Fully experimental conceptual engineering

DOI:
10.1080/0020174X.2020.1850339

Document Version
Submitted manuscript

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June 10, 2020

Abstract

Conceptual engineers are in the business of helping us think as we should. Experimental philosophy can be seen as being in the business of describing how we think. One might think there must thus be a gap between any experimental philosophy project and any successful project in conceptual engineering, that conceptual engineering reserves a special role for armchair philosophers. But, a successful project in conceptual engineering might be fully experimental. Conceptual engineering reserves no special role for armchair philosophers.

1 Introduction

What's the relation between conceptual engineering and experimental philosophy? Many writers have recently correctly noted that experimental philosophy has much to contribute to conceptual engineering. However, there seems to be a widespread and unquestioned assumption that a project in experimental philosophy could not be, by itself, a project in conceptual engineering. The thought might be that the nature of conceptual engineering is such that conceptual engineering could not be completed by experimental philosophy, and that experimental philosophy can, at best, provide important input for projects in conceptual

*This is an author-archived preprint of an article forthcoming in a Special Issue of *Inquiry* on 'Foundational Issues in Conceptual Engineering'. Please refer to the published version for citations. Thanks are due to various people whose comments on this paper or discussion of related issues have really helped. That includes the reviewers and editors for this special collection, Aimie Hope, Eugen Fischer, Clotilde Torregrossa, Ethan Landes, Mark Pinder, and others.

engineering. The aim of this paper is to push things further and make the case that a project in conceptual engineering could be fully experimental.

The structure of the paper is as follows. §2 explains what conceptual engineering and experimental philosophy are, and introduces a possible motivation for thinking that conceptual engineering couldn't be fully experimental. §3 surveys the existing work on the connection between the two methodologies and specifically on the many ways in which experimental philosophy can contribute to conceptual engineering. §4 identifies a limit to the extent to which existing work on the connection between the two methodologies considers experimental philosophy to be able to contribute to conceptual engineering, and motivates the project of asking whether there really is such a limit or whether conceptual engineering could be fully experimental. §5 provides an example of what a fully experimental conceptual engineering project would look like, and §6 gives a more general account of how conceptual engineering work could be carried out in a fully experimental way. §7 then wraps up, taking time to address some potential concerns about the idea of fully experimental conceptual engineering.

2 Conceptual engineering and experimental philosophy

The terms 'conceptual engineering' and 'experimental philosophy' can mean various different things. Let me articulate my understanding of the two for the sake of this paper. First - What is experimental philosophy? Here's how it has been recently defined in the Stanford Encyclopedia of Philosophy (Knobe and Nichols, 2017):

> Experimental philosophy is an interdisciplinary approach that brings together ideas from what had previously been regarded as distinct fields. Specifically, research in experimental philosophy brings together two key elements:
>
> (a) the kinds of questions and theoretical frameworks traditionally associated with philosophy;
>
> (b) the kinds of experimental methods traditionally associated with psychology and cognitive science.

> Though experimental philosophy is united by this broad approach, there is a diverse range of projects in experimental philosophy. Some use experimental evidence to support a "negative program" that challenges more traditional methods in analytic philosophy, others use experimental data to support positive claims about traditional questions, and still others explore questions about how people ordinarily think and feel insofar as these questions are important in themselves.

And a broader conception would take into account projects that use empirical tools from various disciplines, e.g., including social sciences, to uncover how people think about philosophically interesting phenomena and thereby to make philosophical progress.[1] The whole idea of experimental philosophy is that the empirical investigation of descriptive facts, for example, into the cognitive mechanisms underlying the application of a philosophically important concept, can help make philosophical progress.

What is conceptual engineering? The term is a new one and its use hasn't settled on one meaning.[2] One prominent definition is as follows (Plunkett and Cappelen, 2020):

> Conceptual Engineering = (i) The assessment of representational devices, (ii) reflections on and proposal for how to improve representational devices, and (iii) efforts to implement the proposed improvements.[3]

Conceptual engineering is concerned with trying to refine or introduce concepts (construed broadly to include all representational devices) such that those concepts meet or come closer to meeting some relevant set of normative standards: standards concerning what our concepts should be like rather than what they are like.[4] Indeed this is how I will understand conceptual engineering for this paper.

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[1] For other overviews of the basic idea of experimental philosophy, see Alexander (2012); Knobe (2007); Knobe et al. (2012); Knobe and Nichols (2008); Rose and Danks (2013). For more detail on the breadth of empirical methods available to experimental philosophers, see Andow (2016b); Fischer and Curtis (2019). Note that even 'negative experimental philosophy' (see Alexander et al., 2010; Knobe, 2011) is attempting to make philosophical progress in the sense that it helps improve our methods.

[2] Indeed, it has been proposed that the concept itself needs to be subject to conceptual engineering in order to be a useful conceptual contribution to the field (Isaac, 2020).

[3] Plunkett and Cappelen note that "We don't think these expressions ['conceptual engineering' and also 'conceptual ethics'] come with fixed meanings. The previous literature has used them in different ways…These terms are often used without precise definitions by those working in the field. Moreover, when they are given more precise definitions by philosophers, these definitions often contradict those given by others."

[4] There is some debate over what kinds of normative considerations should constrain projects of conceptual engineering

At first glance, one might be tempted to think that there is a serious tension between conceptual engineering and experimental philosophy: engineers pursue a normative project while experimentalists pursue a purely descriptive project. As Torregrossa (2020) puts it 'X-Phi [i.e., experimental philosophy] does not seem to have the normative aspect characteristic of [conceptual engineering]'. This might be thought to lead to a tension because normative questions aren't addressed by descriptive answers. The shape of this possible concern may be familiar from other parts of philosophy. For example, Alfano et al. (2018) consider a similar objection to the relevance of empirical research in moral philosophy: 'moral philosophy is concerned not with how we are and what we do, but with how we ought to be and what we ought to do. As such, it is a normative enterprise, and is unaffected by empirical results.'

