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 at law and/or in legal scholarship. Such comparisons can form the basis for subsequent arguments for how we might deal with any 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 its parent discipline—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, what x-phi researchers typically do in their studies—and the same might apply equally well to researchers in XJur—is investigate participants' psychological structures ("how") that underpin judgments about concepts, and study the causal effects of factors ("why") thought to shape such judgments.[5] Like XJur, x-phi typically does this by employing the methods of experimental psychology and other cognitive sciences. However, as Felipe Jiménez notes, whereas x-phi tends to investigate the relationships between armchair philosophical and ordinary cognitions about concepts, XJur, if it is to engage in the normative enterprise of understanding which (or whose) conceptual judgments *should* be accorded recognition at law, will need to investigate how theoretical and/or ordinary thinking about legal concepts relate to "the domain of legal reasoning (i.e., how causation figures in the legal adjudication of tort disputes, for instance)".[6]

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

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[1] Kevin Tobia, *Experimental Jurisprudence*, 3 UNIVERSITY OF CHICAGO LAW REVIEW 735-802 n. 3 (2022).
[2] See, e.g., Vilius Dranseika, Ivar Hannikainen, Piotr Bystranowski, Brian D. Earp, Kevin Tobia … & Tomasz Żuradzki, *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] ÉDOUARD 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] Felipe Jiménez, *The Limits of Experimental Jurisprudence*, *in* THE CAMBRIDGE HANDBOOK OF EXPERIMENTAL JURISPRUDENCE, 4 (Kevin Tobia ed., 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4148963.

ways in which ordinary people—and not just legal theorists, scholars, and practitioners—think about legal concepts.

In terms of the first question, and 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 because, as Édouard Machery argues, the validity of a concept turns on whether the inferences it disposes us to draw are deficient in some way or other.[8] Such inferences can often be—at least for those with limited legal knowledge and expertise—opaque.[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] And that is one of the things that XJur aims to do. Specifically, 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] Through this, researchers in XJur can 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 conditions[13]—is just as much a central project of XJur as it is of traditional, analytic jurisprudence.[14]

Considered in this way, we can see why XJur studies may not always need to be conducted with 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

[7] See, e.g., Machery, *supra* note 4 at 222.
[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 EMPIRICAL 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 REVIEW OF PHILOSOPHY AND PSYCHOLOGY 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 THEORETICAL MEDICINE AND BIOETHICS 91-111 n.3-4 (2021); Jonathan Lewis, Joanna Demaree-Cotton & Brian D. Earp, *Bioethics, Experimental Approaches*, *in* ENCYCLOPEDIA OF THE PHILOSOPHY OF LAW AND SOCIAL PHILOSOPHY, 1-8 (Mortimer Sellers & Stephan Kirste eds., 2023).
[13] Machery, *supra* note 4 at 209, 222; Lewis, *supra* note 10 at 34.
[14] For an overview, see, e.g., Tobia, *supra* note 1 at 738-743.

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 several 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 inferences relating to legally relevant concepts and those of legal experts. Specifically, in what ways can XJur contribute to the application of concepts at law by, for example, legitimately affirming an extant legal application of a particular concept or facilitating the kind of "conceptual engineering" that can lead to legal reform? Drawing on Jiménez's useful distinction between "special jurisprudence" and "general jurisprudence" in this collection,[16] this chapter will primarily focus on addressing the potential role of XJur when ordinary inferences concerning specific legal concepts conflict with conceptual contents in the domain of legal practice. In other words, the focus is XJur's potential contributions to the normative, practical domain of law as opposed to debates within legal theory concerning, for example, the nature of law, legal interpretation, legal rules, and the relationship between law and morality (i.e., what Jiménez calls "general jurisprudence").

