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# Inferentialist conceptual engineering

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**ABSTRACT**

On a representationalist view, conceptual engineering is the practice of changing the extensions and intensions of the devices we use to speak and think. But if this view holds true, conceptual engineering has a bad rationale. Extensions and intensions are not the sorts of things that are better or worse as such. A representationalist account of conceptual engineering thus falls prey to the objection that the practice has a bad rationale. To account for the assumption that conceptual engineering *is* worthwhile, we propose to view what is being engineered as inferential devices, as opposed to representational devices. The objective is not to establish that being or having an inferential role is all there is to meaning or conceptual content. Rather, our agenda is to recommend a shift of focus from the representational features of content to the inferential features of content for the purposes of doing and thinking about conceptual engineering. Inferentialism about conceptual engineering makes better sense of the practice than a representationalist approach: In addition to accounting for the rationality of engaging in conceptual engineering, inferentialism provides a sound interpretation of what is at stake in concrete examples of conceptual engineering.

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## 1. Introduction

To engage in conceptual engineering is to try to make changes to our conceptual repertoire. It occurs within philosophy, e.g. when a philosopher proposes that we use a concept of her design; in politics and law, e.g. when key terms are defined in policy documents and court rulings; in science, e.g. when a researcher operationalizes a concept for the

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purpose of an experiment; and in social movements, such as the body positive movement's effort to broaden our concept of a beautiful body. To illustrate with examples from philosophy, Scharp (2013) argues that the alethic paradoxes show that our concept of truth is inconsistent, and therefore, that we should replace it with concepts of truth that are consistent. Woodward (2003) admits that his account of causation may not capture exactly what we mean by the word 'cause' but argues that his account provides us with useful concepts of causation, and thus good things to mean by the word 'cause'.

One of the central tasks facing theorists of conceptual engineering is to better understand what is being engineered. Theorists of conceptual engineering come to the field armed with different views on language, mind, and practice, and correspondingly different views about what it would be fitting to engineer. Are conceptual engineers proposing new concepts (whatever concepts are, c.f. Isaac 2020), new linguistic meanings (Cappelen 2018), new classification procedures (Nado 2020), new conceptions or beliefs about a subject matter (Sawyer 2020; Machery 2017), or several of the former (Koch 2021a)? One's answer to this question has implications for one's further views about conceptual engineering. If, e.g. one believes that conceptual engineers purport to revise the meaning of natural language expressions, and one endorses externalist views about the foundations of meaning so construed, one might think that conceptual engineers are engaged in a futile project (c.f. Cappelen 2018; Deutsch 2020).

To complicate matters, there are a number of different theories of concepts in philosophy and psychology, a number of different theories of meaning in philosophy and linguistics, and different ways the terms 'concept' and 'meaning' are used (cf., Löhr 2020; Machery 2009). If, for example, you believe that concepts or meanings are so-called *prototypes*, you might think that conceptual engineers are supposed to revise or construct new prototypes, but then the practice is not being carried out appropriately since few if any conceptual engineers proceed by way of designing a prototype; i.e. by specifying *typical* and *cue-valid* features of a category (see Rosch and Mervis 1975).

The plurality of views on concepts and meaning also comes with a danger of miscommunication: A sentence such as 'Conceptual engineering is the practice of constructing and revising concepts.' is susceptible to different interpretations, and this may engender verbal disputes over, say, questions about revision vs. replacement. This all shows a need to establish common ground in the field, or at least mutual understanding (c.f. Cappelen 2018, chap. 12; Isaac 2020; Koch 2021a; Nado 2020). As

Cappelen demurs, 'Many of those who write about conceptual engineering are unclear on the exact nature of the entities being engineered.' (Cappelen 2018, 141).

Some have adopted the term 'representational device' (e.g. Cappelen 2018; Simion 2018; Cappelen and Plunkett 2020), presumably to talk about what is being engineered in a more neutral way. However, as Burgess and Plunkett (2013, 2020) observe, this is not a perfect solution, since there is more to thought and talk than representation (Price 2011; Thomasson 2020a; Löhr 2021). Indeed, there is an important minority tradition in the philosophy of language and mind according to which we should understand concepts primarily in terms of their role in reasoning rather than their role in representation. For inferentialists such as Sellars (1953, 1997) and Brandom (1994, 2000), it is more accurate to think of concepts as inferential devices than as representational devices.

An inferentialist approach to conceptual engineering has not been thoroughly explored in the literature (however, see Thomasson 2021; Löhr 2021). In our view, it should be explored since there are good reasons to view what is being engineered as inferential devices. In this paper, we argue that inferentialism about what is being engineered secures a rationale for engaging in the practice that is lost if we conceive of what is being engineered in austere, representationalist terms. On the assumption that conceptual engineering is worthwhile, this provides support for inferentialism about conceptual engineering. Our objective is not to establish that being or having an inferential role is all there is to meaning or conceptual content. Rather, our agenda is to recommend a shift of focus from the representational features of content to the inferential features of content for the purposes of doing and thinking about conceptual engineering. We start by exploring and developing an objection to conceptual engineering. We argue that the objection exposes a flaw in a representationalist conception of what is being engineered. In section 3, we argue that inferentialism provides an appealing solution. Finally, in section 4, we raise and respond to a possible objection to our argument.