However, it would be a mistake to think of descriptive and normative projects in philosophy as being starkly opposed. Likewise, it is obvious to most that conceptual engineering and experimental philosophy are not so starkly opposed.[5] Although normative questions aren't settled by descriptive answers, answering normative questions frequently requires a lot of descriptive information. There is lots of descriptive information that the experimental philosopher could gather which would be relevant in normative debates about concepts. For a start, if conceptual engineering is to begin with an evaluation of the conceptual resources we currently posses, then it needs to do so on the basis of a well-informed descriptive understanding of what those conceptual resources are. Thus if philosophy were to be largely or wholly conceptual engineering, there could be a large role for experimental philosophy. And this has been recognised in recent work on the connection between the two methods as we'll see in the next section.

(see Podosky, 2018; Simion, 2018). For the sake of this paper, I will not get into debates about what conceptual engineering should be like. However, note that my examples in later sections assume that conceptual engineering projects could legitimately be guided by moral or political normative considerations.

[5]Some will likely see the two projects as more in tension than others. For example, Cappelen argues experimental philosophy rests on the mistaken belief that philosophers use intuitions as evidence. One of his reasons for thinking it is mistaken is that philosophers are not interested conceptual *analysis* (Cappelen, 2012, 2014). In other work he argues much of philosophy is involved in conceptual *engineering*, a constructive, normative, prescriptive enterprise (see, e.g., Cappelen, 2018). This suggests a commitment to experimental philosophy not being of value in conceptual engineering projects.

3 Existing work on how experimental philosophy can contribute to conceptual engineering

Experimental philosophy has been argued to potentially help conceptual engineers identify concepts in need of improvement. Justus (2012) argues that conceptual engineering (in the form of Carnapian Explication) may survive critiques of traditional conceptual analysis from experimental philosophy. In his picture, experimental philosophy can contribute to conceptual engineering by helping us in the informal clarification of concepts by 'empirically uncovering the (sometimes indefensible) factors responsible for intuitions and other conceptual judgments.'

Shepherd and Justus (2015) give this picture a little more detail suggesting that experimental philosophy can assist conceptual engineering (in the form of Carnapian Explication) by helping to 'uncover regions of vagueness in extensions and intensions of concepts,' 'reveal instances of conceptual pluralism underlying a notion,' 'discover sources of bias that influence intuitions', 'discover unpredictable (even if non-biasing) influences on conceptual judgments', and 'outline a concept's central features and its dependence relationships with other concepts.' But all of this input is part of the preparatory process, by 'providing valuable data about the concepts targeted for explication,' giving experimental philosophy no role within the process of explication itself. Torregrossa (2020) also makes a similar point regarding conceptual engineering more broadly that experimental philosophy can 'help identify deficient concepts' (relative to some standards) and also 'identify the type of deficiency'.

Experimental philosophy has also been argued to have the potential to help conceptual engineers identify the function played by concepts. Nado (2019) has a slightly different approach. Nado provides an argument from the armchair that the only 'similarity desideratum' criterion for a successful project in conceptual engineering is that the concept one ends up with must have *continuity of function* with the concept one started with. She then makes the case that descriptive information about the psychological mechanisms that underlie application of a concept can provide important insights into the function of the original concept. She argues that:

> we have a set of 'natural' pre-engineering concepts…we should study these pre-engineering concepts [e.g., using experimental philosophy] in order to 'get a leg up' on designing concepts which successfully serve the functions we want. We do so by identifying a) the purposes our current concepts serve, b) the elements of those concepts that help them fulfil those purposes, and c) the elements of those concepts that are more like the philosophical analogue of an appendix, a set of wisdom teeth, or a pair of male nipples.

Experimental philosophy has also been argued to have the potential to help conceptual engineers identify properties of new proposed concepts or conceptual refinements. They make clear that the potential value of experimental philosophy for projects in conceptual engineering is not just providing descriptive information about our current concepts, but also providing descriptive information about the concepts that are engineered, e.g., how they will behave when used by some relevant community.[6] For example, Schupbach (2017) notes that insofar as one treats as a desideratum in a process of conceptual engineering (again in the form of Carnapian Explication) that the concept one produces maintains a nontrivial similarity to the concept that some relevant population are operating with, then, by facilitating the assessment of similarity, experimental philosophy can provide a great source of information.[7] Fisher (2015) argues that experimental philosophy can contribute to a project of conceptual engineering (in his terminology 'Pragmatic Conceptual Engineering') which was focused producing concepts whose use would have beneficial effects. He points out that experimental philosophy could 'help to determine how we behave differently, depending upon whether or not we've applied a particular concept to something' and 'help to identify the ways in which these behavioral differences have regularly yielded beneficial outcomes'. Machery (2017) summarizes this nicely, using the work of Schupbach and colleagues as an example, that in various projects of conceptual engineering (or as he terms them 'prescriptive conceptual analysis') experimental philosophy can be useful for assessing which of a set of proposals for how our concepts should

[6] With respect to *explication* specifically, the idea is experimental philosophy can evidence the nature of the explicandum and also of candidate explanatia.

[7] See Schupbach (2017) for an articulation of the Carnapian principle concerning similarity alluded to here, and an example of an experimentally-informed assessment of similarity.

be meet some pre-specified set of normative constraints (whether the Carnapian: Similarity, Exactness, Fruitfulness, and Simplicity, or the conduciveness to some political goal).

Pinder (2019) perhaps goes furthest in the extent to which he thinks the process of conceptual engineering (again in the form of Carnapian Explication) can be informed by experimental philosophy.[8] Pinder considers that 'one way an explicatum might be more fruitful than another is if, all else being equal, the former but not the latter is adopted by the relevant theoretical community as a replacement for the explicandum in question' and claims that 'It should be immediately clear that, construing fruitfulness in this way, experimentation could play an important role in the construction of fruitful explicata. The reason is that 'determining the conditions under which various communities adopt a given explicatum is an empirical matter.'[9]

4 Is there a limit to experimental philosophy's ability to contribute to conceptual engineering?

Although all the writers surveyed above have made the point that there can be (or even should be) a large role for experimental philosophy within conceptual engineering, the roles they have identified for the experimentalist in conceptual engineering do not cover the whole process. Rather, the two roles identified are:

ROLE 1 Providing helpful information about the nature of our current conceptual resources, e.g., to assess the extent to which they meet some specified criteria for deficiency.

