

Competing Conceptual Inferences and the Limits of Experimental Jurisprudence

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ABSTRACT.

Legal concepts can sometimes be unclear, leading to disagreements concerning their contents and inconsistencies in their application. At other times, the legal application of a concept can be entirely clear, sharp, and free of confusions, yet conflict with the ways in which ordinary people or other relevant stakeholders think about the concept. The aim of this chapter is to investigate the role of experimental jurisprudence in articulating and, ultimately, dealing with competing conceptual inferences either within a specific domain (e.g., legal practice) or between, for example, ordinary people and legal practitioners. Although this chapter affirms the widespread assumption that experimental jurisprudence cannot, in and of itself, tell us which concepts *should* be applied at law, it highlights some of the contributions that experimental jurisprudence can, in principle, make to normative projects that seek to prescribe, reform, or otherwise engineer legal concepts. Thus, there is more that experimental jurisprudence can normatively offer than has usually been claimed.

KEYWORDS.

Conceptual Analysis, Conceptual Engineering, Experimental Jurisprudence, Experimental Philosophy, Inferences, Law, Psychology

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I. Introduction

One of the aims of experimental jurisprudence (“XJur”) is to investigate concepts, specifically, concepts that are invoked explicitly in law (e.g., consent, negligence, competence, capacity, causation, reasonableness, and so on) or ordinary or theoretical concepts that are considered to have an effect on the application or interpretation of case law or statutory law concepts (e.g., personal identity, autonomy, vulnerability, responsibility, or, indeed, the concept “law”).¹ Although those working in XJur sometimes investigate the ways in which legal practitioners and scholars think about legal concepts,² more often the focus is on the cognitive structures that underpin, and the eliciting factors that influence, the application of legally-relevant concepts in ordinary use.³ Once data have been gathered concerning how ordinary people think about these concepts, comparisons can then be made with “expert” articulations of the conceptual counterparts in law and/or in legal scholarship. Such comparisons can form the basis for subsequent debates about conflicts between lay and expert concepts.

Although this description of XJur does not do justice to the scope of, and approaches within, the field, it is useful to the extent that it illustrates at least one way in which XJur is related to one of its significant influences—experimental philosophy (“x-phi”). Like XJur, x-phi is also interested in investigating, by means of experimental designs, *what*, *how*, and *why* different people think about concepts (specifically, concepts of philosophical relevance).⁴ According to Joshua Knobe, experimental philosophers typically investigate the psychological structures (“how”) that underpin people’s judgments about concepts and study the causal effects of factors (“why”) that shape such judgments.⁵ Like XJur, x-phi typically does this by employing the methods of experimental psychology and other cognitive sciences.

These initial outlines and comparisons raise the question, “why should we be concerned with investigating what, how, and why people think about legal concepts?” Indeed, to the extent that XJur is concerned with concepts that serve a practical function in a specific domain (i.e., the normative domain of the law), there is also the question of why we should be concerned with investigating ordinary conceptual cognition. We will return to this second question in due course. For now, I’d ask you to accept, in faith, that there are good reasons for studying the ways in which ordinary people—and not just legal theorists, scholars, and practitioners—think about legal concepts.⁶

In considering the main issue of this chapter, that is, whether and how XJur might help us to deal with competing conceptual inferences, it is worth acknowledging that when researchers in XJur investigate certain concepts, they are typically concerned with the inferences a particular concept disposes participants to draw (e.g., that the concept of “consent” underwrites an inference such as: a decision made voluntarily, in sound mind, and free of malign external influence).⁷ Studying inferences is a vital component of conceptual analysis

¹ Kevin Tobia, *Experimental Jurisprudence*, 89 U. CHI. L. REV. 735-802 n. 3 (2022).

² See, e.g., Vilius Dranseika et al. *Personal Identity, Direction of Change, and the Right to Withdraw from Research*, (unpublished manuscript).

³ Roseanna Sommers, *Experimental Jurisprudence*, 373 SCIENCE 394–395 n. 6553 (2021); Tobia, *supra* note 1.

⁴ EDOUARD MACHERY, *PHILOSOPHY WITHIN ITS PROPER BOUNDS* (2017).

⁵ Joshua Knobe, *Experimental Philosophy is Cognitive Science*, in *A COMPANION TO EXPERIMENTAL PHILOSOPHY*, 37-52 (Justin Sytsma & Wesley Buckwalter eds., 2016).

⁶ See also Fred Schauer, *Experimental Jurisprudence as a Branch of Empirical Jurisprudence*, in *THE CAMBRIDGE HANDBOOK OF EXPERIMENTAL JURISPRUDENCE* (Kevin Tobia ed., 2023); James Macleod, *Surveys and Experiments in Statutory Interpretation*, in *THE CAMBRIDGE HANDBOOK OF EXPERIMENTAL JURISPRUDENCE* (Kevin Tobia ed., 2023); Jessica Bregant, *Intuitive Jurisprudence: What Experimental Jurisprudence Can Learn from Developmental Science*, in *THE CAMBRIDGE HANDBOOK OF EXPERIMENTAL JURISPRUDENCE* (Kevin Tobia ed., 2023).

⁷ See, e.g., MACHERY, *supra* note 4 at 222.

because, as Édouard Machery argues, the validity of concept turns on whether the inferences it disposes us to draw are deficient in some way or other.⁸ Such inferences can be opaque, at least for those with limited legal knowledge and expertise.⁹ Mere possession of a legally relevant concept is insufficient for someone to articulate the inferences it underwrites, or to articulate its content to a precise-enough degree for someone else (e.g., a judge, lawyer, or researcher) to judge whether the concept-possessor has legitimately applied it to the case at hand. According to Machery, in order to understand the inferences a concept disposes one to draw, and thereby its content, one must use it.¹⁰

XJur contributes to this project. By eliciting inferences underwritten by a legally relevant concept through careful and controlled manipulations of variables, XJur seeks to articulate and distinguish the contents of a concept that participants possess.¹¹ XJur researchers can then assess whether participants are vague or confused in their thinking about that concept and whether the conceptual inferences participants make are the outputs of psychological processes influenced by, for example, prejudiced attitudes, biases, other legally irrelevant factors (e.g., framing effects), or faulty inferences.¹² Accordingly, conceptual analysis—albeit of a kind that seeks to draw the contents of a legal concept in psychological terms rather than in terms of necessary and sufficient semantic or epistemological conditions¹³—is just as much a central project of XJur as it is of traditional, analytic jurisprudence.¹⁴

This discussion reveals why XJur studies do not always need legal theorists as participants; ideally, legal theorists will have already provided precise definitions of the concepts they are investigating and explained how they are being applied. Similarly, one might assume that legal practitioners will tend to articulate the contents of a specific legal concept by appealing to extant articulations in case law, statutory law, other legal frameworks, or a combination thereof.¹⁵

Although the methods of experimental psychology and cognitive science equip XJur with the tools to empirically investigate a number of aspects of ordinary cognition concerning legally relevant concepts, the principal concern of this chapter is to address the question of whether XJur is able to deal with the divergences or incompatibilities between ordinary and expert inferences relating to legally relevant concepts. Specifically, how can XJur contribute to the application of concepts at law? Could it legitimately affirm an extant legal application of a particular concept or facilitate “conceptual engineering” that can lead to legal reform? Drawing on the useful distinction between “special jurisprudence” and “general jurisprudence” that

⁸ *Id.* at 223.