## 2. An objection to conceptual engineering

In a paper reacting to the recent surge of interest in conceptual engineering, Max Deutsch raises a dilemma for conceptual engineers (Deutsch 2020; see Koch 2021b for a reply). According to the argument, conceptual engineers are either engaged in the futile project of trying to stipulate the semantics of terms, or they are engaged in the feasible but somehow

trivial project of trying to change speaker-meaning. In the final section of the paper, Deutsch puts forward an altogether different objection to conceptual engineering. The objection leveled here is not that conceptual engineering is unfeasible or trivial, but rather that the very idea of a conceptual defect (and *inter alia* of a conceptual virtue) is incoherent. If the objection is sound, it does not matter much whether conceptual engineers are able or not to implement the products of their work, nor whether their success at it would count as a trivial accomplishment. Deutsch argues as follows.

> A good way to speak of, and communicate about, knowledge, free action, and women is to use terms that semantically refer to these things, and the terms that semantically refer to these things include 'knowledge', 'free action', and 'woman'. So, the usual rationale for engaging in conceptual engineering is a bad rationale: since our terms are not, in fact, defective, relative to the purpose of using them to speak of their semantic referents, there is no need, and no value, in trying to improve them. (Deutsch 2020, 3955)

We agree that it is not obvious that terms (or what they express) are the sorts of things that can be better or worse. But what is being engineered has to be the sort of thing that is better or worse, should the practice be worthwhile: There would be no point in attempting to revise a concept if there is no useful sense in which the revised state of the concept is an improvement on the unrevised state. Now, Deutsch assumes that the point of having a term is to allow us to speak of its 'semantic referent'. The broader picture is something like this: The world is abundant with objects, properties, and relations. Words are our tools for representing them linguistically. Perhaps our toolbox has room for additions—Deutsch has no argument against introducing new terminology for uncharted phenomena—but conceptual engineers are misguided when they try to change the reference of terms that are already in use. Since our terms already have a reference, they already do what they are supposed to do, which is to represent some selection of objects, events, properties, or relations. If a term already has a reference, it is thereby a non-defective representational device. Conceptual engineering, therefore, has a bad rationale because it is the practice of repairing non-existing defects.

Let us flesh out the objection with the well-defined semantic notions of extension and intension. Herman Cappelen, one of the critical targets for Deutsch's objection, has defended a view of conceptual engineering as the practice of trying to change the extensions of linguistic items via changes in their intension, and also argued that we ought to engage in

the practice so construed (Cappelen 2018, 2020). We argue that extensions and intensions are not the sorts of things that can be better or worse as such. However, the assumption that what is being engineered is *simply* a representational device—that it is *simply* a tool for accessing extensions via an intension—is well worth questioning. Instead of concluding that conceptual engineering is not worthwhile, we may instead fit our view of what is being engineered to the assumption that conceptual engineering is worthwhile. This, in turn, supports our inferentialism about what is being engineered.

### *2.1. Extensions*

Extensions are nothing more than sets of particular objects, events, relations, or property instances that linguistic expressions denote or refer to. The extensions of 'cow', 'electron', and 'marriage' are, respectively, the set of all cows, the set of all electrons, and the set of all marriages. The extension of a term changes when particulars of the relevant kind go in and out of existence. As a preliminary observation, note that the meaning of a term never improves or deteriorates through these kinds of changes: The birth or death of a cow should not alter our evaluation of the meaning of 'cow'.

Since extensions just are sets of particulars, it is dubious that they are the sorts of things that can be better or worse. Take any such set E. It is, firstly, absurd to think that there could be some other set E* that is better at being E than E. The set of *all married couples* is not better at being the set of *all married couples consisting of one man and one woman* than the latter is at being itself. More strongly, there is not a useful sense in which a given set of particulars is good or bad just as such. We may explain why (a range of) same-sex couples ought to count as being married if we assume that being married has some kind of significance, be it practical, theoretical, moral, symbolic, legal etc. Just as a set of particulars, however, there is no reason to prefer the one extension-candidate over the other. If we say 'the number of marriages between one man and one woman has increased', we have not made use of an objectionable concept. If there is anything objectionable about this set, it cannot consist in its being the denotation of an arbitrary linguistic item.