ROLE 2 Providing helpful information about the properties of proposed conceptual resources, e.g., to assess the extent to which they stack up against

[8] Cordes and Siegwart (2019) suggest Pinder's discussion supports the claim that "the experimental identification of central features of concepts can directly inform …the criteria of explicative adequacy …" but it doesn't; indeed, Pinder makes no such claim.

[9] Even Koch (2019), who disagrees with Pinder about most things, including this, concedes at least that, while 'uptake should not be understood as a constituent of fruitfulness,' it might nonetheless be 'that the likelihood of a concept being taken up by the relevant…community sometimes works as a reliable indicator of its fruitfulness.'

some specified metric for conceptual quality.

If these two roles exhaust the possibilities, then a project in experimental philosophy could not be, by itself, a project in conceptual engineering. Experimental philosophy could only provide descriptive information that was helpful to assess how conceptual resources stack up against some relevant normative standards (albeit perhaps extensive helpful information and perhaps even necessary information). But the armchair is indispensable, one might think, when it comes to establishing those normative standards.

In this paper, I argue that conceptual engineering can be a fully experimental project: that there is no limit to experimental philosophy's ability to contribute to conceptual engineering.[10] Experimental philosophy doesn't need to rely on armchair philosophy for the normative part of the project. An experimental project can do engineering by itself and the necessary normative standards need not be an extra-experimental input to the process. I'm not going to provide much analysis. I'm mainly just going to describe an engineering project which is experimental at every stage. I challenge the reader to show me a stage of the project which is non-experimental and without which the project wouldn't be engineering. If they can't, conceptual engineering can be a fully experimental project.

Before we get to the main substance of the paper, to begin, I do need to complete one little bit of clarification. My ambition is not to argue for any substantive thesis about the relation between descriptive and normative facts. I make that clarification because this paper is arguing that empirical enquiry can be sufficient to sort certain normative debates (about what concepts *should* be used). And so the reader might be expecting the argument to rest on a claim about the relation between normative and descriptive facts such that a normative project can be settled by descriptive work. But that is not the nature of the argument.[11]

If you want a pithy statement of view in its most abstract, here it is. The only reason that a project in conceptual engineering couldn't be fully experimental would be if neither GROUNDED nor INDICATED were true, but instead INDEPENDENT

[10] For the sake of this paper, I set aside any background worries one might have about the possibility of strategic conceptual change and assume an optimistic picture about the possibility of successful conceptual engineering in general.

[11] And so engaging with, e.g., debate over any is-ought gap is beside the point.

were true, where those positions are the following:

> GROUNDED the relevant normative constraints are grounded in some population's explicit or implicit, immediate or well-thought out commitments or desires with respect to what concepts should do or be
>
> INDICATED the relevant normative constraints are reliably indicated by some population's explicit or implicit, immediate or well-thought out commitments or desires with respect to what concepts should do or be
>
> INDEPENDENT the relevant normative constraints are somehow isolated from descriptive psychological reality such that neither GROUNDED nor INDICATED is true.

Insofar as the operative normative constraints in an engineering project satisfied either GROUNDED or INDICATED, the project could be conducted in a fully experimental way (as the following sections will illustrate). Only if a project in conceptual engineering were such that the operative normative constraints satisfy INDEPENDENT, could it not be fully experimental. However, insofar as the operative normative constraints in a project satisfy INDEPENDENT, it would be pointless attempting the project (whether employing empirical methods or not) because one couldn't engineer a concept to meet such constraints. Why? If the constraints are mind-independent to the point that no one's well-thought out explicit ideas about what concepts should do or be are not even reliably indicative of the shape of the constraints, then they are mind-independent to the point of not being worth bothering with because we have no way to track the constraints.[12] So, insofar as a project in conceptual engineering isn't pointless, it could in theory be fully experimental.[13] Insofar as human thinking tracks the relevant normative standards

[12] It has been suggested to me that line of reasoning gets things backwards: *We don't discover our norms/standards by going out and finding groups we admire and empirically studying those groups. If anything, we can find groups we admire by already having discovered the requisite norms/standards that we think should be adhered to.* But, this objection is mistaken. In the cases the objector is imagining, the relevant normative standards do not meet INDEPENDENT as they meet INDICATED: they're indicated by the mental states of some group to which the objector belongs. Why—if we thought that the standards were mind-independent to the extent that our mental states failed to track the standard reliably—would we uphold our ideas about the relevant standards in such cases?

[13] Although, of course, this doesn't mean it should be.

at least somewhat reliably, it is possible to conduct conceptual engineering using a fully experimental methodology (it is establishing this latter point that is the focus of the following sections). To concede this, one need concede no substantive meta-normative or metaphysical theses.

It may be unclear why it would matter whether conceptual engineering could be fully experimental in the sense in which I will argue it can. So, it will be helpful for me to explain my motivation for making the case that conceptual engineering could be fully experimental. There is a tendency among philosophers to think of philosophy as occupying a special place in the academy: to think that there is a certain kind of valuable work that philosophers can do that requires distinctly philosophical methods, i.e., methods distinct from those employed by colleagues in other fields such as the social and cognitive sciences. I'm not against this tendency per se. There are many potential benefits even to arbitrary disciplinary boundaries and identities which might be enhanced by such a tendency. Nonetheless, as an advocate of the incorporation of empirical methods into philosophy where they can be of benefit, I want to offer some resistance to a particular kind of narrative which one might weave around discussion of conceptual engineering and which might be suggested even by the survey of the literature on the many and fruitful connections between conceptual engineering and experimental philosophy above. The narrative rests on the idea that conceptual engineering reserves a special and central role within philosophy for armchair enquiry such that experimental philosophy, no matter how much it can contribute, and even if it were a necessary part of any successful conceptual engineering project, will never be able to do the job by itself.