⁹ *Id.* at 210-222.

¹⁰ *Id.* at 210.

¹¹ Jonathan Lewis, *From X-phi to Bioxphi: Lessons in Conceptual Analysis 2.0*, 11 *AJOB EMP. BIOETHICS* 34-36 n. 1 (2020).

¹² For details of how these methods and arguments have been applied in experimental philosophy (XJur’s parent discipline) and experimental bioethics (an emerging field of empirical-*cum*-normative inquiry whose methods are shared with XJur), see, e.g., Joshua Alexander, Ronald Mallon & Jonathan M. Weinberg, *Accentuate the Negative*, 1 *REV. PHIL. & PSYCH.* 297-314 n.2 (2010); Stephen Stich & Kevin Tobia, *Experimental Philosophy and the Philosophical Tradition*, in *A COMPANION TO EXPERIMENTAL PHILOSOPHY 5* (Justin Sytsma & Wesley Buckwalter eds., 2016); NIKIL MUKERJI, *EXPERIMENTAL PHILOSOPHY, A CRITICAL STUDY* (2019); Brian D. Earp, Jonathan Lewis, Vilius Dranseika & Ivar Hannikainen, *Experimental Philosophical Bioethics and Normative Inference* 42 *THEO. MED. & BIOETHICS* 91-111 n.3-4 (2021); Jonathan Lewis, Joanna Demaree-Cotton & Brian D. Earp, *Bioethics, Experimental Approaches*, in *ENCY. PHIL. L. & SOC. PHIL.*, 1-8 (Mortimer Sellers & Stephan Kirste eds., 2023).

¹³ MACHERY, *supra* note 4 at 209, 222; Lewis, *supra* note 12 at 34.

¹⁴ For an overview, see, e.g., Tobia, *supra* note 1 at 738-743.

¹⁵ See, e.g., Dranseika et al., *supra* note 2. For an overview of this argument, see Felipe Jiménez, *The Limits of Experimental Jurisprudence*, in *THE CAMBRIDGE HANDBOOK OF EXPERIMENTAL JURISPRUDENCE 4* (Kevin Tobia ed., 2023).

Felipe Jiménez also employs in this collection,¹⁶ this chapter addresses XJur’s potential role in examining conflicts between ordinary inferences concerning specific legal concepts and conceptual contents in the domain of legal practice. In other words, the chapter addresses XJur’s contribution to the normative, practical domain of law as opposed to debates within legal theory concerning, for example, the nature of law or the relationship between law and morality (i.e., “general jurisprudence”).

II. Is Descriptive Conceptual Analysis the Endpoint of Experimental Jurisprudence Inquiry?

For XJur’s study of the divergences between ordinary and legal concepts, it is important to distinguish between a form of inquiry that aims to provide descriptive information about how people (both ordinary and expert) think about a concept and one that proposes how they *should* think about that concept. Machery, for example, distinguishes “descriptive conceptual analysis” and “prescriptive conceptual analysis.”¹⁷ If studies uncover competing conceptual inferences, prescriptive conceptual analysis examines which (or whose) concepts *should* apply, whether an extant concept should be partially reformed, and whether an entirely new concept should be engineered. James Andow describes such tasks as belonging to a process of “conceptual engineering” (i.e., clarifying, refining, introducing, or otherwise reforming a particular concept so that it meets specified normative constraints).¹⁸

Before considering XJur’s contribution to legal conceptual engineering, let us, first, highlight a couple of examples from the XJur literature that shed light on the meaning of “competing conceptual inferences” between the ordinary and legal domains.¹⁹ In a series of experiments, Roseanna Sommers found that ordinary people tend to think that deceived individuals can grant valid consent.²⁰ By contrast, in the legal domain, agreement or assent under deception is not considered valid. In other words, for ordinary people, the concept “consent” tends to underwrite the inference that deception of the consentor does not affect the normative validity of the subsequent decision. The opposite is true for legal practitioners. In this way, the ordinary concept of consent seems to diverge significantly from the notions of consent that prevail at law (and in the relevant normative literature).

In another study, Kevin Tobia asked participants to consider the case of a man who enrolls in a research study and then suffers a terrible accident, as a result of which he experiences (depending on the experimental condition) either moral improvement or moral deterioration.²¹ Tobia asked participants whether the morally changed man should be allowed to have the previously-collected research study data destroyed. Participants tended to judge that the morally deteriorated research subject should be denied the right to destroy his data, whereas the morally improved research subject retained the right. Building on Tobia’s study, Vilius Dranseika and colleagues conducted a cross-cultural replication study, which included a group of lawyers.²² They found that whereas ordinary people tend to demonstrate a paternalistic attitude in the sense that the latter are willing to deny a morally deteriorated research subject the right to withdraw

¹⁶ Jiménez, *supra* note 16.

¹⁷ MACHERY, *supra* note 4.

¹⁸ James Andow, *Fully Experimental Conceptual Engineering*, INQUIRY (2020).

¹⁹ For another example, see Tobia’s account of Sebok’s response to Knobe and Shapiro’s study on legal causation in Tobia, *supra* note 1 at 767-768.

²⁰ Roseanna Sommers, *Commonsense Consent*, 129 YALE L.J. 2232–2324 (2020).

²¹ Kevin Tobia, *Personal Identity, Direction of Change, and Neuroethics*, 9 NEUROETHICS 37-43 n. 1 (2016).

²² Dranseika et al., *supra* note 2.

their data, lawyers are more likely to protect the legal right to withdraw from research in the same situation. Once again, there appears to be a significant divergence between ordinary inferences underwritten by the concept of “research withdrawal” and legal inferences.

