and heuristics) be understood not in isolation but as imbedded in practice and being shaped by and shaping legal interpretive practices. This chapter attempts to weave those strands together.

2 Christoph Engel and Keren Weinshall, 'Manna from Heaven for Judges: Judges' Reaction to a Quasi-Random Reduction in Caseload' (2020) 17 Journal of Empirical Legal Studies 722; Christoph Engel and Fritz Strack (eds), *The Impact of Court Procedure on the Psychology of Judicial Decision Making* (1 edn, Nomos 2007); Christoph Engel and Werner Gueth, 'Modeling a satisficing judge' (2018) 30 Rationality and Society 220; Engel Christoph, *Judicial decision-making a survey of the experimental evidence* (Discussion Papers of the Max Planck Institute for Research on Collective Goods, No. 2022/6)) and more.

3 The interest of Christoph Engel on interpretative methods (textual interpretation) and Large Language Models is pursued in Richard McAdams and Christoph Engel, 'Asking GPT for the ordinary meaning of statutory terms' (2024) 2 Journal of Law, Technology & Policy 235.

4 Dieter Grimm, 'Methode als Machtfaktor' in Dieter Grimm (ed), *Recht und Staat der bürgerlichen Gesellschaft* (Suhrkamp 1987), at 347.

5 Pierre Legrand, 'European Legal Systems Are Not Converging' (1996) 45 International and Comparative Law Quarterly 52.

How do legal actors' cognitive biases interact with field-specific interpretive tools? The chapter aims to develop a dual-layered account where the use of interpretational tools is not only a product of situated social practices (practice theory) but also constrained by mental architecture (cognitive psychology). Thus, I try to tease out the cognitive dimension of practice when adjudicators choose the tools of interpretation – which in turn influence decision-making. Combining these frameworks allows for a situated account of legal reasoning as embedded cognition that recognizes both embodied social dispositions and bounded rationality. It encourages empirical research combining experimental, ethnographic, doctrinal, and psychological approaches.

After cursorily depicting cognitive psychology and practice theory (II.), the chapter explores to apply a combination to legal interpretive methods as used in international law, necessarily remaining speculative but generating tentative hypotheses and using examples from international law (III.). The last part concludes (IV.).

B. Theoretical Foundations

Practice theory and cognitive psychology have many common points of integration yet have been methodologically apart and not much exploration has been done concerning their common insights.[6] Partially, this is a problem of translation and partially a problem of siloed thinking. In the following, I try to do some translation, in spite of that in every "translation" something gets lost.

I. Practice Theory

Practice theory is diverse, consciously and deliberately so.[7] Practice theory broadly refers to approaches in the social sciences that focus on the

6 Although practice theory and cognitive science are not so far away: Omar Lizardo, 'Pierre Bourdieu as Cognitive Sociologist' in Wayne H. Brekhus and Gabe Ignatow (eds), *The Oxford Handbook of Cognitive Sociology* (Oxford University Press 2019).

7 Theodore R. Schatzki, 'Introduction: Practice Theory' in Theodore R. Schatzki, Karin Knorr Cetina and Eike von Savigny (eds), *The Practice Turn in Contemporary Theory* (Routledge 2001); Emanuel Adler and Vincent Pouliot, 'International practices: introduction and framework' in Emanuel Adler and Vincent Pouliot (eds), *Interna-*

routine, embodied actions and practices through which social life is produced and reproduced. Practice theory, as developed by scholars such as Pierre Bourdieu,[8] Andreas Reckwitz,[9] and Theodore Schatzki,[10] views social life as composed of routinized practices. Legal interpretation is seen not as the mechanical application of rules, but as a practice informed by shared norms, institutional settings, and professional socialization: "while an agent is reflecting upon what action will yield the most benefits or correspond to her normative commitments, she is doing so against a taken-for-granted background of habit that has already constrained her imaginable outcomes."[11] Bourdieu called these background beliefs, which are closely linked to schemes of perceptions and dispositions, the *habitus*. These dispositions are so deeply ingrained that they operate largely below the conscious surface.[12] Bourdieu's concept of *habitus* is central here: the embodied dispositions that guide legal actors in interpreting texts based on their legal training and experience.[13] Similarly, cognitive sociology explains behavior, roughly speaking, through cultural norms.[14]

Practice theory is called eclectic:[15] practices are both "individual (agential) and structural since, when 'disaggregated', practices are ultimately performed by individual social beings and thus they clearly are

tional Practices (Cambridge Studies in International Relations, Cambridge University Press 2011); Christian Bueger and Frank Gadinger, *International Practice Theory: New Perspectives* (2nd edn, Palgrave Macmillan 2018).