II. IS DESCRIPTIVE CONCEPTUAL ANALYSIS THE ENDPOINT OF XJUR INQUIRY?

To understand what is at stake when we question whether XJur is able to deal with the divergences between ordinary (legally-relevant) concepts and concepts explicitly invoked at law, it is important to bear in mind the distinction between a form of inquiry that aims to provide descriptive information about what and how people (both ordinary and experts) think about a concept and one that proposes what and how they *should* think about that concept (according to some specific normative standard). Machery, for example, makes this distinction in terms of "descriptive conceptual analysis" and "prescriptive conceptual analysis".[17] If competing conceptual inferences are found to exist, prescriptive conceptual analysis is concerned with which (or whose) concepts *should* apply and thereby with affirming an extant concept, reforming the inferences of those whose concept does not meet the requisite normative standards, or, when all current uses of a particular concept are normatively deficient in one way or other, partially reforming an extant concept or engineering an entirely new concept. 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 we consider what contribution XJur can make to conceptual engineering in the legal domain, let us first consider a couple of examples from the XJur literature that shed light on the meaning of "competing conceptual inferences" between 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

[15] See, e.g., Dranseika et al., *supra* note 2. For an overview of this argument, see Jiménez, *supra* note 6 at 5-6.
[16] Jiménez, *supra* note 6.
[17] Machery, *supra* note 4.
[18] James Andow, *Fully Experimental Conceptual Engineering*, INQUIRY (2020). Doi: 10.1080/0020174X.2020.1850339.
[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 LAW REVIEW 2232–2324 (2020).

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 consenter 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 enrols 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 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 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 and legal inferences underwritten by the concept of "research withdrawal".

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 and legal functions 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]

However, although normative conclusions frequently involve descriptive premises, merely appealing to a divergence between sets 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]

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[21] Kevin Tobia, *Personal Identity, Direction of Change, and Neuroethics*, 9 NEUROETHICS 37-43 n. 1 (2016).
[22] Dranseika et al., *supra* note 2.
[23] See, e.g., Earp et al., *supra* note 12.
[24] James Justus, *Carnap on Concept Determination: Methodology for Philosophy of Science*, 2 EUROPEAN JOURNAL FOR PHILOSOPHY OF SCIENCE 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), https://www.researchgate.net/publication/358047830_The_experimental_jurisprudence_of_the_concept_of_rule_Implications_for_the_Hart-Fuller_debate?channel=doi&linkId=61ee8ca09a753545e2f3ab07&showFulltext=true.
[26] Andow, *supra* note 18; Sommers, *supra* note 3 at 395; Lewis, Demaree-Cotton & Earp, *supra* note 12 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 & EPISTEME 168 n. 2 (2022).

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 legal concepts and thereby 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 might also 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 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 can be considered to normatively outweigh the inferences of ordinary people, then it seems like there must be consistency and robustness in how legal practitioners apply those concepts. In other words, if legal practitioners cannot 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. Many legal concepts underwrite clear legal inferences and are applied consistently by legal practitioners. But this is not always the case. For example, given that, in many jurisdictions, mental capacity is a necessary condition for valid consent, judgments regarding an individual's capacity are high-stakes decisions that can generate an array of ethical, legal, social, political, and wellbeing 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.[31] 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.[32] 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".[33] 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.[34] As

[29] Felipe Jiménez, *Some Doubts About Folk Jurisprudence: The Case of Proximate Cause*, THE UNIVERSITY OF CHICAGO LAW REVIEW ONLINE (2021), https://lawreviewblog.uchicago.edu/2021/08/23/jimenez-jurisprudence/; Jiménez *supra* note 6 at 6.
[30] Jiménez *supra* note 6 at 6, 8.
[31] MENTAL CAPACITY ACT 2005 s.3(1).
[32] Scott Kim, Nuala Kane, Alexander Ruck Keene & Gareth Owen, *Broad Concepts and Messy Realities: Optimising the Application of Mental Capacity Criteria*, 48 JOURNAL OF MEDICAL ETHICS 839 n.11 (2022).
[33] *Id*. at 840-1.
[34] *Id*.

Kim and colleagues note, this descriptive situation concerning the legal use of mental capacity concepts has considerable normative implications:

> …[W]hen one MCA criterion—understanding—is one of top two criteria linked to virtually every type of rationale (eight of nine), one must wonder how practically useful it is to say that a person fails to meet the understanding criterion if it can, in effect, mean nearly any kind of impairment in decisional ability. And when this indiscriminate use contributes to overlapping boundaries of the MCA criteria, the potential for less than ideal practice of capacity evaluations is increased. For example, one evaluator can provide a rationale to justify an opinion that P is incapacitated because P fails to understand whereas another evaluator can appeal to the very same rationale (ie, the very same phenomenon) to argue that P lacks capacity because P fails on the use or weigh criterion. This creates potential for confusion and messy communication that could undermine the transparency and accountability in capacity assessments. Not only would such a situation make the teaching of (and providing guidance for) capacity evaluations rather complicated, it could also erode trust in the law as an objective and reliable means of protecting the self-determination rights of individuals.[35]

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.