Although these two sets of studies do not seek to address the question of which concept of consent or research withdrawal should be applied at law, they illustrate an important contribution that XJur can make to the *preparatory process* of prescriptive conceptual analysis. Firstly, by revealing instances of inferential pluralism, XJur indicates that conceptual engineering *could* be an option.²³ Secondly, as these two sets of studies illustrate, descriptive information about the psychological mechanisms that underlie, and the eliciting factors that shape, the application of that concept can provide insights into the function of the concept in ordinary and legal use.²⁴ This allows us to identify the specific elements of the concept that underwrite its ordinary function and its legal function and thereby determine the source of conceptual incompatibility (e.g., “deception” and its relationship to the “essence” of the agreement in Sommers’ study of ordinary consent).²⁵

Once again, these XJur contributions are all part of the preparatory stage of prescriptive conceptual analysis. Although normative conclusions frequently involve descriptive premises, merely appealing to a divergence between sets of conceptual inferences will be inadequate to deliver a legitimate normative conclusion regarding which concepts should be applied at law.²⁶ As Sommers acknowledges, “it would be a mistake to insist that where ordinary concepts and legal concepts diverge, the law has been refuted.”²⁷ In other words, we cannot explain away a set of conceptual inferences by merely appealing to descriptive information. Concepts should not be reformed without reasons.²⁸

At the same time, it would also be a mistake to assume that—where incompatible conceptual inferences exist—the concepts employed in the legal domain are infallible. Both in his contribution to this edition and elsewhere,²⁹ Jiménez states that legal participants (e.g., lawyers and judges) are the competent users of concepts that are explicitly invoked at law and thereby, he claims, they are “in the driving seat of legal concepts” and “have a legitimate claim to a certain authority over legal concepts”.³⁰ Much turns on what Jiménez means by legal practitioners being in the “driving seat” of, and having “authority” over, legal concepts. If he is claiming that legal practitioners have the relevant know-how and knowledge of cases and precedents, and so on, such that they can competently apply extant legal concepts, then he is largely correct (yet, we also might add that legal theorists and scholars also have this knowledge and legal practitioners, as we shall see below, do not always apply concepts in a competent, authoritative way). However, if he is suggesting that such “authority” is the only meta-criterion for deciding between competing conceptual inferences, that such “authority” somehow makes extant legal concepts impervious to conceptual critique or revision (i.e., a kind of legal domain positivism), or that the reform of legal concepts should only be based on procedural standards

²³ See, e.g., Earp et al., *supra* note 13.

²⁴ James Justus, *Carnap on Concept Determination: Methodology for Philosophy of Science*, 2 EUR. J. PHIL. SCI. 172 n. 2 (2012).

²⁵ It is worth noting that XJur studies can also be employed to investigate the conceptual source of conflicting inferences in the domain of legal theory. See, e.g., Guilherme d’Almeida, Noel Struchiner & Ivar Hannikainen, *The Experimental Jurisprudence of the Concept of Rule: Implications for the Hart-Fuller Debate*, (2022), <http://dx.doi.org/10.13140/RG.2.2.17896.55041>.

²⁶ Andow, *supra* note 19; Sommers, *supra* note 3 at 395; Lewis, Demaree-Cotton & Earp, *supra* note 13 at 6.

²⁷ Sommers, *supra* note 3 at 395.

²⁸ T.M. SCANLON, BEING REALISTIC ABOUT REASONS (2014); MACHERY, *supra* note 4 at 215; Santiago A. Vrech, *The End of the Case? A Metaphilosophical Critique of Thought Experiments*. 13 LOGOS & EPISTEM 168 n. 2 (2022).

²⁹ Felipe Jiménez, *Some Doubts About Folk Jurisprudence: The Case of Proximate Cause*, U. CHI. L. REV. ONLINE (2021); Jiménez *supra* note 16 at 6.

³⁰ Jiménez *supra* note 16 at 6, 8.

and reflective processes *within* the domain of legal practice, then this is not only, in principle, problematic, but also factually simplistic.

If legal practitioners have “authority” over legal concepts such that their conceptual inferences normatively outweigh ordinary people’s inferences, then there should be a substantial amount of consistency and robustness in how legal practitioners apply those concepts. If legal practitioners cannot generally agree on how a concept should be applied, then it is problematic, if not erroneous, to assume that they, as a group, have authority over that concept.³¹ Many legal concepts underwrite clear legal inferences and are applied consistently by legal practitioners. But this is not always the case.

For example, because mental capacity is a necessary condition for valid consent in many jurisdictions, judgments regarding an individual’s capacity are high-stakes decisions that can generate an array of ethical, legal, social, political, and well-being implications. We would expect, therefore, the concepts employed as part of capacity-related judgments to be clear such that they can be applied consistently. In England and Wales, the Mental Capacity Act 2005 requires a person be able to understand the information relevant to the decision, to retain that information, to use or weigh that information as part of the process of making the decision, and to communicate their decision.³² When it comes to determining capacity, much turns on the meaning of “understand”, “retain”, and “use or weigh.” In an analysis of 131 Court of Protection and Court of Appeal cases between 2008 and 2018, Scott Kim and colleagues found that judges and expert witnesses were very broad in their application of these concepts, with several concepts displaying considerable overlap.³³ This indicates both a lack of conceptual clarity and a lack of consistency in application. For instance, “understand” led to the following inferences at law: “to grasp information or concepts”; “to imagine or abstract”; “to remember”; “to appreciate”; “to value or care”; “to think through the decision non-impulsively”; “to reason”; and “to give coherent reasons.”³⁴ In addition, of these eight inferences, seven were found to overlap with legal interpretations of the “use or weigh” criterion in s.3(1) of the Mental Capacity Act 2005.³⁵ As Kim and colleagues note, this descriptive situation concerning the legal use of mental capacity concepts has considerable normative implications.³⁶ Just as we might question why consistent ordinary inferences pertaining to a legal concept should refute the contents of an extant concept in the legal domain, we may, as this example illustrates, reasonably ask why inconsistent practitioner inferences underwritten by (vague) concepts at law should have more normative authority than ordinary inferences.

The prevalence of vague concepts at law highlights another vital contribution that XJur can make to the preparatory process of prescriptive conceptual analysis. Specifically, if a particular legal concept appears unclear, vague, or inconsistently applied at law, then studying the function of that concept in ordinary and legal use through the careful and controlled manipulation of variables can identify the precise elements of the concept that are unclear, vague, or give rise to inconsistent inferences, as well as those elements of the current concept that would allow the engineered concept to successfully serve the function we want.³⁷ Importantly, as the corpus data studies conducted by Kim and colleagues illustrate, studies of

³¹ It is worth noting that there will always be some disagreement about how a particular concept is employed in hard cases. But disagreement in “difficult” cases does not necessarily entail that a legal concept is flawed. Rather the “authority” of legal practitioners in relation to specific concept will be questionable if there is serious or substantial disagreement concerning how the concept is applied in general.