8 Pierre Bourdieu, *Practical Reason: On the Theory of Action* (Polity Press 1998).

9 Andreas Reckwitz, 'Toward a Theory of Social Practices:A Development in Culturalist Theorizing' (2002) 5 European Journal of Social Theory 243.

10 Schatzki, 'Introduction: Practice Theory', n. 7.

11 Ted Hopf, 'The logic of habit in International Relations' (2010) 16 European Journal of International Relations 539, 547.

12 Anne van Aaken and Moshe Hirsch, 'Introduction: International Legal Theory and the Cognitive Turn' in Anne van Aaken and Moshe Hirsch (eds), *International Legal Theory and the Cognitive Turn* (Oxford University Press 2025).

13 Mikael Rask Madsen and Salvatore Caserta, 'International Judicial Habitus: Pierre Bourdieu and the Cognitive Turn' in Anne van Aaken and Moshe Hirsch (eds), *International Legal Theory and the Cognitive Turn* (Oxford University Press 2025).

14 Seminal, Zerubavel 1999., especially 3–52, closing the gap between the unique solitary thinker and the cognitive-psychological view, searching for the universal foundations of human cognition by introducing the social mind.

15 Jérémie Cornut, 'Analytic Eclecticism in Practice: A Method for Combining International Relations Theories1' (2015) 16 International Studies Perspectives 50; Hopf, 'The logic of habit in International Relations', n. 11.

what human agency is about."[16] The practice literature emphasizes the doings of actors and often refers to these doings as practices. Using practice theory moves beyond viewing legal interpretation as simply a cognitive or linguistic exercise. Instead, it's a socially situated, historically conditioned practice, but still agency matters for the choice of tools and this agency is also subject to cognitive bounds.

II. Cognitive Psychology

Cognitive psychology investigates how individuals perceive, process, and recall information and has been widely applied in behavioral law and economics,[17] including judicial decision-making. This research relies on the dual-process theory whereby System 1 (fast, intuitive thinking) is useful for familiar legal rules or routine decisions, but vulnerable to bias and System 2 (slow, deliberative thinking) is activated in complex, novel, or high-stakes legal interpretations. It is more accurate but resource-intensive. Legal interpretation can thus be influenced by cognitive phenomena such as heuristics and biases (such as anchoring, availability, confirmation, hindsight), but those can also be overridden. Numerous experiments with adjudicators[18] show that they also fall prey to biases and heuristics, in spite of that there are also counterexamples where professionalism can shield against those biases and heuristics within the domain of expertise of the adjudicator.[19] These cognitive patterns shape how legal texts are understood, especially under conditions of uncertainty and complexity. The choice of interpretative method may also be influenced by deliberate

16 Emanuel Adler and Vincent Pouliot, 'International practices' (2011) 3 International Theory 1, at 3.

17 Instead of many Eyal Zamir and Doron Teichman, *Behavioral Law and Economics* (Oxford University Press 2018).

18 Chris Guthrie, Jeffrey J. Rachlinski and Andrew J. Wistrich, 'Inside the Judicial Mind' (2001) 86 Cornell Law Review 777Chris Guthrie, Jeffrey J. Rachlinski and Andrew J. Wistrich, 'Blinking on the Bench: How Judges Decide Cases' (2007) 93 Cornell Law Review 1; Susan Franck and others, 'Inside the Arbitrator's Mind' (2017) 66 Emory Law Journal 1115.

19 Anne van Aaken and Roee Sarel, Framing Effects in Proportionality Analysis, Journal of Law & Empirical Analysis (2025) 2 Journal of Law & Empirical Analysis, 174. Yahli Shereshevsky and Tom Noah, 'Does Exposure to Preparatory Work Affect Treaty Interpretation? An Experimental Study on International Law Students and Experts' (2018) 28 European Journal of International Law 1287.

ignorance, that is, the "conscious choice not to seek or use knowledge (or information)".[20] Depending on which tool is chosen, information may be avoided, e.g. more so if textual analysis remains the main tool. Not using further interpretative tools avoids certain outcomes, e.g. if subsequent state practice is ignored.[21]