To support this line of thought further, consider what might seem like particularly bad extension candidates. First, consider the null-set. There is nothing wrong with an empty extension in and of itself. Atheists do not, *qua* atheists, have an objection to the concept of god common to several

religions—i.e. the concept of an omniscient, omnipotent, and omnibenevolent creator. Rather, when they engage in arguments over the existence of this being, they necessarily have to make use of a concept that they believe has an empty extension. The *concept* is in good shape, even if belief in the existence of God is, from the atheist perspective, not. Next, consider a set that fails, according to metaphysical realists, to carve out a joint in nature, such as the set of all cows and electrons (Sider 2011, 3). The set itself just is what it is: cows and electrons. The set of cows does not become a bad set if you add electrons to it. Moreover, denoting this set is perfectly acceptable. If you use the complex phrase 'cow or electron' in a sentence, you have not thereby violated a rule of conceptual ethics. It is, of course, fair to object that we do not need a simple term to denote this set, or that the concept of a cow or electron has no utility in (scientific) description, explanation and prediction. But these are not reasons to think that the set itself is somehow bad, never to be denoted by a linguistic expression.

If there is an unexamined way in which extensions are good or bad, it has not been communicated in the literature. In the meantime, we conclude that extensions are not the sorts of things that are good or bad as such.

### 2.2. Intensions

If extensions are not good or bad as such, conceptual engineering has a bad rationale if it is the practice of attempting to change the extensions of linguistic items for the sake of it. However, it is well-established that having a meaning consists in more than having an extension. 'Creature with a heart' and 'creature with a kidney' are co-extensional, but not identical in meaning. Indeed, Cappelen specifies that the changes in extension that are relevant for conceptual engineering are those that are 'driven by changes in intension' (Cappelen 2018, 62). Let us therefore consider whether the addition of intensions can, contrary to Deutsch's objection, secure a rationale for engaging in the practice. For this purpose, let us adopt a standard construal of intensions as functions from possible worlds to extensions.[1]

The output of an intension is an extension. However, as we just argued, extensions are not good or bad as such. It follows that intensions are not

[1]It is not crucial that the circumstance of evaluation is a possible world. With uncontroversial adjustments, the argument applies to alternative conceptions of a circumstance of evaluation.

good or bad in virtue of having a particular output. The remaining possibility is that the function from possible worlds to extensions can itself somehow be good or bad. Now what could this consist in? In the absence of other obvious answers to this question, we have one suggestion: Perhaps the function is defective if it fails to yield a determinate extension for some or all possible worlds. Several philosophers, including Carnap (Carnap 1962, chap. 1; Leitgeb and Carus 2020), have viewed indeterminacy as a conceptual defect, so this is far from an outlandish suggestion.[2] If indeterminacy is a defect, we have something for conceptual engineers to repair.

Before assessing the suggestion, let us first clear up a technical conundrum. In the logical/mathematical sense of 'function' at play in thinking of intensions as functions from possible worlds to extensions, a function is a binary relation that maps each element from one set (each possible world) to exactly one element from another set (an extension, viz. in/at that possible world). Given that intensions are such functions, something is not an intension if it fails to yield an output for some range of inputs. It would then seem impossible for an intension to fail to determine an extension, and the proposal to fix defective intensions would be a contradiction in terms. Now, the concepts of intension and extension were originally devised for artificial languages that are free of indeterminacy (Carnap 1956). To the extent that natural language semantics exhibits vagueness and other kinds of indeterminacy, the notions of extension and intension do not apply as defined. Conversely, insofar as they do apply, they are not defective, and hence not in need of repair. However, we think it would be unfair to dismiss the suggestion on these technical grounds. Instead, we just assume that there is a sense in which an intension can fail to yield a determinate extension.

There remain two major problems for the suggestion that conceptual engineering could consist in repairing indeterminacies in our representational devices. The first problem is the severely limited scope conceptual engineering would have on this proposal. Sure enough, some engineering projects aim, at least in part, to repair indeterminacy. Examples include Carnap's (1962) effort to develop an exact, quantificational concept of inductive confirmation, and the IAU's decision to give a more precise definition of 'planet'. But the suggestion does not provide a rationale for other *prima facie* legitimate projects in conceptual

[2]Note that extensions may also be indeterminate as such. The ensuing discussion also applies to purely extensional indeterminacy.

engineering. Consider the effort to broaden our concept of marriage so as to include same-sex couples, or Sally Haslanger's project of developing concepts of gender to serve as 'effective tools in the fight against injustice' (Haslanger 2000, 36). These projects are not in any useful sense attempts to repair indeterminacies, but we take it that a theory of conceptual engineering should account for them.

The more fundamental problem with the suggestion is that it is implausible to think that indeterminacy is always a defect. Ordinary discourse is full of terms that do not have perfectly exact meanings. Indeterminate terms and phrases pervade most areas of discourse. It is hardly plausible to think that all of them are in need of repair. Consider 'bald', 'working class', 'kitsch', 'accessory', 'minimalist', 'sandwich' and 'harmony'. None of these terms encode an intension that yields a determinate extension, but they are not thereby in need of repair. If this is so, indeterminacy is not always a problem. But then we need something to explain the difference between the cases where it is a problem and the cases where it is not. Arguably, what decides whether indeterminacy is a problem is what we use a term for (or, as we are going to propose, what the downstream consequences of its application are).