³² Mental Capacity Act 2005 s.3(1).

³³ Scott Kim, Nuala Kane, Alexander Ruck Keene & Gareth Owen, *Broad Concepts and Messy Realities: Optimising the Application of Mental Capacity Criteria*, 48 J. MED. ETHICS 839 n.11 (2022).

³⁴ *Id.* at 840-1.

³⁵ *Id.*

³⁶ *Id.* at 839.

³⁷ Jennifer Nado, *Conceptual Engineering via Experimental Philosophy*, 64 INQUIRY 94 (2021).

conceptual cognition can not only seek to employ the full range of experimental methods used in the psychosocial sciences, but also incorporate a combination of experimental and non-experimental approaches, such as interviews, qualitative studies, analyses of linguistic corpus data, and anthropological work.³⁸

A legal concept's vagueness is not the only reason to question legal practitioners' conceptual authority. Applying a concept at law can embed a theoretical error or establish a legal standard that is itself normatively questionable. Indeed, subsequent precedent-based applications of the same concept can sustain that theoretical error, which, through time, can become conceptually entrenched in the legal domain. Returning to the Mental Capacity Act 2005, the courts in England and Wales have recognised the importance of the Act in protecting individual autonomy.³⁹ However, as legal scholars have observed, the courts—in appealing to mental capacity—have confused the language of autonomy with the concept of liberty and run together the conditions for autonomy and the conditions for mental capacity.⁴⁰ In other words, the courts have assumed that the giving of valid consent is equivalent to the exercise of autonomy, and, relatedly, that by satisfying the cognitive conditions for valid consent (i.e., mental capacity), an individual is deemed to have fulfilled the conditions for autonomy.⁴¹ However, the concept of autonomy cannot be captured by the typical legal criteria for mental capacity.⁴² Moreover, on the basis that these theoretically deficient inferences have formed the backbone of the “protection imperative” in the legal treatment of vulnerable adults,⁴³ such errors now legally justify denying claims to autonomy made by vulnerable individuals even when they have the capacity to genuinely exercise their autonomy.⁴⁴ Finally, whereas the inferences of legal practitioners regarding the concept of autonomy are normatively deficient, a series of experimental moral psychology studies conducted by Joanna Demaree-Cotton and Sommers show that ordinary people infer a clear distinction between the concept of autonomy and the concept of consent.⁴⁵

As a final point to consider against Jiménez's argument concerning legal participants being “in the driving seat of legal concepts”, there will be times when the application of a concept at law will rest on (implicit) assumptions regarding more basic theoretical or ordinary concepts. For example, let us consider the question of the validity of “advance decisions” relating to life-sustaining medical treatment in England and Wales. The Mental Capacity Act

³⁸ See, e.g., Elizabeth O'Neill & Édouard Machery, *Experimental philosophy: What is it good for?*, in CURRENT CONTROVERSIES IN EXPERIMENTAL PHILOSOPHY (Édouard Machery & Elizabeth O'Neill eds., 2014); Nado, *supra* note 38.

³⁹ See, e.g., *PC v York CC* [2013] EWCA 478 (Civ).

⁴⁰ See, e.g., John Coggon & José Miola, *Autonomy, Liberty, and Medical Decision-Making*, 70 *CAMB. L.J.* 523 no. 3 (2011); Jonathan Herring & Jesse Wall, *Autonomy, Capacity and Vulnerable Adults: Filling the Gaps in the Mental Capacity Act*, 35 *LEG. STUD.* 698 no. 4 (2015); Jonathan Lewis, *Safeguarding Vulnerable Autonomy: Situational Vulnerability, the Inherent Jurisdiction and Insights from Feminist Philosophy*, 29 *MED. L. REV.* 306 no. 2 (2021).

⁴¹ Lewis, *supra* note 41 at 309-311.

⁴² For discussion, see, e.g., Jonathan Lewis & Søren Holm, *Organoid Biobanking, Autonomy and the Limits of Consent*, 36 *BIOETHICS* 742 no. 7 (2022).

⁴³ See, e.g., *Re SA (Vulnerable Adult with Capacity: Marriage)* [2005] EWHC 2942 (Fam), [2006] 1 *FLR* 867; *A Local Authority v Mrs A and Mr A* [2010] EWHC 1549 (Fam) (COP); *LBL v RYJ and VJ* [2010] EWHC 2665 (COP); *DL v A Local Authority* [2012] EWCA Civ 253, [2012] *CPLR* 504; *A Local Authority v TZ (By his Litigation Friend, the Official Solicitor)* [2013] EWHC 2322 (COP); *A Local Authority v TZ (By His Litigation Friend the Official Solicitor) (No 2)* [2014] EWHC 973 (COP); *Mazhar v Lord Chancellor* [2017] EWHC 2536 (Fam), [2018] *Fam* 257; *London Borough of Croydon v KR & Anor* [2019] EWHC 2498 (Fam); *Mazhar v Birmingham Community Healthcare Foundation NHS Trust & Ors (Rev 1)* [2020] EWCA Civ 1377, [2020] *WLR(D)* 579.

⁴⁴ Lewis, *supra* note 41.

⁴⁵ Joanna Demaree-Cotton & Roseanna Sommers, *Autonomy and the Folk Concept of Valid Consent*, 224 *COGNITION* 105065 (2022).

2005 (s.25(2)) states that an advance decision is invalid if the individual: (a) has withdrawn the decision at a time when he had capacity to do so; (b) has, under a lasting power of attorney created after the advance decision was made, conferred authority on the donee (or, if more than one, any of them) to give or refuse consent to the treatment to which the advance decision relates; or (c) has done anything else clearly inconsistent with the advance decision remaining his fixed decision.