Cognitive psychology has been much less discussed with a view to how it matters for hermeneutics and legal reasoning, including the choice of interpretative tools.[22] Hermeneutics, understood as the theory of interpretation, investigates some questions that are also asked in the cognitive sciences. The nature of human understanding, the way that we gain and organize knowledge, the role played by language, and the relations between conscious and unconscious knowledge are all examples from the intersection of hermeneutics and the cognitive sciences.[23]

III. Integrating the Frameworks

The concept of *habitus* aligns well with schema theory in cognitive psychology.[24] Habitus can be defined as "the habitual, patterned ways of understanding, judging, and acting which arise from our particular position as members of one or several social fields, and from our particular trajectory in the social structure."[25] Schema theory is a branch of cognitive science concerned with how the brain structures knowledge. It represents a cognitive framework that helps individuals organize and interpret infor-

20 Ralph Hertwig and Christoph Engel, 'Homo Ignorans: Deliberately Choosing Not to Know' in Ralph Hertwig and Christoph Engel (eds), *Deliberate Ignorance: Choosing Not to Know* (MIT Press 2021), at 3.

21 See for details on investment law on (not) chosen interpretative tools, Aaken Anne van, 'Interpretational Methods as an Instrument of Control in International Investment Law' (2014) 108 Proceedings of the Annual Meeting (American Society of International Law) 196.

22 Anne van Aaken, 'The Cognitive Psychology of Rules of Interpretation in International Law' (2021) 115 AJIL Unbound 258.

23 Shaun Gallagher, 'Hermeneutics and the Cognitive Sciences' (2004) 11 Journal of Consciousness Studies 162.

24 Peter. J. Hampson and Peter. E. Morris, *Understanding Cognition* (Blackwell Publishers Inc. 1996).

25 Pierre Bourdieu, 'The Force of Law: Toward a Sociology of the Juridical Field' (1987) 38 Hastings Law Review 805, 811.

mation based on their past experiences and knowledge.[26] Habitus relies on schemata. Individuals access schema to guide current understanding and action.[27] Legal actors rely on mental schemas – structured clusters of preexisting knowledge – to interpret laws.[28] For example, an arbitrator might have a schema for what constitutes "fair and equitable treatment" in international investment law, influencing how they read treaties or facts and also what kind of interpretative tools they use for interpretating "fair and equitable treatment".

Schemata in turn, are connected to framing since each acquired schema is a frame for a decision-problem. Framing is thus not to be viewed purely in isolation, as is mostly the case in behavioral economics, but is embedded. Framing as used in behavioral economics comes in two forms: 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."[29] This phenomenon is called equivalence framing, and it is pervasive, e.g. when a choice is described as a loss rather than a gain, people decide differently.[30] Many experiments have explored these effects.[31] Framing plays a subtler role when a given problem description influences the decision maker's choice (mostly unconsciously) with regard to how to address a broader problem. This happens primarily by making certain aspects of an information set more salient, to the detriment of other aspects of the information set ('issue framing') and emerges from research in political

26 Robert Axelrod, 'Schema Theory: An Information Processing Model of Perception and Cognition' (1973) 67 American Political Science Review 1248.

27 Jeff Pankin, 'Schema theory and concept formation' (2013) Presentation at MIT, Fall; available at: https://webmitedu/pankin/www/Schema_Theory_and_Concept_Formationpdf .

28 Mikael Madsen and Salvatore Caserta, 'International Judicial Habitus: Pierre Bourdieu and the Cognitive Turn' in Anne van Aaken and Moshe Hirsch (eds), *International Legal Theory and the Cognitive Turn* (Oxford University Press 2024).

29 R. Cookson, 'Framing Effects in Public Goods Experiments' (2000) 3 Experimental Economics 55, 55. On different theories about framing, see Tore Ellingsen and others, 'Social framing effects: Preferences or beliefs?' (2012) 76 Games and Economic Behavior 117, 118. Framing effects similarly violate the rationalist axiom of 'descriptive invariance'.

30 Daniel Kahneman and Amos Tversky, 'Choices, Values, and Frames' (1984) 39 American Psychologist 341.

31 ibid.

communication.[32] Judges and legal practitioners develop cognitive structures through legal education and professional experience that guide how they interpret legal texts. This applies also to the tools they use when interpreting texts; issue framing thus becomes important and is closely linked schemata, yet, also equivalence framing can play a role.