This prevalence of vague concepts at law highlights another vital contribution that XJur can make to the preparatory process of prescriptive conceptual analysis. Specifically, if certain individuals (e.g., scholars, legal practitioners, or ordinary people) believe that a particular legal concept is unclear, vague, leads to inconsistent applications at law, or is otherwise poorly suited to some legal need, then, as Jennifer Nado acknowledges, 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.[36] Importantly, as the corpus data studies conducted by Kim and colleagues illustrate, studies of 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.[37]

A legal concept need not always be shown to be vague to provide us with a reason to question legal practitioners' authority over that concept. An application of 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.[38] However, as legal scholars have

[35] *Id*. at 839.
[36] Jennifer Nado, *Conceptual Engineering via Experimental Philosophy*, 64 INQUIRY 94 (2021).
[37] 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 36.
[38] See, e.g., *PC v York CC* [2013] EWCA 478 (Civ).

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.[39] 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.[40] Not only can the concept of autonomy not be captured by the typical legal criteria for mental capacity,[41] but also, on the basis that these theoretically deficient inferences have formed the backbone of the "protection imperative" in the legal treatment of vulnerable adults,[42] such errors now legally justify denying claims to autonomy made by vulnerable individuals even when they have the capacity to genuinely exercise their autonomy.[43] Furthermore, 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.[44]

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 rests 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 2005 states that an advance decision is invalid if the individual: s.25(2)(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.[45] 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).[46] Addressing this dilemma, Alex Ruck Keene of 39 Essex Chambers writes:

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[39] See, e.g., John Coggon & José Miola, *Autonomy, Liberty, and Medical Decision-Making*, 70 CAMBRIDGE LAW JOURNAL 523 no. 3 (2011); Jonathan Herring & Jesse Wall, *Autonomy, Capacity and Vulnerable Adults: Filling the Gaps in the Mental Capacity Act*, 35 LEGAL STUDIES 698 no. 4 (2015); Jonathan Lewis, *Safeguarding Vulnerable Autonomy: Situational Vulnerability, the Inherent Jurisdiction and Insights from Feminist Philosophy*, 29 MEDICAL LAW REVIEW 306 no. 2 (2021).

[40] Lewis, *supra* note 39 at 309-311.

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

[42] 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.

[43] Lewis, *supra* note 39.

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

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

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

> …[K]eeping a bright line distinction between the position before and after the loss of capacity to withdraw an advance decision does provide a clear (if potentially clinically and ethically challenging) answer to the dilemma posed by Munby J in *HE*. 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.[47]

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.[48] 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.[49] 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.[50] 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 experiments, nor examining our best scientific theories to [decide] what determines personal identity".[51]

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 way 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

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[47] 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.

[48] 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 THE AMERICAN JOURNAL OF 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)

[49] See, e.g., KEVIN TOBIA (ed.), EXPERIMENTAL PHILOSOPHY OF IDENTITY AND THE SELF (2022).

[50] On this point, see Tobia, *supra* note 1 at 769-770.

[51] Machery, *supra* note 4 at 189.

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",[52] such 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.[53] 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, in and of itself, can do to arbitrate between such conflicting inferences. Therefore, it seems that although XJur can contribute to the preparatory process for prescriptive conceptual analysis, it 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

One might wish to argue that a particular extant concept should not be applied at law. As we have seen, a premise for that argument could be that the current concept (as employed at law) is vague and thereby generates inconsistent or conflicting legal inferences. In such instances, the argument that such a concept should not be applied at law is conditional, that is, if the concept in question is adequately clarified, then we should apply it. 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) 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.[54] 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.[55] At the very least, the *pro tanto* unreliability of the psychological process that

[52] Tobia, *supra* note 1 at 750-1.
[53] Demaree-Cotton & Sommers, *supra* note 44.
[54] Earp et al., *supra* note 12 at 99-102; Lewis, Demaree-Cotton & Earp, *supra* note 12 at 5.
[55] RALPH WEDGWOOD, THE NATURE OF NORMATIVITY (2007); Walter Sinnott-Armstrong, *Framing Moral Intuitions*, *in* MORAL PSYCHOLOGY, VOL. 2: THE COGNITIVE SCIENCE OF MORALITY: INTUITION AND DIVERSITY (Walter Sinnott-Armstrong ed., 2008); James Andow, *Reliable but not Home Free? What Framing Effects Mean for Moral Intuitions*, 29 PHILOSOPHICAL PSYCHOLOGY 904-911 (2016); Machery, *supra* note 4 at 96-99.