As intimated, we cannot see any other way in which it makes sense to discriminate between functions from possible worlds to extensions as good or bad. Our review does not exhaust the space of possibilities, but in the meantime, we conclude that an intension is not the sort of thing that is good or bad as such.

If what is being engineered is simply a representational device—if it is simply a device for accessing extensions via intensions—conceptual engineering has a bad rationale. It is not worthwhile to engineer intensions or extensions for the sake of it. We could, like Deutsch, use this line of thought to object to conceptual engineering. Fortunately, the objection is contingent on an austere, representationalist conception of what is being engineered. Rather than concluding that conceptual engineering is not worthwhile, we may instead fit our view of what is being engineered to the assumption that conceptual engineering is worthwhile. To find out how we should do this, we think it is helpful to consider why we care about whether a concept applies to a particular.

## 3. What makes conceptual engineering worthwhile?

It means something to us, in the common sense of the phrase, whether an action is intentional, whether two events are related as cause and effect,

whether a sentence is true, or whether a state is a democracy. We do not have concepts of intentional action, causation, truth, or democracy simply to parse the world into those particulars that do and those particulars that do not fall under the concept in question. Classifying a state as a democracy or classifying a sentence as true has consequences, both theoretical and practical. The question of whether our concept of truth applies to a given sentence would be rather uninteresting if nothing followed from this. Of course, something *does* follow: From the assumption that a sentence 'p' is *true*, it follows that p. We make inferences in accordance with this schema all the time. But if we pretend that our concept of truth did not play this inferential role (or anything like it), we would not have much reason to care about what is and what is not in its extension. We could then ask, 'So what if the sentence is true?' and we would not have a good answer. Thus, if a word or concept functioned simply as a label for an extension, we would not have reason to care about whether it applies to a given particular. Jonathan Weinberg reasons similarly:

> Our interest in philosophical concepts like PERSON and VOLUNTARY is not just to parse the world in such-and-such a way. Rather, we think that persons should be treated differently than non-persons (only they get rights, perhaps), and voluntary actions should be treated differently than involuntary behaviors (only they are morally evaluable, perhaps). (Weinberg 2006, 32)

In the previous section, we noted that having a meaning consists in more than having an extension—it must at least consist in having an extension and an intension. In addition, we need to suppose that there is more to meaning than having an extension and intension, if meaning is to be an apt object of revision. What seems to be missing is the downstream significance of using a word with a given meaning, i.e. the downstream significance of applying a concept in speech.

Once we assume that concepts have consequences of application, we have reason to care about what it takes for a concept to apply. What it takes for a concept to apply should make the consequences of its application appropriate. To illustrate, the far-right terrorist Anders Behring Breivik was nearly ruled exempt from liability to punishment on the grounds of a proposed diagnosis of paranoid schizophrenia.[3] If being

[3]https://www.nytimes.com/2011/11/30/world/europe/norway-killer-of-77-was-insane-during-rampage-prosecution-says.html (accessed July 18, 2021). The court ordered, and eventually sided with, a second psychiatric evaluation according to which the subject was sane at the time of committing the acts and hence liable to punishment (TOSLO-2011-188627-24, 47-71, accessed July 18, 2021 at https://lovdata.no/static/file/1282/toslo-2011-188627-24-eng.pdf).

classified as a paranoid schizophrenic makes a person exempt from liability to punishment, it is crucial that what it takes to count as paranoid schizophrenic are conditions that make this consequence appropriate. Alternatively, the conditions for counting as liable to punishment could be revised. In either case we see a normative interplay between conditions and consequences of application.

The interplay between conditions and consequences of application is also lucid in the case of our concept of marriage. We have reason to care about who gets to count as married in light of the consequences of being married, especially the rights and duties one acquires as a married couple. It is unjust to preclude same-sex couples from enjoying these rights and duties. If we leave out these consequences, the project of trying to change our concept of marriage begins looking absurd: Proponents of same-sex marriage did not fight for the possibility of same-sex couples being in the extension of an austere representational device. As Dummett writes, 'A naïve view of language regards the assertability-conditions for a statement as exhausting its meaning: the result is to make it impossible to see how meaning can ever be criticized, revised or rejected … ' (Dummett 1973, 455). The view of language Dummett is objecting to is an instance of what Brandom (1994, 121) calls a 'one-sided theory of meaning'; a theory that identifies meaning exclusively with what it takes for a concept to apply, or exclusively with its downstream significance for action and further thought and speech. What is absent in the representationalist view we have reviewed is an appreciation of the downstream significance applying a concept has. However, it seems crucial to take a concept's consequences of application into account when assessing what its conditions of application ought to be.