The encoding hypothesis of schema theory posits that schemas affect what information is the focus of our attention and what is not (e.g. how long we look at something), thus affecting the encoding of memory from short-term to long-term memory. Schemas guide how we interpret new information and may be quite powerful in their influence. Here, cognitively psychology would distinguish several underlying biases and heuristics which come to the fore also at the moment of adjudication: the availability bias,[33] anchoring[34] as well as the well-known confirmation bias, relevant to numerous international legal situations.[35] The latter bias refers to the tendency to search for, interpret, favour, and recall information in a way that confirms or supports one's prior beliefs or values.[36] Thus, people display this bias when they select information that supports their previous views, underestimating or ignoring contrary information, or when they interpret ambiguous evidence as supporting their existing attitudes. This mirrors the psychological concept of procedural memory and automaticity, where frequent practice leads to less conscious effort. Interpretive methods such as textualism or teleology can become routinized, reducing cognitive load.

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32 James N. Druckmann, 'Political Preference Formation: Competition, Deliberation and the (Ir)relevance of Framing Effects' (2004) 98 American Political Science Review 671.

33 Amos Tversky and Daniel Kahneman, 'Availability: A Heuristic for Judging Frequency and Probability' (1973) 5 Cognitive Psychology 207.

34 Adrian Furnham and Hua Chu Boo, 'A literature review of the anchoring effect' (2011) 40 The Journal of Socio-Economics 35; Piotr Bystranowski and others, 'Anchoring effect in legal decision-making: A meta-analysis' (2021) 45 Law and Human Behavior 1.

35 See, e.g., Shiri Krebs, 'The Invisible Frames Affecting Wartime Investigations: Legal Epistemology, Metaphors, and Cognitive Biases' in Andrea Bianchi and Moshe Hirsch (eds), *International Law's Invisible Frames: Social Cognition and Knowledge Production in International Legal Processes* (Oxford University Press 2021), 132 et seq.

36 See, e.g., Raymond S. Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises' (1998) 2 Review of General Psychology 175. Similarly Axelrod, 'Schema Theory: An Information Processing Model of Perception and Cognition', n. 26.

C. Application to Legal Interpretive Methods in International Law

From a cognitive psychological perspective, biases and heuristics are both associated with dual-process theories. Ideally, legal interpreters always reason via System 2.[37] From a practice theory perspective, all legal interpretation is embedded in habitus.[38] In the following, the insights from both are combined to understand the use of interpretative tools. Rules of interpretation are meant to help the interpreters in overriding intuition. But they may be prone to biases and heuristics themselves. International law is especially interesting given its open texture and decentralized nature, its codified interpretive tool pluralism in the Vienna Convention on the Law of Treaties (VCLT[39]), and the pluralism on the international bench, shaped by different legal cultures. Thus, cognitive schemas, narratives, and biases can play a more pronounced role in interpretation. VCLT Articles 31 and 32 mandate the rules of treaty interpretation to be used, with ordinary meaning, context, and object and purpose being the starting point[40] - and the focus here. The VCLT does not prescribe how exactly these tools are used.

I. Textualism

Textualism as an interpretative tool focuses on the plain, ordinary meaning of the words used in the legal text. It is highly routinized and symbolically powerful in some legal cultures, especially the common law.[41] It is also a means to remain faithful to the originators of the text, yielding legitimacy and shielding the interpreter from judicial activism accusation. Literal interpretation is appealing in international law due to the lack of a central authoritative body, the perceived clarity and the desire for ob-

37 Christoph Engel, 'Uncertain Judges' (2020) 176 Journal of Institutional and Theoretical Economics 44.

38 Bourdieu, 'The Force of Law: Toward a Sociology of the Juridical Field', n. 25.

39 Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331.

40 As stated early on in Sir Jennings and Arthur Watts (eds), *Oppenheim´s International Law Vol. I, Part 2 to 4 (Peace)* (Longman 1992/1905), 1267: "The finding whether a treaty is clear or not is not the starting point but the result of the process of interpretation."