There's a history for this possible narrative concerning conceptual engineering and the extent to which experimental philosophy can contribute to philosophical projects. The rise of experimental philosophy initially prompted worried conversations concerning models of philosophical methodology that would make philosophy amenable to being subsumed within social psychology or the social and cognitive sciences more broadly.[14] If philosophy worked by simply testing theories against data points provided by ordinary pre-theoretical intuitions, then it

[14]For a survey and discussion of some of the back and forth, see Mukerji (2019) particularly Chapter 4.

would be natural to think traditional armchair-based philosophical practice should be replaced by psychological experiments – arguably they'd be a straightforwardly better way to access the relevant data. But that leaves no distinctive role for the philosopher! Philosophy would be farmed out to the social and cognitive sciences![15] In the wake of those initial worried conversations, more sophisticated understandings of both experimental philosophy and of traditional armchair methods were developed in an attempt to articulate what was valuable and distinctive about philosophical enquiry such that it would not be appropriate to simply subsume philosophy within the sciences in this way. The relevance of experimental philosophy for traditional philosophical concerns stopped being articulated primarily in terms of 'intuitions'. Insofar as experimental philosophy assumes such a simplistic model of traditional armchair-based enquiry, argued some, it makes a 'big mistake', for philosophers don't rely on intuitions as evidence in the manner assumed by such a model.[16] Others broadly accepted the kind of model according to which philosophy relies on intuitions, but forged a case for the value of a non-empirical approach to the use of intuitions by emphasizing the epistemic value of the expertise that philosophers bring to the table when relying solely on their own intuitions without leaving the armchair.[17]

The recent surge of interest in conceptual engineering can be seen in a similar light. What might philosophers be doing such that their predominantly armchair-based approach was justified? What role might there be in the academy for a distinctively philosophical mode of enquiry that retained an important role for non-empirical research? One possible answer is that many traditional projects in philosophy have or should have an aspect of conceptual engineering about them.[18]

[15] I don't think this reaction is a mistake. The relevant model *should* be questioned—not simply with an eye to protecting jobs for philosophers—because such a model does seem to overlook something important about what is going on in traditional armchair-based philosophical enquiry.

[16] See Cappelen (2012) and Cappelen (2014) as well as discussion by Nado (2016b), Andow (2016a) and Nado (2016a). Other examples of arguments in this vein include Deutsch (2009, 2010, 2015); Earlenbaugh and Molyneux (2009); Ichikawa (2014); Molyneux (2014).

[17] See Nado (2014) for a summary and discussion, and for various more recent contributions Drożdżowicz (2018); Horvath and Wiegmann (2016); Licon (2019); Machery (2017); Seyedsayamdost (2019).

[18] Cappelen (2020) argues that "no matter what topic a philosopher is concerned with, she should assess and ameliorate the meanings of central terms".

The project of philosophical theorising is not simply capturing phenomena or concepts as they are. The philosophers' project has a normative edge. We are interested in developing ways of thinking about philosophically interesting phenomena that are good or better ways to think about the relevant phenomena, and such normative projects require more than descriptive methods. Perhaps much, most, or all, of philosophical enquiry properly conceived is engaged explicitly or implicitly in conceptual engineering. Insofar as that were true, there would be a limit to the possible contribution of empirical information; there would be a special role retained for the armchair within philosophy, a role which precludes completion using solely the tools of experimental philosophy.

The main motivation for this paper is to push back against that narrative as I see it potentially emerging.[19] I think it is important to recognise that there is no such 'in principle' limit to the extent to which embracing the empirical tools of experimental philosophy (and related fields) can help further our philosophical projects even if much or even all of philosophical research properly conceived is engaged in conceptual engineering.[20] Experimental philosophy is capable of contributing to the valuable project of examining and refining our conceptual resources at every stage of the process. And I wouldn't want that overlooked or underappreciated. To help make that point, this paper makes the case that a project of conceptual engineering could be fully experimental.

5 An example

Let me begin by giving an example of a project of the kind I maintain is possible. It is not an actual example, but rather a project that could be pursued and which I would take to be a fully experimental project of conceptual engineering.[21] In the

[19] Note that my fear is only about a narrative that might potentially emerge. I make no accusation of there being an anti-experimental-philosophy agenda among advocates of conceptual engineering.

[20] For various other ways in which I have advocated for the use of empirical methods in philosophy, see Andow (2016b); Tallant and Andow (2020).

[21] I don't claim there are any extant projects in experimental philosophy that represent completed conceptual engineering projects. The closest examples to fully experimental conceptual engineering probably come from social sciences rather than philosophy. Consider, for example, work from across the academy on the conceptual resources (in the form of

next section, I will provide a general recipe for such a project.

The example I will begin with concerns the concept of gender.[22] If raised in the context of a project of inquiry, the question of what the concept of gender should be is raised by someone and that someone has a certain population of concept users in mind. So, let's say the question is raised by a loose collection of academics across sociology, gender studies, and philosophy, along with some interested parties in the wider community. And let's say that the question as raised concerns what concept of gender should be used by the general population in English speaking western democracies only. Once the question has been raised, these further questions about exactly who is raising it and exactly what population they raise it with respect to are empirical questions and amenable to investigate via formal empirical methods (even if, say, we happen to be a member of the relevant community). Refining the relevant class of people raising the question could be a somewhat involved and iterative process involving a long program of engagement, focus groups and so on, but would be no less empirical for that. Similarly, there's potentially space for some back-and-forth with any data we end up collecting on exactly which class of societies are the population of interest, but again that's available within standard empirical methods.