Inferentialists like Brandom and Sellars identify concepts with inferential roles, which is to treat concepts as things with both circumstances and consequences of application. To better understand exercises in conceptual engineering, and to appreciate their rationale, we propose that we view what is being engineered as the things that inferentialists believe concepts are.[4] In line with our diagnosis in this section, this promises to make better sense of conceptual engineering. Not least, it fits the assumption that conceptual engineering is worthwhile. In the remainder of this

[4]Thomasson (2021) also proposes that we understand what is being engineered in inferentialist (and 'artifactualist') terms, because it makes better sense of various features of conceptual engineering, including that what is being engineered (or targeted for revision) is a functional artifact with norms of use, and because it promises to rationalize projects in conceptual engineering. In essence, what we do in the present paper is develop the latter reason for being inferentialist about conceptual engineering at length.

paper, we first explore inferentialism as a theory of meaning or content, then explain what is to be inferentialist specifically about what is being engineered, and finally we spell out and respond to a possible objection to our proposal.

### *3.1. Semantic inferentialism*

Any time we use language to make claims, the statements we produce are essentially the sort of things for which reasons may be asked, and which may themselves be given as reasons for further statements, beliefs or actions. To illustrate, consider

1) There is a shark in the bay.

This may be given as a reason for any number of beliefs and actions, including

2) There is an animal in the bay.

and

3) You should not go for a swim.

We may also give reasons for producing or endorsing 1), such as

4) I saw a fin moving through the water.

*Any* statement has something for which it is a reason, and *any* statement is something for which reasons may be given. Thus, all statements play the dual role of premises and conclusions in possible arguments. This is a simple, uncontroversial fact, but what to make of this fact is not obvious. Many would view this fact just as the consequence of further facts about the speech act in question, or of the features of arguments and logical connectives, and not itself a deep fact about meaning or content. For inferentialists like Sellars and Brandom, by contrast, having a role in reasoning is what meaning most fundamentally consists of. They identify the content of a statement with *what the statement is the production of a reason for* and *what is a reason for producing or endorsing the statement*. Only propositional contents—the contents we express with declarative sentences—are thereby identified, because only these

contents are admissible as premises or conclusions. However, propositional contents may be decomposed. By substituting one sub-sentential expression for another, we may detect the different contributions the expressions make to the inferential role of the sentences in which they occur. For example, if we substitute 'shark' for 'duck' in 1) we get

5) There is a duck in the bay.

which has a different inferential role than 1), owing to the different contributions that our concepts of a shark and of a duck make to the content of the statements. To be sure, 2) follows from both 1) and 5). But 3) does not follow from 5), and while 4) is a reason for 1), it is not a reason for 5). Thus, while only propositional contents are admissible as premises and conclusions, concepts also have inferential roles, to be identified by the contribution they make to the inferential role of the propositional contents they are components of.[5]

Now, the inferences we have surveyed are formally non-valid. Many would understand these inferences as holding only in virtue of further, tacit premises, paradigmatically conditionals, e.g.:

6) If there is a shark in the bay, then you should not go for a swim.

By contrast, Sellars and Brandom do not see goodness of inference as something that rests on logical form. For them, the notion of a good inference is prior in the order of explanation to the notion of a formally valid inference.[6] This is not to say that logic is superfluous on their view. Instead, they develop an expressive understanding of logic. On this view, logical vocabulary serves to make explicit inferential proprieties that are otherwise implicit in our discursive practice. This expressive

[5]There are at least two ways of understanding the target inferential relations. First, one may be concerned with the inferences we are *disposed* to make. This has us treat concepts as subject to empirical, psychological inquiry, e.g. as described by Machery (2009, 2017). Second, following Sellars and Brandom, one may be concerned with the inferences we are *committed* or *entitled* to make. Our inferentialism about conceptual engineering remains neutral between the former, dispositional construal and the latter, normative construal (however, see Löhr 2021). Attempts to change our conceptual norms and dispositions are closely tied together: A change of norms may engender a change of dispositions and vice-versa. We believe that conceptual engineers in the first instance care (and should care) about the normative relations (c.f. Thomasson 2021), and we think it is fair to assume that dispositional changes follow suit to normative changes, but our argument does not hinge on these assumptions.

[6]This is also why we follow Brandom in using the phrase 'goodness of inference' and not 'validity of inference'. If there are proprieties of inference without (or prior to the introduction of) logical vocabulary, we need to distinguish good and bad inferences without assimilating the former to formally valid inferences, and the latter to non-valid inferences.

function is important. Once we have a practice of claiming and inferring, logical vocabulary allows us to endorse inferences in the form of claims, which in turn allows us to give and ask for reasons to endorse those inferences. We may endorse an inference from p to q by stating 'If p, then q' or endorse an inference from a's being F to a's being G by stating 'If Fa, then Ga'.