Before the Act made statutory provisions for advance decisions, Munby J in *HE v A Hospital NHS Trust* envisaged a potential dilemma where, following incapacity, an individual expresses a treatment preference that is inconsistent with the advance decision.⁴⁶ Such a dilemma has not yet been the subject of judicial determination, but it has received judicial consideration in light of provision s.25(2)(c).⁴⁷ Addressing this dilemma, Alex Ruck Keene of 39 Essex Chambers notes the benefits of cleanly distinguishing between before and after the loss of capacity: “If s.25(2)(c) only applies to things done before the loss of capacity, then manifestations of wishes and feelings thereafter cannot count. This draws a very clear distinction between the two ‘selves’ in play, and also places a particular burden on the self with capacity, knowing when they do that they are potentially binding medical teams to refuse treatment to their incapacitated self even when that latter self is begging for such treatment and/or (say) complying with other aspects of medical care.”⁴⁸

This position has been the subject of (obiter) endorsement in *W v M and others* and *Re QQ*. The point is, as Ruck’s statement illustrates, that questions regarding the validity of an advance decision can turn on assumptions regarding the concept of personal identity.⁴⁹ Although it is beyond the scope of this chapter to address this issue in detail, one way of addressing this dilemma at law is, as Ruck suggests, to assume that there is some sort of normatively significant distinction between the capacitous self who formulates their advance decision and the self who, following neurodegeneration for example, expresses opposing treatment preferences. Is this the correct or most appropriate way of conceptualising personal identity and identity change? The concept of personal identity has, for centuries, been the subject of intense philosophical debate, and much work has been undertaken in the fields of experimental philosophy and experimental psychology to investigate what, how, and why ordinary people—rather than philosophers—think about the concept.⁵⁰ Even if it is granted that legal practitioners’ intuitions concerning the nature of personal identity should play some role in addressing legal cases that depend on the concept, there is no apparent reason why their intuitions should be accorded substantially more weight than those of ordinary people when it comes to arguing for the application of a particular conception of personal identity at law.⁵¹ After all, in conceiving of personal identity in a particular way so as to make a normative claim that past treatment preferences outweigh current preferences (or vice versa), legal practitioners “are neither inquiring about the actual world, collecting observational data or running

⁴⁶ *HE v A Hospital NHS Trust* [2003] 2 FLR 408.

⁴⁷ See, e.g., *W v M and others* [2011] EWHC 2443 (Fam); *Re QQ* [2016] EWCOP 22.

⁴⁸ Alex Ruck Keene, *Discussion Paper: Advance Decisions: Getting it Right* (2020), <https://www.mentalcapacitylawandpolicy.org.uk/wp-content/uploads/2020/06/Advance-Decisions-getting-it-right.pdf>.

⁴⁹ For a series of studies in experimental bioethics on this very issue, see Brian D. Earp, Stephen Latham & Kevin Tobia, *Personal Transformation and Advance Directives: An Experimental Bioethics Approach*, 20 AM. J. BIOETHICS 72-5 no. 8 (2020); Brian D. Earp, Ivar Hannikainen, Samuel Dale & Stephen Latham, *Experimental Philosophical Bioethics, Advance Directives, and the True Self in Dementia*, in *ADVANCES IN EXPERIMENTAL PHILOSOPHY OF MEDICINE* (Kristien Hens & Andreas De Block eds., in press)

⁵⁰ See, e.g., *EXPERIMENTAL PHILOSOPHY OF IDENTITY AND THE SELF* (2022).

⁵¹ On this point, see Tobia, *supra* note 1 at 769-770.

experiments, nor examining our best scientific theories to [decide] what determines personal identity.”⁵²

Although I endorse Jiménez’s main points regarding the limits of XJur, the discussions above illustrate that: i) there are good reasons for studying the ways in which ordinary people—and not just legal practitioners—think about legal concepts; and ii) we should not be so quick to assume that descriptive information about how legal practitioners use concepts or normative assumptions regarding the domain-specific conceptual competency of legal practitioners can explain away the potential normative significance of ordinary people’s inferences. Firstly, if the legal use of an explicit legal concept is shown to be vague, to involve multiple and competing inferences, to embed theoretically or normatively deficient inferences, or to substantively depend on ordinary concepts, then dealing with divergences between ordinary and legal concepts is both an empirically and normatively complex issue. Secondly, as a matter of principle, and in light of the “folk-law thesis,”⁵³ these instances provide us with reasons to investigate whether these (vague, deficient, etc.) legal concepts reflect features of their counterparts in ordinary use. In some cases, as demonstrated by Demaree-Cotton and Sommers’ series of studies, XJur reveals that it is ordinary people, and not legal practitioners, who have a more accurate understanding of legally relevant concepts.⁵⁴ Thirdly, identifying the precise elements of legal concepts that are vague, theoretically problematic, or give rise to inconsistent inferences allows us to engineer concepts that do not exhibit these deficiencies and thereby better serve some specific function.

From the discussions in this section, it seems that although the question of how we might deal with competing inferences underwritten by ordinary and legal concepts is not as straightforward as Jiménez suggests, there is little that XJur, understood as descriptive experimental results, can do to arbitrate between such conflicting inferences. Therefore, it seems that although empirical findings can contribute to the preparatory process for prescriptive conceptual analysis, those mere results themselves cannot offer much by way of normatively justified conceptual engineering. Again, as I shall argue in the next section, I believe that this interpretation of the limits of XJur is too simplistic. Although, as previously claimed, concepts should not be reformed without reasons, there is at least one important way in which XJur can provide such a reason and thereby bridge the argumentative gap between descriptive information about what, how, and why people think about legal concepts and normative conclusions regarding which concepts *should* be applied at law. In short, XJur can be a vital means of assessing the reliability of conceptual inferences and concept applications.

III. Towards Prescriptive Conceptual Analysis

As we have seen, one kind of argument against applying a particular extant concept in law begins from the premise that the current concept is vague and thereby generates inconsistent or conflicting legal inferences. This argument can be rebutted by adequately clarifying the concept in question.

Suppose, however, that a particular legal concept is already clear, sharp, and free of confusion. One might still wish to make an argument against its legal application by testing whether its extant application or the inferences it elicits emerge from a psychological process that is *normatively unreliable*, for example, a process that embeds or sustains a theoretical error, misunderstanding, or false information, that involves substantive reflection on other (ordinary)

⁵² MACHERY, *supra* note 4 at 189.

⁵³ Tobia, *supra* note 1 at 750-1.