Now we need to know how the concept of gender should be for the relevant group, or what it should do. That is, we need some normative constraints. What is

'framings') people use in relation to environmental issues (see, e.g., Feinberg and Willer, 2019; Lakoff, 2010; Stoknes, 2014). The work I have in mind includes working with focus groups or employing expert interviews to explore perceptions of strengths/shortcomings of different framing strategies (Wallbott and Schapper, 2017; Whitmarsh and Corner, 2017; Xenias and Whitmarsh, 2018), identifying the range of existing conceptual resources (Bevan et al., 2020; Pounds, 2020), identifying problems with existing conceptual resources (Feinberg and Willer, 2010; Flusberg et al., 2017; Matlock et al., 2017), identifying factors conducive to satisfying certain normative goals (O'Neill and Nicholson-Cole, 2009), developing new conceptual resources on the basis of existing empirical research or proposing new 'framings' or changes to likely framings (Moore and Yang, 2020; Rottman et al., 2015), assessing the likely uptake and likely impact of that uptake among key groups (Corner and Pidgeon, 2015; Feinberg and Willer, 2010, 2012; Hurst and Stern, 2020; Whitmarsh and Corner, 2017; Whitmarsh et al., 2019), and monitoring uptake in key domains (Beck et al., 2015). Putting those kinds of activity together (if not the specific examples cited above) would look like a good candidate for fully experimental conceptual engineering.

[22] Gender is a common example in discussion of conceptual engineering. See Cappelen (2018) for discussion of Haslanger (2000, 2010). See Ball (2020) for some critical discussion of Cappelen's treatment. Note, however, that the example I discuss a purely hypothetical example. It is not intended to be a reconstruction of Haslanger's work, Cappelen's treatment, or any other extant project.

the best place to start? In principle, it is possible that the folks raising the question regard themselves to have the most reliable ideas about such things. But it needn't be that way. So we can generalise the thought and make the following question our starting point. Who do the folks raising the question think are the best bet for having reliable ideas about what the concept should do or be? In this case, suppose that, upon empirical investigation, we find that the group raising the question are somewhat clear that it is not themselves, but rather folks at the margins and folks who have suffered gender-based oppression who should be trusted most about what features a concept of gender should have. Now suppose, through empirical investigation, we find who satisfies those criteria, and what sorts of conditions they sign up for either explicitly or implicitly. Suppose the main condition we find they sign up for concerns addressing current structural injustice.[23]

Now we can start to think about what sort of concept would stand the best chance of satisfying those conditions. We would of course likely have a bunch of hypotheses from the armchair based on existing non-empirical theories – as in any new field of empirical enquiry – but we needn't rely solely on these to produce our hypotheses. We can begin to get empirical traction on the issue in various ways. We can examine the status quo. How do the relevant population of English-speaking western democracies currently think about gender? What different conceptions exist? How do those conceptions link with other ideas and ways of thinking? And, most importantly, 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 programs to test specific hypotheses about what ways of thinking best satisfy the relevant conditions. This process might also include testing the potential

[23] Even if those raising the original question regarded themselves having the most reliable ideas, that wouldn't remove the possibility, perhaps necessity, of investigating the matter empirically. The status of opinions in disciplines or subdisciplines is not transparent from the armchair. Consider how discipline-wide surveys can correct misconceptions, e.g., (Bourget and Chalmers, 2014; Knobe, 2015; Kuntz and Kuntz, 2011).

for uptake of certain conceptual resources by relevant populations of users, and testing strategies for dissemination, as a concept stands a better chance of helping to address current structural injustice – one might hypothesise – if it enjoyed large scale initial uptake.[24]

Finally, suppose, the result of our empirical investigation might be that the way to think about gender that will best serve the transitional end of addressing current structural injustice identifies as women the class of individuals who personally identify as women and likewise for other gender categories. All these steps required to get here required only standard methods of empirical science. Yet completing all these steps would represent a project in conceptual engineering par excellence. The completed project would thus be a project of fully experimental conceptual engineering.

6 A recipe

We can now construct a general recipe for a project of fully experimental conceptual engineering by generalising the structure of the example above. It is, of necessity a little dense, and it will be helpful to read it with reference to the concrete example, concerning gender, given above. It will also be helpful to read it with reference to the diagram in Figure 1 (page 16). But, for all it may be a little dense, the recipe in fact remains artificially simplified in a couple of key respects. I've made those simplifications for clarity but it is worth acknowledging them. I present the project as completed by a single research team within a limited timeframe by answering the questions in order. But, of course, research is messier than that. It is potentially an ongoing process which never reaches a definitive answer. And engineers might have reason to revisit 'previous' stages in light of the findings of 'later' stages. Indeed, as social reality changes, the answers to 'previous' stages might actually change while 'later' stages of enquiry are still ongoing. And there's no in principle reason why empirical work across multiple stages might not be going on at the same time, distributed among many research teams.

[24] I call this a hypothesis as it's not a given. Sometimes the optimum strategy for conceptual engineering might well employ a model of *gradual growth from humble beginnings*.