41 The most ardent representative of textualism is arguably Antonin Scalia, *A Matter of Interpretation: Federal Courts and the Law* (Princeton University Press 1997).

jectivity. Textualism, compared to other interpretative tools, also shows cognitive economy: interpreting text literally is cognitively efficient – it relies often on System 1 (fast, automatic thinking) and avoids the effort of contextual or teleological analysis. Semantic priming[42] would suggest that adjudicators activate mental dictionaries of word meanings; these in turn are shaped by culture, language exposure, and profession – in other words – by schemas. Furthermore, the actual words of the treaty text anchor reasoning. Even if a broader interpretation might make sense, adjudicators may tend to stay close to the literal wording due to this bias and more so if their background derives from a legal culture where the dominant schema used for interpretation is the literal tool of interpretations. Additionally, the status quo bias may kick in here, given that any deviation from the wording needs additional argumentation – the literal meaning is the default. Status Quo bias and anchoring bias may also explain the use of precedent,[43] even if not an official tool of interpretation in international law but widely found in international adjudication.

II. Systematic Interpretation in International Law

This interpretive tool emphasizes systemic coherence. It aligns with cognitive tendencies like narrative coherence and consistency bias, and is cultivated through transnational professional networks.[44] Context is closely connected to ordinary meaning. Often, the main reason for looking to the context is to confirm an ordinary meaning. Yet, context can include very different factors ranging from surrounding words, heading of articles, and punctuation, to more remote elements such as other provisions

42 Semantic priming is a psychological phenomenon where the processing of a stimulus (a *target*) is facilitated by prior exposure to a semantically related stimulus (a *prime*). It is taken as evidence that words with related meanings are stored closely in semantic memory, and activating one concept spreads activation to related ones. See Timothy P. McNamara, *Semantic Priming: Perspectives from Memory and Word Recognition* (Psychology Press 2005).

43 Gilbert Guillaume, 'The Use of Precedent by International Judges and Arbitrators' (2011) 2 Journal of International Dispute Settlement 5 who attributes the use of precedent to purposes of legal certainty and for fear that decisions might be challenged before higher instances.

44 Nora Stappert, 'Practice theory and change in international law: theorizing the development of legal meaning through the interpretive practices of international criminal courts' (2020) 12 International Theory 33.

in the same text, similar provisions in other treaties, or even the object and purpose.[45] There is thus a wide range of context elements open to choose from. Although the context used can be influenced by schemata, two cognitive biases may also kick in here. First, the availability bias is a mental shortcut that relies on immediate examples or clues that come to a given person's mind when evaluating a specific topic, concept, method, or decision. A specific context may be made salient by counsel, by previous decisions, or in deliberations, leading to the neglect of other elements. Second, the cognitive bias of motivated reasoning is well known.[46] Motivated reasoning refers to people's tendencies to conform their assessments of information, including from logical arguments or their own sense impressions, to some end or goal extrinsic to judgment accuracy; in other words, motivated reasoning is the "tendency to find arguments in favor of conclusions we want to believe to be stronger than arguments for conclusions we do not want to believe."[47] This is not to say that motivated reasoning necessarily occurs when choosing the context, but it suggests that when using the wide range of possible context elements, the schemas of the adjudicator may play a role when choosing the context, accompanied by motivated reasoning. Ambiguous terms in international law, of which there are many (e.g., "reasonable," "due process") are then interpreted through context which in turn may be influenced by individual cognition and background schema or habitus. Context may also be invoked selectively and then live on against all better knowledge, as the argument that foreign investors need special protection given that they cannot vote, as in investment arbitration where the European Convention of Human Rights was invoked selectively.[48]

45 Richard K. Gardiner, *Treaty Interpretation* (Oxford University Press 2008), 178.

46 Dan M. Kahan, 'Ideology, motivated reasoning, and cognitive reflection' (2013) 8 Judgment and Decision Making 407.

47 Z. Kunda, 'The case for motivated reasoning' (1990) 108 Psychol Bull 480, 480 et seq.

48 Anne van Aaken and Jan-Philip Elm, 'Framing in and through International Law' in Andrea Bianchi and Moshe Hirsch (eds), *International law's invisible frames – Social cognition and knowledge production in international legal processes* (Oxford University Press 2022).

III. Teleological Interpretation

Another VCLT requirement is to assess a treaty in the light of its object and purpose, linked to the principle of effectiveness. Finding the object and the purpose of a treaty is not an easy task. The object and purpose can be found in the preamble or sometimes even the title of the treaty.[49] But often it seems that it is found by the courts by intuition without transparent explanation.[50] Several questions therefore arise for an interpreter: what is the meaning of the object and purpose, how are they to be identified, what is the relationship between the object and the purpose, how can multiple purposes of a treaty be balanced. Since the object and purpose rule requires instrumental rationality (the respective interpretation should effectively achieve the object and purpose), the interpreter is asked to consider real world consequences. Yet, in spite of this, adjudicators often show narrative thinking – purposive interpretation taps into people's deep cognitive preference for coherent stories and goal-directed reasoning and draws on their intuition.