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.[56] At the extreme, such conceptual inferences might be entirely "debunked"—a common strategy in x-phi[57]—that is, shown to be completely unreliable for the purposes of arguing for the legal application of the concept to which they relate.[58]

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:[59]

(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.[60]

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.[61] Benedikt Pirker and Izabela Skoczeń recently employed a method in experimental linguistics to investigate cognitive structures underpinning, and factors influencing, international treaty interpretation.[62] 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 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

[56] Earp et al., *supra* note 12 at 99-100; Lewis, Demaree-Cotton & Earp, *supra* note 12 at 5.
[57] For an overview, see Mukerji, *supra* note 12 at 31-56.
[58] Earp et al., *supra* note 12 at 99-100; Lewis, Demaree-Cotton & Earp, supra note 12 at 5.
[59] Mukerji, *supra* note 12 at 31-56.
[60] Adapted from Earp et al., *supra* note 12 at 100.
[61] See, e.g., Doron Teichman & Eyal Zamir, *Nudge Goes International*, 30 EUROPEAN JOURNAL OF INTERNATIONAL LAW 1263 (2019); HARLAN GRANT COHEN & TIMOTHY MEYER (eds.), INTERNATIONAL LAW AS BEHAVIOR (2021); ANDREA BIANCHI & MOSHE HIRSCH (eds.), INTERNATIONAL LAW'S INVISIBLE FRAMES – SOCIAL COGNITION AND KNOWLEDGE PRODUCTION IN INTERNATIONAL LEGAL PROCESSES (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 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), https://www.researchgate.net/publication/361612047_Experimental_jurisprudence_in_international_law?channel=doi&linkId=62bc513c93242c74cad769ec&showFulltext=true.
[62] Benedikt Pirker and Izabela Skoczeń, *Pragmatic Inferences and Moral Factors in Treaty Interpretation—Applying Experimental Linguistics to International Law*, 23 GERMAN LAW JOURNAL 314–332 (2022).

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.[63] Based on these findings, a legal practitioner, who, as Pirker and Skoczeń note, is "supposed to remain neutral as to personal moral attitudes in the technical exercise of treaty interpretation",[64] might decide to employ the following argument (based on the schema above):

(P1) Ordinary inferences underwritten by the concept "genocide" 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.[65] The point is that "factor F" in the original argument schema (i.e., "moral attitudes" in the example considered here) may itself be contested.[66] For instance, although a legal practitioner or advocate of legal positivism might consider moral attitudes to be an unreliable factor for the purposes of legal interpretation, others, say, proponents of natural law or interpretive purposivism, 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.[67] 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 a prior normative commitment to 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

[63] *Id* at 330.
[64] *Id* at 324.
[65] 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).
[66] Peter Königs, *Experimental Ethics, Intuitions, and Morally Irrelevant Factors*, 177 PHILOSOPHICAL STUDIES 2605-2623 (2020).
[67] Frederick Schauer, *A Critical Guide to Vehicles in the Park*, 83 NEW YORK UNIVERSITY LAW REVIEW 1111-1113 no. 4 (2008); Noel Struchiner, Guilherme d'Almeida & Ivar Hannikainen, *An Experimental Guide to Vehicles in the Park*, 15 JUDGMENT & DECISION MAKING 1 (2020).

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.

There is an additional point to consider 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.[68] For instance, 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.[69]

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 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: XJUR'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,[70] 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".[71] 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").[72] At the same time, based on, for example, Sommers' findings concerning the

[68] Earp et al., *supra* note 65 at 190-1.
[69] Earp et al., *supra* note 12 at 98-102; Lewis, Demaree-Cotton & Earp, *supra* note 12 at 6.
[70] Sommers, *supra* note 3 at 395; Kevin Tobia, *Legal Concepts and Legal Expertise*, 69-70 (2020), https://papers.ssrn.com/abstract=3536564.
[71] Jiménez *supra* note 6 at 7-8.
[72] Earp et al., *supra* note 12 at 105-106.