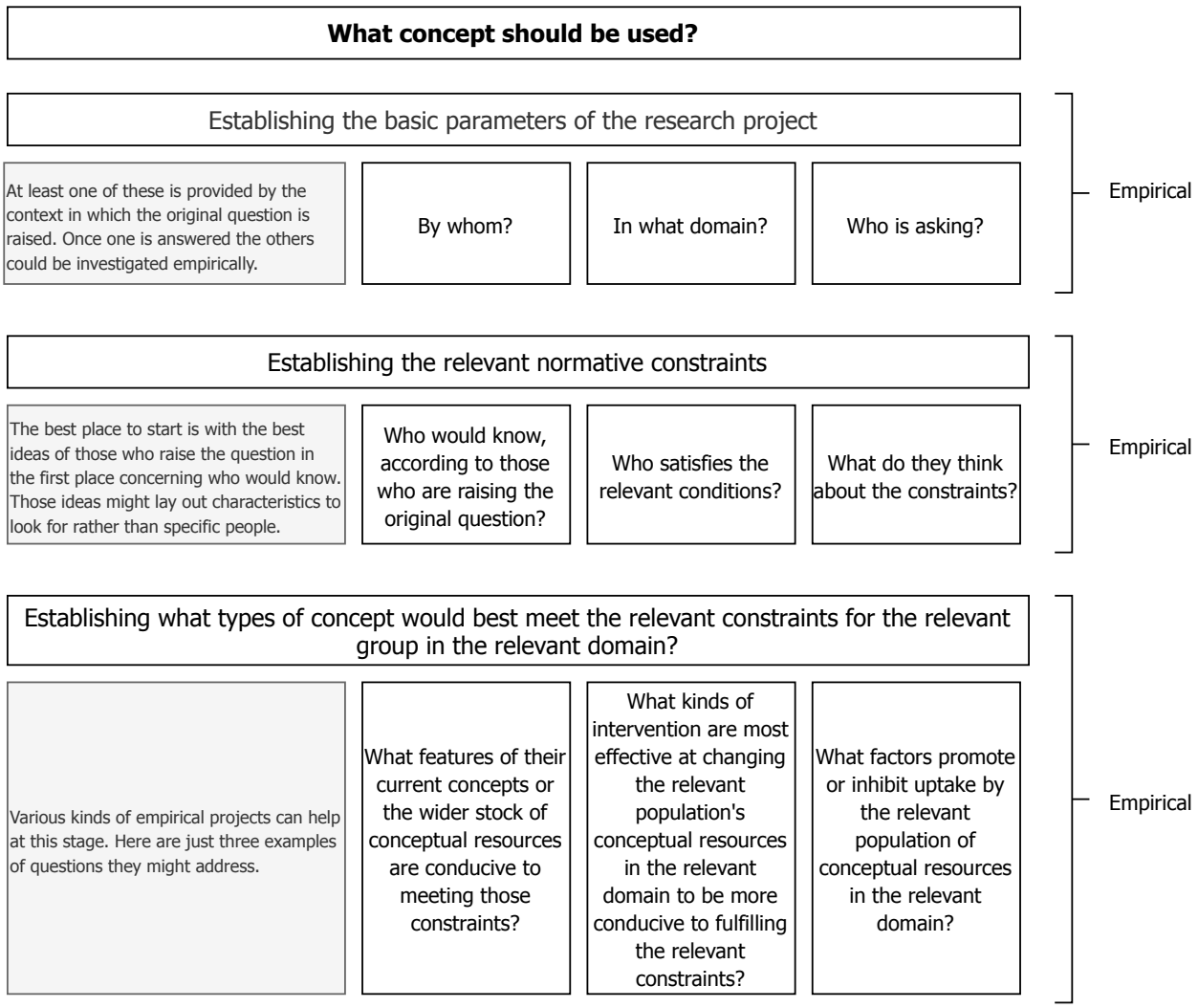

Figure 1: Diagram of a fully experimental project in conceptual engineering illustrating how all the relevant concerns for addressing the issue of what conceptual resources should be used can be addressed in an empirical way

A project of fully experimental conceptual engineering would answer the following questions, which I organise in three stages: establishing the basic parameters of the research project; establish what normative constraints should be operative in the conceptual engineering project; establishing what kinds of conceptual resources do the best job of meeting the operative normative constraints.

6.1 Establishing the basic parameters

The first set of questions establish the basic parameters of the research project.

1. Who is the group who is interested in the question of what conceptual resources should be used? Call them the QUESTION RAISERS.

2. With respect to what domain are the QUESTION RAISERS interested in the question of what conceptual resources should be used? Call it the DOMAIN.

3. With respect to what target group of users are the QUESTION RAISERS interested in the question of what conceptual resources should be used in DOMAIN? Call them USERS.

A few notes should be made about this first stage. The first is that the QUESTION RAISERS and the USERS might be one and the same group but they need not be. The second is that either group could in principle be as small as a single individual or as large as the global population. The third is that either group might include the engineer themselves.

Are these first set of questions empirical questions? Might they be investigated via formal empirical methods? The answer is yes. Of course, the (at least rough) answer to one or more of them is likely to be relatively obvious given the context in which the question is raised in the first place. Indeed, it is difficult to see how one could have a project of inquiry if none of these three issues were at least roughly settled before any formal empirical work was carried out. However, once we have a good idea about at least one of the issues, then the others could be simply open empirical questions to be answered using formal empirical methods. Once we know what conceptual domain we are interested in, for example, then who the

relevant class of users is, and who is invested in question of what resources should be used in that domain can be purely empirical questions.

6.2 Establishing the relevant constraints

The second set of questions aim to establish what normative constraints should be operative in the following stage of the conceptual engineering project.

1. What features do the QUESTION RAISERS think identify those who are most likely to have the most reliable ideas about the relevant normative constraints, i.e., as to what conditions the conceptual resources in DOMAIN as used by USERS should meet? Call them the RELIABILITY FEATURES.

2. Who has RELIABILITY FEATURES? Call them RELIABLE NORMATIVE THINKERS.[25]

3. What do RELIABLE NORMATIVE THINKERS think about the the relevant normative constraints, i.e., as to what conditions the conceptual resources in DOMAIN as used by USERS should meet? Call these the PUTATIVE CONSTRAINTS.

A few notes about this second stage. For some projects, breaking things down in this way will seem like needless complication. For example, in some projects the RELIABLE NORMATIVE THINKERS will be the QUESTION RAISERS themselves. In other projects, they may be the USERS themselves. I break things down in this way because, as the example concerning gender illustrates, sometimes such distinctions will be important.[26] I have labelled the results of this second set of questions 'putative constraints' in order to make clear that ideas about the relevant normative constraints might be revisited in light of empirical findings in other parts of the process.