If we combine the idea that concepts are inferential roles with an expressivist view of logical vocabulary, it is reasonable to predict that philosophers would try to capture the content of concepts by means of conditional and bi-conditional statements. And of course, this *is* a widespread practice in philosophy. For example,

> (*Knowledge*) A knows that p if and only if p, A believes that p, and A's belief that p is justified.

If the content expressed by 'know' is an inferential role, it makes perfect sense to try to capture it by a bi-conditional claim, as per (*Knowledge*). The claim expresses when we may infer that someone knows something, and what follows from someone's knowing something.[7] If we grasp what it takes for a concept to apply to a particular and what follows from a concept's application, there is nothing more to grasp, according to the inferentialist, to grasp that concept. This way of identifying the content of a concept is at least as suitable for concepts we could have been or ought to be using as it is for concepts in actual use. It is thus a fitting way of identifying or presenting engineered concepts. This was anticipated by Frege in the *Begriffschrift* (Frege [1879] 1972, 103–7; 1979, 12–13). As Brandom writes, 'Employing the explicating logical locutions of which the conditional is the paradigm is to enable what Frege calls 'the scientific formation of concepts.' Such concepts will wear their contents on their sleeves; the inferential proprieties in virtue of which they mean what they mean are written down for all to read.' (Brandom 1994, 109) Indeed, this agrees with how concepts are identified by contemporary conceptual engineers. Both Haslanger (2000, 42) and Woodward (2003, 51), e.g. present the concepts they prescribe by means of bi-conditional statements. In producing such statements, they specify an inferential

[7]This is not to say that it captures *everything* that follows from someone's knowing something, or *everything* from which you may infer that someone knows something. For example, it may follow that we ought to trust what A says about a matter M, if we have found that A knows that p, where p is some proposition that pertains to M. Generally, concepts have consequences of application that exceed what we may capture by the conditions that are necessary for its application. There may be consequences that hold, for example, as a matter of what has been described as typicality effects by prototype theorists, or what follows only in virtue of auxiliary hypotheses/beliefs.

role. As an additional small step in making our case, then, we may note that inferentialism about concepts offers a natural way of understanding core theoretical claims made in prominent exercises in conceptual engineering.

### 3.2. Inferentialism about conceptual engineering

Our purpose in this paper is not to defend inferentialism about concepts or meaning. Nor, in fact, do we assume inferentialism about concepts or meaning. Our object of interest is *what is being engineered* when we engage in conceptual engineering. Whatever concepts happen to be, we believe that inferentialism is the right approach for understanding the object of conceptual engineering. We propose that what is being engineered are the things that inferentialists believe that concepts are, although we do not commit to, and much less do we argue for, the view that concepts are what inferentialists believe that concepts are. In this way, our view is compatible with any number of ideas about what concepts are and how to individuate them, even thoroughly representationalist theories of concepts.[8]

There are many kinds of content we have reason to associate with speech acts, bits of language and thought. We have argued that inferentialists identify a kind of content to associate with sub-sentential expressions—their inferential roles—that fits the bill for what it makes sense to engineer, but this is not to preclude that one may associate other kinds of contents with sub-sentential expressions, nor to preclude that some of the latter are more deserving of the word 'concept'.[9] This pluralist attitude is warranted if we remind ourselves that the concept of a concept is itself apt for engineering. We have no objection to associating intensions and extensions with linguistic expressions. What we have argued for is rather that this kind of content is not one that we have reason to revise. By contrast, the content identified by inferentialists is one we may have good reason to revise.

A conceptual engineer, on our proposal, purports to change a range of inferences we are committed, entitled, or disposed to draw. In the paradigm case, the conceptual engineer will try to change when we are

[8]Accounting for conceptual engineering is arguably a point in favor of a theory of meaning, but we do not intend to defend semantic inferentialism on this basis in the present paper.

[9]Riggs (2019) and Thomasson (2021) support this approach. Riggs argues that it is our job to engineer a sense for 'meaning' that captures what conceptual engineers are trying to revise and construct. Thomasson observes that how we need to conceive of concepts to better understand exercises in conceptual engineering need not be identical to how we need to conceive of concepts for other purposes.

committed or entitled to infer that some particular counts as a woman, a marriage, as knowledge etc, where the consequences of counting as a woman, a marriage, as knowledge etc. are generally kept intact. For instance, proponents of same-sex marriage try (or tried) to change the conditions a couple has to meet in order to qualify as being married, while not altering the consequences of so qualifying, e.g. the rights and duties of marriage. As we have argued, there is a straightforward motivation for this kind of project or conceptual activism that is lacking from other conceptions of what is being engineered: Only in the light of having practical and theoretical consequences does it matter when our concept of marriage applies.