⁵⁴ Demaree-Cotton & Sommers, *supra* note 46.

concepts whose contents have not been explicitly and normatively scrutinised, or that relies on contradictory beliefs, normatively irrelevant factors (e.g., framing effects), prejudice, or other forms of bias.⁵⁵

Such factors, *ceteris paribus*, provide a prima facie reason to doubt the normative validity (and epistemic adequacy) of the conceptual inferences or applications that they have substantively influenced.⁵⁶ At the very least, the *pro tanto* unreliability of the psychological process that outputs conceptual inferences is one factor that counts against accepting those inferences as a premise in a normative argument for the application of that concept.⁵⁷ At the extreme, such conceptual inferences might be entirely “debunked”—a common strategy in x-phi⁵⁸—that is, shown to be completely unreliable for the purposes of arguing for the legal application of the concept to which they relate.⁵⁹

An advantage of XJur’s typical approach of zeroing-in on how participants think about legal concepts and making fine-grained discriminations between potential factors that shape cognition is that it can provide evidence of factors that influence the normative reliability of participants’ responses (judgments, decisions, attitudes, intuitions, inferences, and so on). This evidence can, then, be combined with a type of argument often used in x-phi.⁶⁰

(P1) Inference p is the output of a psychological process that possesses the empirical property of being substantially influenced by factor F.
(*Empirical premise*)

(P2) If an inference is the output of a psychological process that possesses the empirical property of being substantially influenced by factor F, then it is *pro tanto* unreliable.
(*Bridging normative premise*)

(C) Inference p is *pro tanto* unreliable.⁶¹

To make sense of what is at stake here, let us consider an example. There is already a significant number of XJur studies that have investigated how various biases operate in international law contexts.⁶² Benedikt Pirker and Izabela Skoczeń recently employed a method in experimental

⁵⁵ Earp et al., *supra* note 13 at 99-102; Lewis, Demaree-Cotton & Earp, *supra* note 13 at 5.

⁵⁶ RALPH WEDGWOOD, *THE NATURE OF MORAL NORMATIVITY* (2007); Walter Sinnott-Armstrong, *Framing Moral Intuitions*, in 2 *MORAL PSYCHOLOGY* (Walter Sinnott-Armstrong ed., 2008); James Andow, *Reliable but not Home Free? What Framing Effects Mean for Moral Intuitions*, 29 *PHIL. PSYCH.* 904-911 (2016); MACHERY, *supra* note 4 at 96-99.

⁵⁷ Earp et al., *supra* note 13 at 99-100; Lewis, Demaree-Cotton & Earp, *supra* note 13 at 5.

⁵⁸ See, e.g., Jonathan M. Weinberg, Shaun Nichols & Stephen Stich, *Normativity and Epistemic Intuitions*, 29 *PHIL. TOP.* 429-460 (2001); Jonathan M. Weinberg, *How to Challenge Intuitions Empirically without Risking Skepticism*, 31 *MIDWEST STUD. PHIL.* 318-343 (2007); Stacey Swain, Joshua Alexander & Jonathan M. Weinberg, *The Instability of Philosophical Intuitions: Running Hot and Cold on Truetemp*, 76 *PHIL. PHENOMENOL. RES.* 138-155 (2008); Jonathan M. Weinberg, Chad Gonnerman, Cameron Buckner & Joshua Alexander, *Are Philosophers Expert Intuiters?*, 23 *PHIL. PSYCH.* 331-355 (2010); Kevin P. Tobia, Wesley Buckwalter & Stephen Stich, *Moral Intuitions: Are Philosophers Experts?*, 26 *PHIL. PSYCH.* 629-638 (2013). For an overview, see Mukerji, *supra* note 13 at 31-56.

⁵⁹ Earp et al., *supra* note 13 at 99-100; Lewis, Demaree-Cotton & Earp, *supra* note 13 at 5.

⁶⁰ Mukerji, *supra* note 13 at 31-56.

⁶¹ Adapted from Earp et al., *supra* note 13 at 100.

⁶² See, e.g., Doron Teichman & Eyal Zamir, *Nudge Goes International*, 30 *EUR. J. INT’L L.* 1263 (2019); *INTERNATIONAL LAW AS BEHAVIOR* (Harlan Grant Cohen & Timothy Meyer eds., 2021); *INTERNATIONAL LAW’S INVISIBLE FRAMES: SOCIAL COGNITION AND KNOWLEDGE PRODUCTION IN INTERNATIONAL LEGAL PROCESSES* (Andrea Bianchi & Moshe Hirsch eds., 2021). For an overview, see Jacob Livingstone Slosser, *Experimental Legal Linguistics: A Research Agenda*, in *LEGAL MEANINGS: THE MAKING AND USE OF MEANINGS IN LEGAL*

linguistics to investigate cognitive structures underpinning, and factors influencing, international treaty interpretation.⁶³ They found that just as interpretations of ordinary speech generate a “surplus meaning” (i.e., beyond the semantic content of a term or sentence), international treaty interpretation involves psychological processes that deliver conceptual inferences beyond the meaning of concepts in legal rules. Relatedly, they found that the psychological processes of ordinary people that output conceptual inferences tend to be influenced by moral attitudes when a legal statement containing the concept is “morally valenced” (e.g., “The treaty states that the parties are under an obligation not to commit genocide” in Pirker and Skoczeń’s study). In short, when provided with a morally-valenced interpretive statement concerning a legal concept, which, itself, may underwrite moral inferences beyond its linguistic meaning (e.g., “genocide”), participants rate the interpretation as true even if the interpretation “has no grounds in the interpreted legal rule” or its linguistic pragmatic content.⁶⁴ Pirker and Skoczeń note that a legal practitioner is “supposed to remain neutral as to personal moral attitudes in the technical exercise of treaty interpretation.”⁶⁵ In line with this suggestion, one could develop the following argument (based on the schema above):

(P1) Ordinary inferences underwritten by the concept “genocide” in legal interpretation contexts are the output of a psychological process that possesses the empirical property of being substantially influenced by moral attitudes.

(Empirical premise)

(P2) If an inference is the output of a psychological process that possesses the empirical property of being substantially influenced by moral attitudes, then it is *pro tanto* unreliable for the purposes of legal interpretation.

(Bridging normative premise)

(C) Ordinary inferences underwritten by the concept “genocide” are *pro tanto* unreliable for the purposes of legal interpretation.

However, the scope of this debunking argument is necessarily conditional: *if* you agree with the bridging normative premise (e.g., that, when it comes to legal interpretation, inferences rooted in moral attitudes are unreliable, and that the attitudes in question really are moral attitudes), and *if* the empirical data suggest that this particular ordinary inference is rooted in said attitude, then you should discount such inferences accordingly.⁶⁶ Nevertheless, some may not accept that inferences rooted in moral attitudes are unreliable for the purposes of legal interpretation,⁶⁷ meaning that the bridging normative premise in the above argument schema may itself be

REASONING (Janet Giltrow & Frances Olsen eds. 2021); Benedikt Pirker, Izabela Skoczeń & Veronika Fikfak, *Experimental Jurisprudence in International Law*, in THE CAMBRIDGE HANDBOOK OF EXPERIMENTAL JURISPRUDENCE (Kevin Tobia ed., 2023).