Are these second set of questions empirical questions? Might they be investigated via empirical methods? The answer is, in this case, a straightforward 'yes'.

[25] To avoid confusion, please note that at no point in this process does the researcher attempt to identify the population that is 'most reliable' by seeing whether they have true beliefs or otherwise directly assessing their reliability.

[26] Note also that it is precisely when these distinctions become important that the potential need for empirical work within conceptual engineering projects becomes more obvious.

I should make clear that I think there's no reason to expect this process always or even often to go smoothly. When you ask those who you've identified as RELIABLE NORMATIVE THINKERS what constraints apply to the relevant concepts, the initial results may well not suggest any unified set of normative constraints. Different folks may have very different ideas about such things. But it is important to note that the fully experimental conceptual engineer can handle this without resorting to armchair normative theorising. The fully experimental conceptual engineer can respond in the same way as they might respond to any other case of ambiguous empirical results.[27] Relatively minor conflicts or anomalies might be set aside by appeal to the kind of theoretical virtues that play a role in theory selection across the sciences, e.g., in favour of a simpler model. Results suggestive of more major conflicts might lead them to revisit the background ideas and assumptions of the project – should their ideas about RELIABILITY FEATURES be revised? should they lose the assumption that the result of their conceptual engineering would be a single unified set of concepts? should they use other techniques to get a richer understanding of the data and the ambiguous signal (e.g., it may be that focus grouping will indicate that the reasons participants are responding in these different ways in fact involve deep commonalities)? But, in some cases of particularly deep normative disagreements among respondents, maybe those options won't help the conceptual engineer move forward. In such cases, it is important to note, there's no reason to think the conceptual engineer has to make a principled choice between different sets of normative constraints in order to move forward. In the next stages of the research, one might simply pursue the development of multiple sets of concepts – either in turn or simultaneously – each constrained by different sets of norms obtained via different sub-populations. The conceptual engineer (fully experimental or otherwise) shouldn't, in my view, regard their project as

[27] Another suggestion, helpfully put to me by the editors for this Special Issue, would be that, given the topic matter of dealing with possible disagreement about normative matters among putative epistemic peers, a fully developed methodology for fully experimental conceptual engineering might draw on techniques and mechanisms defended in relevant philosophical literatures on peer disagreement and expert disagreement (for an overview of some of the issues, see Christensen, 2009; Lackey, 2018; Matheson, 2015; Rowland, 2017). Note that, insofar as this is a useful resource for the conceptual engineer, it would be useful in exactly the same way for, e.g., a local council holding a consultation on changes to parking restrictions and refuse collection.

a failure for having produced multiple sets of competing putatively ameliorative conceptual resources and made them available for the relevant community to explore. But that's not the only possible outcome for a project that produces multiple sets of conceptual resources in this way, as the results at a latter stage of the research might speak in favour of one of the sets of concepts than the other.[28] And finally, it is worth saying that, just as there is no reason to think that the process of identifying a set of normative constraints will be a smooth one, there is also no reason to think that it must or will always succeed. Conceptual engineering is hard, in general, and in many cases it might end up not working due to any of a number of factors – including a lack of clarity at the normative level as we've been discussing discussing here.[29]

6.3 Establishing how to meet those constraints

The third set of questions then aim to discover what kinds of conceptual resources do the best job of meeting the operative normative constraints. At this point, a host of different empirical projects might be relevant and the following is just supposed to be an illustrative list of questions they might address.

1. What are the features of the conceptual resources USERS currently deploy in DOMAIN? And which features of those resources are most conducive to meeting PUTATIVE CONSTRAINTS?

2. What are the features of the conceptual resources currently deployed by some broader population than USERS or by some other salient population? And which features of those resources are most conducive to meeting PUTATIVE CONSTRAINTS?

[28] For example, engineers who developed two sets of conceptual resources, Concepts_A and Concepts_B, guided by two distinct sets of normative constraints, Constraints_A and Contraints_B, might find that (i) there is complete resistance to uptake in the relevant population for Concepts_A, and yet (ii) both Constraints_A and Constraints_B rank Concepts_B as an improvement on no change.

[29] This is true of armchair-based conceptual engineering projects too. One might, in fact, suspect conceptual engineers will have to content themselves with a rather low success rate (see Andow, 2020; Cappelen, 2018; Koch, 2018, for some relevant discussion).

3. What kinds of intervention are most effective at changing USERS conceptual resource to be more conducive to fulfilling the PUTATIVE CONSTRAINTS (the answers to the previous two questions are likely to be useful sources of hypotheses when addressing this question)? What kinds of strategy will be most successful in encouraging sufficient uptake in the relevant population?

A few notes about this third stage. The list above is not supposed to be exhaustive but illustrative. The basic strategy in this stage of enquiry is to test hypotheses about what might work. Those hypotheses might be, at times, as in all empirical sciences, somewhat speculative and armchair based. Alternatively, they might flow from existing theory or data. One might also employ interesting combinations of the two, e.g., one could conduct an empirical survey of relevant interest groups, researchers, or communities of users for ideas about possible concepts or about concepts likely to meet the relevant constraints.

Are these third set of questions empirical questions? Might they be investigated via formal empirical methods? Is this third stage an empirical one? The answer is, in this case, a straightforward 'yes'. This stage of the project is simply a specific form of a very general form of empirical project, i.e., project of working out what will produce a certain effect.

Some conceptual engineers will want to get practically involved not just in designing concepts and their dissemination strategies, but in putting those dissemination strategies into practice – just as a bioengineer might go into business to sell and market a product on the basis of their research. And there are lots of ways careful empirical research could be helpful in this too by, for example, helping monitor uptake and impact of new conceptual resources.

The claim (at least in this paper) is not that *any* project in conceptual engineering could or should be conducted in a fully experimental way. The claim is that there could be fully experimental projects in conceptual engineering. The example of gender in the previous section was one imaginary example. The recipe in this section is a general recipe articulating what a fully experimental project in conceptual engineering would be and showing how it is possible. All the stages of the recipe require standard methods of empirical science only. Once those steps are

complete, you've engineered yourself a concept.