Teleological interpretation is more flexible but can be cognitively demanding, and is often tied to particular legal cultures or issue areas. Teleological reasoning is especially prevalent in specific fields with highly specified expertise, encouraged by shared field expectations (e.g., coherence of legal systems). For example, interpretation the European Court of Human Rights often involves purposive reasoning grounded in human rights values. The Court emphasizes that the Convention is a "living instrument" and must be interpreted in light of present-day conditions and human dignity – a teleological, evolving understanding of rights. Madsen documents how ECtHR judges' interpretive choices reflect both institutional habitus and cognitive framing effects, including moral reasoning and empathy-driven interpretation.[51] Similarly, in international investment law, oftentimes the object and purpose of a treaty is used rather blindly based on early precedent as being solely investor protection. Given

49 David S. Jonas and Thomas N. Saunders, 'The Object and Purpose of a Treaty: Three Interpretive Methods,' (2010) 43 Vanderbilt Journal of Transnational Law 565.

50 Isabelle Buffard and Karl Zemanek, 'The "Object and Purpose" of a Treaty: An Enigma?' (1998) 3 Austrian Review of International & European Law 311.

51 Mikael Madsen, 'The Protracted Institutionalization of the Strasbourg Court: From Legal Diplomacy to Integrationist Jurisprudence' in Jonas Christoffersen and Mikael Madsen (eds), *The European Court of Human Rights between Law and Politics* (Oxford University Press 2011).

the close-nit network of investment arbitrators[52] with a similar background, it comes to no surprise that habitus can explain the repeated use of an object and purpose of investment treaty against all political science and economic insights.[53] The framing of investment law as a protective device for foreign investors influences the decisions of the tribunals sometimes crucially. The vaguer the investment treaty is, the more important a teleological interpretation becomes. In the view of some tribunals, those treaties are instruments for the maximization of investor protection;[54] accordingly, uncertainties concerning ambiguous treaty provisions should be resolved in favor of foreign investors. This reasoning is reproduced through formal education and professional training across transnational legal networks.[55] Given the flexibility in purpose finding, the confirmation bias increases the risk that interpreters see the purpose they *want* to find, based on their habitus. Yet, it also can be explained by the availability of the argument and the anchoring of the arbitrators.

C. Conclusion and Outlook

This chapter aims at moving beyond dichotomy and argues that in order to understand the use of interpretative tools, we need to move past the false opposition between internalist (cognitive) and externalist (sociological) accounts. Legal interpretation is both socially and cognitively situated. It pleads for a contextual account of cognition, recognizing that cognitive processes are context-sensitive and practice-conditioned. Bounded rationality is situated and legal reasoning is not purely logical nor purely social – it is shaped by embodied dispositions and cognitive constraints. Integrating practice theory and cognitive psychology enables

52 Sergio Puig, 'Social Capital in the Arbitration Market' (2014) 25 European Journal of International Law 387.

53 Anne van Aaken and Tobias Lehmann, 'Sustainable Development and International Investment Law: An Harmonious View from Economics' in Roberto Echandi and Pierre Sauvé (eds), *Prospects in International Investment Law and Policy* (Cambridge University Press 2013).

54 E.g., *Siemens A.G. v. Argentine Rep.*, ICSID Case No. ARB/02/8, Decision on Jurisdiction, Aug. 3, 2004, para. 81.

55 Yves Dezalay and Bryant G. Garth, *Dealing in Virtue. International Commercial Arbitration and the Construction of a Transnational Legal Order* (Chicago University Press 1998).

a more nuanced understanding of how legal meaning is produced, reproduced, and sometimes contested. This interdisciplinary perspective can improve both, scholarly analysis and institutional design in international legal interpretation. Methodological implications are manifold: It would be desirable to combine qualitative methods (e.g., ethnography, interviews) with experimental or observational data. Furthermore, legal judgments can be studied for patterned interpretive biases and practical reasoning strategies. Yet, many open questions arise – can training that modifies interpretive practice also affect cognitive biases (e.g., reduce anchoring) and do judges from different legal cultures exhibit different interpretive heuristics based on their professional socialization in international law? Maybe Christoph Engel or some of his disciples inquire those questions further.