Let us consider a less traditional example, taken from the British version of the Swedish TV show *Real Humans*. Joe, a father of two, has sexual intercourse with the attractive service humanoid robot Anita. All he must do is enable the robot's adult content function. Anita is conscious and happens to be attracted to Joe, but at the time, Joe has no reason to think that Anita is anything but a non-sentient and mildly intelligent machine. Thus, he classifies his action as masturbation with a sex toy rather than as sexual intercourse. Even though Joe is trying to hide the fact he had intercourse with Anita, he does not think he has committed a moral wrong. He tries to hide his action not because he thinks it is unethical but because he feels embarrassed. His emotional response is shame, not guilt. When Joe's action is revealed to the family by the company who made Anita, Joe's wife, Laura, considers his action adultery. Joe is surprised by this classification and argues against it. He says that Anita is just a machine and that acting with a machine or tool is not the same as cheating or adultery, which normally requires a sentient person (again at this point nobody knows that Anita is sentient). Eventually, he loses the battle against his wife and is asked to move out for a while.

The example of Joe is both challenging and complex. It is challenging because it confronts us with a novel situation that our conceptual tools were not shaped to resolve. The example is complex in that it bears upon multiple inferences that are, could be or should be encoded in the concepts we are equipped with to make sense of the situation. Let us focus on whether Joe should count as having cheated on his wife. First, recall that Joe thinks of his act as some form of masturbation. However, does it follow from this that he has not cheated on his wife? If it does follow, it becomes pertinent to address what the application conditions of our concept of masturbation should be in the first place.

Second, bracketing possible inferential connections between our concepts of masturbation and of cheating, it seems clear that classifying Joe's act as cheating has grave consequences. Classifying Joe's act as cheating entitles moral blame. Not least, it gives Laura a reason to leave him. These inferential consequences figure in the background when we consider whether we should classify Joe as having cheated. They do so for good reason: They help decide what it *ought* to take for an act to count as cheating and thus whether Joe's act falls under the concept of cheating we ought to be using. It is possible that our actual concept of cheating applies to Joe's act, but also that his action does not warrant the consequence that Laura is entitled to break up with him. If so, the only appropriate way of resolving the situation is to repair our concept or engineer new ones to use instead.

The example illustrates just how much inferential relations matter. If conceptual engineering is about engineering these relations, it is clearly an important enterprise. The gravity of the consequences makes it matter greatly how we classify the husband's action. We have reason to inquire what it *ought* to take for an act to count as cheating since what it *does* take to count as cheating is given by our actual concept of cheating, and that concept is not necessarily the tool we ought to be using to cope with the situation. We are tasked with figuring out what our concept of cheating should be, and, if not cheating, what concept could capture Joe's act and license appropriate inferential consequences.

## 4. A possible objection

We have argued that inferentialism about what is being engineered makes better sense of projects in conceptual engineering, not least because it secures a rationale for engaging in such projects. The rationale is lost if we think of what is being engineered in austere, representationalist terms. Against our proposal, one might object that our rationale for engaging in conceptual engineering need not derive from properties that are somehow inherent to what is being engineered. Although we have considered marital rights and duties as something that follows from the very application of our concept of marriage, one could think of these consequences as extraneous to the concept; as things we attribute to marriages by adopting certain further beliefs or commitments (e.g. a commitment to the effect that if A and B are married, then A and B may pay tax T as if they were one individual). Thereby, one might resist

the conclusion that what is being engineered needs to have an inferential role.

The objection is naturally paired with the idea that conceptual engineering is normatively constrained by the function a concept serves (see e.g. Haslanger 2000, Brigandt 2010; Nado 2020; Thomasson 2020b). In the case of our concept of *marriage*, the idea would be that, in our practice, the concept performs the function of marking couples as the subject of certain rights and duties, where the rights and duties in question are not necessarily part of what it *means* to be married. Rather than ascribing consequences pertaining to rights and duties to the content of our concept of marriage, they could be ascribed to something we *do* with our concept of marriage. To use a distinction from the philosophy of language, they would be something like pragmatic features, as opposed to semantic properties.[10]

Jennifer Nado's 'Practical Role Account' falls in this category of views. According to Nado, a conceptual engineer is in the business of 'devising a classification procedure that successfully fills an intended practical role.' (Nado 2020, 11) A classification procedure is 'a set of steps or rules which, when followed, determines an intension-candidate' (Nado 2020, 9) and a practical role is just the set of purposes for which people employ the target term. A purpose for applying the term 'marriage' to a couple is to mark the couple as the subject of a range of rights and duties; just what we previously described as an inferential consequence of applying our concept of marriage to a couple.