⁶³ Benedikt Pirker & Izabela Skoczeń, *Pragmatic Inferences and Moral Factors in Treaty Interpretation—Applying Experimental Linguistics to International Law*, 23 GERMAN L.J. 314–332 (2022).

⁶⁴ *Id* at 330.

⁶⁵ *Id* at 324.

⁶⁶ Brian D. Earp, Jonathan Lewis, Joshua A. Skorburg, Ivar Hannikainen & Jim A. C. Everett, *Experimental Philosophical Bioethics of Personal Identity*, in EXPERIMENTAL PHILOSOPHY OF IDENTITY AND THE SELF 192 (K. Tobia ed., 2022).

⁶⁷ E.g., RONALD DWORKIN, TAKING RIGHTS SERIOUSLY (1978); JOHN FINNIS, NATURAL LAW AND NATURAL RIGHTS (1980); RONALD DWORKIN, LAW’S EMPIRE (1986); Mark Greenberg, *The Moral Impact Theory of Law*, 123 YALE L.J. 1288-1342 (2014)

contested.⁶⁸ In other words, whereas a legal practitioner or advocate of legal positivism might consider moral attitudes to be a legally unreliable factor, proponents of natural law or interpretive purposivism, for example, may claim that because there is a necessary conceptual connection between law and morality, inferences influenced by moral attitudes are relevant when it comes to understanding what the law requires.⁶⁹ On that basis, the latter may not regard Pirker and Skoczeń's findings as debunking ordinary inferences underwritten by the concept "genocide".

What these discussions illustrate is that although XJur is methodologically equipped to investigate the normative reliability of participants' conceptual inferences and concept applications, assessments of normative reliability necessarily involve normative commitments about the reliability of the factor whose causal effects on participants' psychological processes are being investigated. In other words, when faced with the competing conceptual inferences between ordinary people and legal practitioners, XJur researchers seeking to debunk one (or more) of these sets of inferences as part of a wider inquiry in prescriptive conceptual analysis must take a normative stance on whether the factor that causes the divergence between the two sets of inferences is legally relevant or not. In addition, given that, as already stated, concepts should not be prescribed or reformed without reasons, if XJur researchers are to pursue a debunking strategy, then they must be disposed to defend their normative commitment to the legal relevance/reliability of the factor that they are investigating.

Consider one additional point regarding the normative scope of the debunking strategy. The fact that a given conceptual inference or concept application has survived experimental tests for normative reliability does not mean that it is the "all-things-considered" most reasonable or most justifiable normative basis for prescribing or reforming a particular legal concept.⁷⁰ Even if a set of conceptual inferences (i.e., ordinary or legal) has been debunked, the set that has survived could still conflict with other widely accepted normative factors, such as legal theories, legal scholarship, public advocacy, or, indeed, legal concepts in other jurisdictions. Upon reflection, one might still make an argument that the conceptual inferences that have survived tests for reliability should, nevertheless, not be applied at law. Thus, as colleagues and I have argued elsewhere, all that debunking entails is that the conceptual inferences or concept applications that are shown to be *pro tanto* reliable should be accorded some positive, yet defeasible, normative weight.⁷¹

Although the discussions in this section illustrate how XJur can take us to the threshold of prescriptive conceptual analysis, these strategies and approaches remain largely within the remit of descriptive conceptual analysis. Furthermore, if XJur attempts to bridge the gap between empirical and normative forms of inquiry (e.g., by testing conceptual inferences for reliability), then it must necessarily appeal to normative claims, arguments, theories, or conclusions outside of the boundaries of the experiments themselves.

In the final section of this chapter, I consider a claim regarding the limits of XJur that the discussions in the previous sections seem to lead up to; specifically, that because experimental studies of conceptual cognition are descriptive projects (albeit sometimes requiring normative commitments), there is no role for them in the task of prescriptive conceptual analysis proper. Once again, I challenge this interpretation on the basis that it is too simplistic. In short, although XJur cannot tell us which concepts *should* be applied at law, it can play a vital role in helping

⁶⁸ Peter Königs, *Experimental Ethics, Intuitions, and Morally Irrelevant Factors*, 177 PHIL. STUD. 2605-2623 (2020).

⁶⁹ For an experimental jurisprudence study that highlights this specific tension, see Noel Struchiner, Guilherme d'Almeida & Ivar Hannikainen, *An Experimental Guide to Vehicles in the Park*, 15 JUD. & DECISION MAKING 1 (2020).

⁷⁰ Earp et al., *supra* note 67 at 190-1.

⁷¹ Earp et al., *supra* note 13 at 98-102; Lewis, Demaree-Cotton & Earp, *supra* note 13 at 6.

those arguing for conceptual reform to understand what the implications would be of doing so. I consider this to be a valuable part of the normative project of prescriptive conceptual analysis.

IV. Prescriptive Conceptual Analysis: Experimental Jurisprudence's Added Value

In his contribution to this collection, Jiménez recognises that empirical findings about ordinary people's conceptual cognition do not support direct normative inferences or conclusions about what legal concepts should be like. In particular, and in agreement with Sommers and Tobia,⁷² he claims that “divergence between the cognition of legal practitioners and of ordinary people is insufficient, by itself, as a reason to challenge or modify the former”.⁷³ The previous discussions obviously affirm Jiménez's claim, and colleagues and I have already discussed this point when exploring the normative scope of a related discipline—experimental bioethics (“bioxphi”).⁷⁴ At the same time, based on, for example, Sommers' findings concerning the divergence between ordinary and legal inferences relating to the concept of consent,⁷⁵ a jurisprudential claim that some form of contextual education is needed to bring the ordinary use of the concept into line with the legal view—so that the intended function of the concept is no longer threatened by the divergence between expert and ordinary inferences—must be backed up with reasons. As we have seen previously, it should not be assumed that legal practitioners' competency in using legal concepts is a sufficient reason to disregard ordinary inferences. Rather, as the examples in previous sections indicate, the normative reasons for affirming or reforming an extant legal concept must necessarily respond to the *practical function* of the concept for the forms of inquiry and practice in which legal practitioners (and, in many cases, ordinary people) seek to employ it.⁷⁶ In other words, we need to take a normative stance on what the function of a particular concept *should* be. As Jiménez rightly observes, XJur cannot, by itself, settle this question.⁷⁷

The arguments here concerning XJur reflect those that have previously been made in relation to a discipline that has had significant influence on the former—x-phi. Although, like XJur, x-phi can provide input for prescriptive conceptual analysis or conceptual engineering by uncovering vague concepts, revealing conceptual pluralism, discovering sources of bias, exploring other eliciting factors, and outlining conceptual inferences and relations,⁷⁸ there is a widespread assumption that x-phi has no role in the process of *prescribing* or engineering concepts itself.⁷⁹ However, as we should recall from earlier, the general purpose of these x-phi tasks (e.g., investigating vagueness, bias, competing inferences, and so on) is to provide insight into the function of a concept in ordinary and philosophical use.⁸⁰ Furthermore, for concepts that have a normative, practical function (e.g., as Sally Haslanger illustrates through the concept “gender”),⁸¹ empirically investigating psychological processes that output conceptual

⁷² Sommers, *supra* note 3 at 395; Kevin Tobia, *Legal Concepts and Legal Expertise*, SYNTHÈSE 69-70 (2023), <https://papers.ssrn.com/abstract=3536564>.