divergence between ordinary and legal inferences relating to the concept of consent,[73] 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.[74] 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.[75]

The arguments here concerning XJur reflect those that have previously been made in relation to XJur's parent discipline—x-phi. Although 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 features as well as a concept's relations with other concepts,[76] there is a widespread assumption that x-phi has no role in the process of prescribing or engineering concepts itself.[77] 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.[78] Furthermore, for concepts that have a normative, practical function (e.g., as Sally Haslanger illustrates through the concept "gender"),[79] empirically investigating psychological processes that output conceptual inferences allow us to determine whether the concept in question is fulfilling its intended function to a reasonably good degree.[80] 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.[81] 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".[82]

Given the similarities in approach and methods 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.

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[73] Sommers, *supra* note 20.
[74] 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 PHILOSOPHICAL PSYCHOLOGY 412-433 (2015); Machery, *supra* note 4; Nado, *supra* note 36.
[75] Jiménez *supra* note 6 at 8.
[76] Joshua Shepherd & James Justus, *X-phi and Carnapian Explication*, 80 ERKENNTNIS 381-402 no. 2 (2015).
[77] Andow, *supra* note 18 at 1, 4-5.
[78] Justus, supra note 24 at 172; Nado, *supra* note 36 at 94.
[79] Haslanger, *supra* note 74.
[80] Earp et al., *supra* note 12 at 105.
[81] See, e.g., Fisher, *supra* note 74; Machery, *supra* note 4; Andow, *supra* note 18.
[82] Fisher, *supra* note 74 at 420.

James Andow, however, goes even further when articulating the role of experimental studies of cognition in conceptual engineering projects.[83] 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., for Jiménez, this might be legal practitioners),[84] then "it is possible to conduct conceptual engineering using a fully experimental methodology".[85] Although I cannot do justice to Andow's arguments here, the project consists of identifying said group and, through empirical investigation, determining what this group thinks the function of the concept *should* be.[86] This establishes the "normative constraints" or conditions of the concept that is to be engineered.[87] Subsequently:

> …we can design careful studies to discern what aspects of the relevant population's current ways of thinking promote the relevant conditions' satisfaction and which put up barriers. We can do something similar for any other different populations that think in slightly different ways – exploring the potential for productive conceptual resources there. We can test the hypotheses we generate through various simple intervention studies or pilot large social programmes to test specific hypotheses about what ways of thinking best satisfy the relevant conditions. This process might also include testing the potential for uptake of certain conceptual resources by relevant populations of users, and testing strategies for dissemination…[88]

Perhaps the greatest challenge facing the adoption of "fully experimental conceptual engineering" in the domain of law concerns another potential limitation of XJur raised elsewhere in this collection, that is, the ability of XJur studies to do adequate justice to the empirical reality of legal practices, reasoning, and the use of legal concepts.[89] 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, where external validity is concerned, what is important about experimental studies is less the data they produce, but more the implementation of experimental designs that reveal or produce causal effects in a reliable manner.[90] 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.[91] The need to understand the nature and stability of the background causal structures between experimental and real-life legal conditions explains why some, like Jiménez, claim that data from experimental studies should be supplemented with analyses of detailed, on-the-ground evidence generated through multiple, independent nonexperimental methods.[92] At least where "fully experimental conceptual engineering" is concerned, delivering on this understanding is an issue that XJur researchers looking to adopt such an approach would need to address.

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[83] Andow, *supra* note 18.
[84] *Id* at 12.
[85] *Id* at 9.
[86] *Id* at 12.
[87] *Id*.
[88] *Id* at 13.
[89] See, e.g., Jiménez, *supra* note 6 at 13; Pirker, Skoczeń & Fikfak, *supra* note 61 at 8-9.
[90] 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).
[91] *Id* at 471.
[92] Jiménez, *supra* note 6 at 13.

V. CONCLUSION

On the basis that concepts determine the inferences we are prone to draw, and because the application of legal concepts in legal contexts often involves both legal practitioners and ordinary people, investigating what, how, and why they think about certain legal concepts matters. Experimental jurisprudence can help us distinguish the inferences legal concepts dispose different stakeholders to draw, determine the features of concepts that give rise to conflicting inferences, and, more generally, 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 in some instances (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 is not able, on its own, to deal with competing conceptual inferences and thereby justify the legal application of any particular concept.