Our response to this objection is partly concessive. If our argument so far is sound, we might as well conclude with a disjunction: either the thing being engineered is an inferential device by virtue of its content, or it is an inferential device by virtue of the significance we have accorded it in our practice. In itself, this would be an interesting result. If conceptual engineering's having a sound rationale entails that the object of engineering plays an inferential role (by virtue of its content or our practice), then conceptual engineers need to pay heed to the inferential roles played by our concepts (no matter what they are grounded in). No matter their source, it will be crucial for conceptual engineers to consider the consequences of a concept's application. Only in the context of having theoretical and practical consequences does it matter what it takes for the concept to apply, and only in that context do we have good grounds for determining how a

[10]This echoes Haslanger: 'instead we begin by considering more fully the pragmatics of our talk employing the terms in question. What is the point of having these concepts?' (Haslanger 2000, 33)

concept is to be engineered. Once this is accepted, we may further ask, first, what the inferential consequences of a concept's application are, and second, what those consequences hold in virtue of. One's answer to the second question may of course be that some but not all consequences hold in virtue of beliefs, commitments or practices that go beyond the content of the concept, and some but not all consequences hold in virtue of the content of the concept.

How to circumscribe what is part of the content of a concept—as opposed to what pertains to beliefs, theories, commitments, etc. articulated with the concept—is a long-standing theoretical problem. We do not aim to solve it here. What we would like to note is that how we draw this line is tangential to the claim that we need to think of concepts as inferential devices in order to secure a sound rationale for engaging in conceptual engineering. If we conceive of the object of engineering austerely, as something that has an extension and intension, and do not enrich this conception by assuming that what is being engineered is something whose application has theoretical and practical consequences (in virtue of *something*), then our view of conceptual engineering falls prey to the objection that the practice lacks a rationale.

Without attempting to identify exactly what pertains to the content of concepts, there is a positive reason to favor the present proposal over accounts that ascribe consequences of application exclusively to the pragmatics of discourse. The present account makes it clear that inferential consequences need not be treated as fixed or given. They, too, are up for normative assessment and engineering in the light of such assessment. To flesh this out, first, consider the following passage from Nado:

> Further, purposes can be discarded. If an engineer comes to believe that a given purpose is undesirable or at least unneeded, the successor she devises is not obliged to retain it. For instance, racial concepts used to be implicated in pseudo-scientific explanations of variation in intellectual ability; this is clearly a theoretical purpose best rejected. (Nado 2020, 13)

Recall that for Nado, purposes for using a given classification procedure are to play the same normatively constraining role that inferential consequences play in our account. However, as Nado correctly observes, these purposes may themselves be bad or somehow in need of revision. In our account, the revisability of inferential consequences follows naturally from the idea that consequences of application are part of the content of a concept, since conceptual engineers are concerned with revising the content of concepts. If we ascribe all consequences of application

to things we do with a concept (as opposed to its content), we need to give two separate accounts: One of when and how to revise concepts, and another of when and how to revise the purposes/consequences/functions for which we employ concepts. By contrast, the present account promises a cohesive and symmetrical treatment of conditions and consequences of application.

On our account, to revise a concept's consequences of application is to engage in conceptual engineering, just as much as revising its application conditions is to engage in conceptual engineering. After all, one concept's inferential consequences are another concept's inferential antecedents. How to revise a concept depends upon what part of an inferential role one is holding fixed. If we hold fixed that a diagnosis of paranoid schizophrenia makes you exempt from liability to punishment, we need to make sure that the diagnostic criteria make this consequence appropriate. Conversely, if we hold fixed the diagnostic criteria, we need to make sure that there are not any consequences of being classified as paranoid schizophrenic that are inappropriate relative to the diagnostic criteria. Thus, when engaging in conceptual engineering, we need to treat some part of a concept's inferential role as fixed, then assess how we should fill out that role: Paradigmatically, by identifying what its application conditions ought to be in light of consequences we are holding fixed, but potentially also by holding fixed when we may infer that the concept applies and revise the consequences thereof.

## 5. Conclusion

In this paper, we have turned an objection against conceptual engineering into an argument for how we should understand the practice. According to the objection, conceptual engineering is not worthwhile because it does not make sense to assess what is being engineered as better or worse. The objection rested on a representationalist view of what is being engineered, according to which conceptual engineering is the project of changing extensions via changes in intensions. Instead of taking this view on board as an assumption, we instead sought a view of what is being engineered that is consistent with the assumption that conceptual engineering is worthwhile. We have argued that the things that inferentialists believe that concepts are, are the sort of things that it would be worthwhile to engineer. Inferentialism about conceptual engineering captures the fact that only in the context of having significance for further thought, speech and action does it matter what it

takes for a concept to apply. On our proposal, how we should revise or engineer a concept depends on its role in a web of concepts that are tied together by inferences we carry out in our discursive practice. We have shown by example how this view promises to make sense of exercises in conceptual engineering. It turns out that exercises in conceptual engineering make more practical sense if they are construed as exercises of revising or constructing inferential devices.

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