7 Wrapping up

Before summarising the main take home points of the paper, I should address some likely reservations you may have about the case I've made. I'll deal with these in two waves. In the first wave, I set aside four objections which I think can be dealt with quite easily. In the second wave, I'll deal with two concerns which I think deserve to be taken more seriously. Let's take a look at the first wave.

Objection #1: *In your picture, there is a bunch of careful thinking that needs to happen in addition to the running and analysis of empirical studies. This means that the project described is not fully experimental as careful thinking is not experimental.* This objection is misguided because, following the same logic, we would conclude there are no fully experimental research projects (even projects whose research questions are wholly descriptive would not count). Designing and conceiving empirical projects takes a lot of careful thinking (e.g., in generating theoretical models, in working out what to test, in working out how to test it, in resolving puzzles about apparently conflicting data). Of course, a fully experimental project in conceptual engineering would involve the same kind of careful thinking. My claim is that there is nothing about conceptual engineering which means that a project in conceptual engineering must be non-experimental in any way or extent that is not also true of any project in empirical science. In particular, my claim is that a project in conceptual engineering can be experimental to an extent not recognised in previous work (see survey in §3): empirical enquiry can provide the relevant normative standards.

Objection #2: *The normative constraints required by conceptual engineering are somehow independent of what people want or believe to the extent that there no individuals whose wants or beliefs we think track the constraints to any extent.* This objection is misguided because (a) who is looking for or will welcome the products of such engineering? and (b) (as pointed out above) this would actually make it impossible

to conduct a project in conceptual engineering as there is no one who can do it. This must be a mistaken vision of how conceptual engineering works.

Objection #3: *I would like to insist on a very specific understanding of conceptual engineering or experimental philosophy such that the project you sketch doesn't count as both.* This objection is misguided as it is creating artificial problems that are of no use to philosophy. The main question is whether normative or prescriptive projects concerning what conceptual resources we use can be completed using the methods of empirical science alone. And the answer is yes.

Objection #4: *Experimental philosophy faces a bunch of objections in the literature and the argument in this paper isn't successful unless it effectively responds to all those objections* This objection is mistaken. There are no objections to experimental philosophy which need to be addressed outside the context of any particular research project using experimental philosophy's tools (see Mukerji, 2019, for some relevant discussion). For example, the 'expertise defence' construed as an objection to experimental philosophy, is only germane in reference to projects in experimental philosophy that argue for certain claims about intuitions in general or in certain domains on the basis of the intuitions of non-experts. Specific concerns about methodology will only apply to specific research projects. Here my claim is that a project in conceptual engineering could be fully experimental. The only kind of objection that would concern me would be one that argued that fully experimental conceptual engineering was ipso facto bad research. Which leads me on to…

Let me now deal with, what I take to be, the most compelling objections. These are not objections to the argument of the paper per se, but to the value of that argument. Who cares if a project in conceptual engineering could be fully experimental if it wouldn't *really* be experimental and if it would ipso facto be bad philosophy?

Objection #5: *While conceptual engineering could be a fully experimental project,*

along the lines articulated above, to conduct a project of conceptual engineering in this way would be to do bad philosophy.

Objection #6: *The process outlined above involve a swizz: in order to make a project 'fully experimental' all that has been done is to outsource some armchair labour to someone other than the researcher.*

Obviously, I don't think that the kind of process outlined above can be dismissed in this way. Indeed, I'm inclined to quite the contrary view. There is no swizz and fully experimental conceptual engineering isn't ipso facto bad philosophy. Why?

Conceptual engineering as a process requires ideas about normative constraints as input. These ideas have to originate somewhere. Someone has to have them. Why think that the ideas that matter should be those of the philosopher(s) (or other academics) conducting the research project themselves? Why think it appropriate for philosophers to proceed with their engineering under the assumption that they alone are the arbiters of what matters when it comes to concepts? To think such things strikes of unfounded intellectual arrogance. A respectable project in conceptual engineering, to my mind, is open to the possibility that the appropriate process is fully experimental, open specifically to the possibility of drawing on ideas about normative constraints from someone other than the philosopher conducting the project. I would have pulled a swizz in the above had the process outlined simply outsourced armchair work which could just as well have been done by the researchers themselves or indeed which the researchers were better equipped to do. That would have been cheating. But that's not what I did. That's not the nature of the process outlined. According to the process outlined, a community of enquirers empirically gather ideas about normative constraints *from those are best placed to have reliable ideas about such things* (or, at least, those with the characteristics that are thought to be signs of such reliability). That isn't farming out armchair work which could just as well have been done by the researchers themselves; that's farming it out to those in a better position to do it (and empirical methods are often going to the best tools for reaping the fruits of that armchair work). This is not a cheap trick to make a process of conceptual engineering fully

experimental, and it looks like respectable philosophical practice to me.

What's the take home message? To defend a picture according to which all or most of philosophy is or should be engaged in conceptual engineering isn't to defend a special non-empirical, armchair-based role for philosophers. Of course, champions of experimental philosophy and conceptual engineering are often coming from different places philosophically. But whatever differences there are between the two, there is no deep difference such that experimental philosophy can at best contribute to conceptual engineering, no deep difference such that conceptual engineering reserves a special role for the armchair-based philosopher. I've made that point in this paper by showing that a project in conceptual engineering could even be *fully* experimental: using empirical methods to determine the relevant normative constraints within an engineering project. That conclusion would be less important in the event that fully experimental conceptual engineering was obviously going to produce bad research or simply implemented in an empirical way parts of the research process that a philosopher could do just as well from the armchair. But, as I've just argued, that isn't the case. Conceptual engineers should be open to using the best available methods, and when it comes to determining the normative constraints that will guide one's project, sometimes the best methods will include deferring to populations whose normative ideas are best accessed using empirical methods.

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