⁷³ Jiménez *supra* note 16 at 7-8.

⁷⁴ Earp et al., *supra* note 13 at 105-106.

⁷⁵ Sommers, *supra* note 21.

⁷⁶ For a theoretical overview of this point, see, e.g., Sally Haslanger, *Gender and Race: (What) are they? (What) do we want them to be?*, 34 NOÛS 31-55 (2000); Justin C. Fisher, *Pragmatic Experimental Philosophy*, 28 PHIL. PSYCHOL. 412-433 (2015); MACHERY, *supra* note 4; Nado, *supra* note 38.

⁷⁷ Jiménez *supra* note 16 at 8.

⁷⁸ Joshua Shepherd & James Justus, *X-phi and Carnapian Explication*, 80 ERKENNTNIS 381-402 no. 2 (2015).

⁷⁹ Andow, *supra* note 19 at 1, 4-5.

⁸⁰ Justus, *supra* note 25 at 172; Nado, *supra* note 38 at 94.

⁸¹ Haslanger, *supra* note 77.

inferences allow us to determine whether the concept in question is fulfilling its intended function to a reasonably good degree.⁸²

As some proponents of x-phi have recently argued, if experimental studies of conceptual cognition can shed light on the function of an *extant* concept in different domains as well as whether it is fulfilling its specified function or not, then we can expect such studies to do the same for those concepts that are prescribed, reformed, or otherwise engineered.⁸³ As Justin Fisher argues, x-phi could not only “help to determine how we behave differently, depending upon whether or not we’ve applied a particular concept to something”, but also “help to identify the ways in which these behavioural differences have regularly yielded beneficial outcomes”.⁸⁴

Given the similarities between x-phi and XJur, there is no reason to think that the latter cannot also provide descriptive information about how different stakeholders think about a prescribed or engineered legal concept, and thereby assess which conceptual prescriptions or proposals will best fulfil the concept’s intended function at law and best satisfy the normative standards that legal reformers have assigned the concept.

James Andow, however, goes even further when articulating the role of experimental studies of cognition in conceptual engineering projects.⁸⁵ He argues that once we have reasons to believe that a particular group is “the best bet for having reliable ideas about what the concept should do or be” (e.g., legal practitioners, legal scholars, advocacy groups, pertinent professional organisations, etc.),⁸⁶ then “it is possible to conduct conceptual engineering using a fully experimental methodology.”⁸⁷ Although I cannot do justice to Andow’s arguments here, the project consists of identifying the relevant group and, through empirical investigation, determining what this group thinks the function of the concept *should* be.⁸⁸ This establishes the “normative constraints” or conditions of the concept that is to be engineered.⁸⁹

Perhaps the greatest challenge facing the adoption of “fully experimental conceptual engineering” is the ability of XJur studies to do adequate justice to the empirical reality of legal practices, reasoning, and the use of legal concepts.⁹⁰ There is inadequate space here to consider whether experimental studies of cognition accurately capture peoples’ thinking in real-life, concrete legal contexts. What I would say is that, for the conceptual projects discussed here, what is most important about experimental studies is that they reveal causal effects in a reliable manner.⁹¹ In order for a fully experimental approach to conceptual engineering to justify the reform of a particular legal concept, then there must be a good reason to accept that study conditions will more or less capture the causal factors, causal relationships, and causal structures that operate in real-life legal contexts. Importantly, such a reason cannot be provided by any single experiment or set of experiments.⁹² The need to understand the nature and stability of the background causal structures between experimental and real-life legal conditions explains why some claim that data from experimental studies should be supplemented with analyses of detailed, on-the-ground evidence generated through multiple, independent nonexperimental methods.⁹³ At least where “fully experimental conceptual engineering” is

⁸² Earp et al., *supra* note 13 at 105.

⁸³ See, e.g., Fisher, *supra* note 77; MACHERY, *supra* note 4; Andow, *supra* note 19.

⁸⁴ Fisher, *supra* note 77 at 420.

⁸⁵ Andow, *supra* note 19.

⁸⁶ *Id* at 12.

⁸⁷ *Id* at 9.

⁸⁸ *Id* at 12.

⁸⁹ *Id*.

⁹⁰ See, e.g., Jiménez, *supra* note 16 at 13; Pirker, Skoczén & Fikfak, *supra* note 63 at 8-9.

⁹¹ For an overview, see Jonathan Lewis, *Experimental Design: Ethics, Integrity and the Scientific Method*, in HANDBOOK OF RESEARCH ETHICS AND SCIENTIFIC INTEGRITY 466-471 (Ron Iphofen ed., 2020).

⁹² *Id* at 471.

⁹³ Jiménez, *supra* note 16 at 13.

concerned, delivering on this understanding is an issue that XJur researchers looking to adopt such an approach would need to address.

V. Conclusion

Concepts determine the inferences we draw, and the application of legal concepts in legal contexts involves inferences by legal practitioners and ordinary people. Experimental jurisprudence can help distinguish the inferences concepts dispose different actors to draw, determine the features of concepts that give rise to conflicting inferences, and identify the function of concepts in ordinary and legal use.

However, for experimentally derived results to contribute substantively to those contexts in which legal concepts are applied, there needs to be some connection between descriptive information about what people think about concepts and normative commitments and proposals regarding which (or whose) concepts should be applied at law. Experimental designs combined with associated argumentation strategies can help (e.g., by identifying inconsistent, conflicting, or theoretically or normatively deficient legal inferences or by showing that a certain legal application of a concept emerges from a psychological process that is *normatively unreliable*). But, even then, such strategies can include premises that are themselves the subject of legal or normative disagreement. Ultimately, although experimental jurisprudence can contribute to the preparatory process for prescriptive conceptual analysis as well as the assessment of whether prescribed or reformed concepts would fulfil their intended function, it cannot, on its own, adjudicate among competing conceptual inferences and thereby justify the legal application of any particular concept.