

RECENT WORK

Recent work in the theory of conceptual engineering

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1. Introduction

A philosopher argues that state-sponsored cyberattacks against central military or civilian targets are always acts of war. What is this philosopher doing? According to *conceptual analysts*, the philosopher is making a claim about our *concept* of war. According to *philosophical realists*, the philosopher is making a claim about war per se. In a quickly developing literature, a third option is being explored: the philosopher is *engineering* the concept of war. On this view, the philosopher is making a proposal about which concept we *should* have – even if it deviates from the extant concept, and even if it does not capture ‘what war really is’. The activity or method of proposing such revisionary definitions, as well as the metaphilosophical reflection on it, has become known as *conceptual engineering*.¹

Herman Cappelen’s book *Fixing Language* (2018) played a central role in setting the terms of current debates, bringing fundamental questions to the fore and developing strategies for tackling them. The theory of conceptual engineering he develops in that book, which he calls the *Austerity Framework*, has proven to be highly controversial – and, as a locus of debate, very influential. Indeed, the Austerity Framework, along with Cappelen’s discussion more generally, is the starting point for much subsequent work in the field. Cappelen’s work is the foil against which new theories have been developed and defended.

Cappelen sets the scene by pointing to a range of projects, inside and outside of philosophy, that he thinks of as conceptual engineering projects. These include projects such as Haslangerian ameliorative projects (Haslanger 2012), Carnapian explication (Carnap 1950), revisionary views about moral language (Railton 1989), inconsistency theories of truth (Scharp 2013), the astronomical redefinition of ‘planet’ (I.A.U. 2006), public controversies over, for example, the meaning of ‘marriage’ (Ludlow 2014), and so on. According to Cappelen, a theory of conceptual engineering aims (in part) to draw out what is common to such examples: what the ‘conceptual engineers’ are doing and why and how they are doing it. But a theory of conceptual engineering

1 Sometimes ‘conceptual engineering’ is used in a wider sense, to also include the activities or methods of introducing and eliminating concepts (and the accompanying metaphilosophical reflection). As we focus on revisionary definitions in this review, we have opted for the narrower definition.

may also go beyond concrete examples, laying out the prospects for using conceptual engineering to solve philosophical problems or to enhance social justice, laying out its implications for the nature of thought and language, developing an account of whether and how conceptual engineering *should* proceed, and so on.

Plausibly, then, a theory of conceptual engineering should seek to balance a variety of normative and descriptive considerations. In our terminology, it should provide a *rationalizing description* of conceptual engineering practice. It should give a plausible description of what conceptual engineers are doing, where that description makes rational sense of conceptual engineering practice and serves as a blueprint for how future conceptual engineering projects should be undertaken.

In this review, we aim to structure and systematize the rapidly growing literature on theories of conceptual engineering. We map out some of the emerging trends with respect to two core components of any such theory.²The first component is a theory of *targets*, that is, of *what* conceptual engineers are (or should be) trying to engineer. The second component is a theory of *engineering*, that is, of *how* those targets are (or should be) engineered, of which mechanisms and processes are (or should be) used to carry out conceptual engineering. We begin by introducing the core components of the Austerity Framework, before distinguishing two kinds of objections and sketching a variety of theories that have been subsequently developed. We close with some thoughts about future research.

2. The austerity framework

At face value, you might expect a theory of conceptual engineering to begin with a seeming truism: *conceptual engineering is the engineering of concepts*. According to Cappelen's Austerity Framework, however, conceptual engineering 'isn't about concepts, and there isn't really any engineering' (Cappelen 2018: 4).

2.1. Cappelen's theory of targets

According to Cappelen, conceptual engineering doesn't target concepts. Rather, in the first instance, conceptual engineers are trying to change the *intensions* of expressions, understood as functions from possible worlds to

2 To meet this aim, we have had to make two difficult choices. Firstly, in pursuit of a more comprehensive map, we have omitted our own critical evaluation of the arguments and theories discussed. Secondly, in mapping the 'post-Cappelen' literature, we have put aside some well-known, earlier views. For example, we have not included the view that conceptual engineers target 'inconsistent concepts' (Sharp 2013), nor the view that concepts might have *purposes* or *functions*, or else be *for* something (Haslanger 2012). For a recent defence of the latter, see Simion & Kelp 2020.

extensions (*ibid.*: 61). Cappelen's principal motivation for this view is that, in contrast to individual theories of concepts, intensions and extensions are theoretically austere:

I appeal to non-controversial ingredients that you already have at your disposal, I leave out all the controversial machinery, and I can explain the same phenomena. (*ibid.*: 142)

There is also, according to Cappelen, a more substantive target for conceptual engineering: the world. Cappelen develops this view via the introduction of *topics*:

We can talk about *the same topic*, e.g., knowledge, belief, freedom, or marriage, even though the extension and intension of 'knowledge', 'belief', 'freedom', and 'marriage' change. (*ibid.*: 103)

Cappelen doesn't have an account of topics, but a core idea is that they are more coarse-grained than intensions. Thus, according to the Austerity Framework, it is possible to change the intension of a word without changing the topic. Suppose, for instance, that a philosopher successfully changes the intension of 'war' at time t , so that 'cyberattacks count as acts of war' was false before t but true after t . According to Cappelen, so long as the change is within the 'limits of revision', the philosopher has not thereby changed the topic: she is talking about the same thing when using 'war' as others speaking before t . This allows her to truthfully say things like:

'What a war is has changed.'
'War changed at t '

In this sense, Cappelen claims that conceptual engineering is *worldly*. While it targets intensions in the first instance, conceptual engineering is ultimately about changing the world.

2.2. Cappelen's theory of engineering

How can the intensions of expressions be changed? Cappelen tells us that this is a matter for metasemantics, the study of the facts in virtue of which words and concepts have the meanings or contents they do. Cappelen endorses a mixture of *externalist* metasemantic assumptions that he derives from Putnam (1975); Kripke (1980); Burge (1979) and Williamson (2007). In Cappelen's words:

the external environment that speakers are in partly determines extensions and intensions. The relevant elements of the external environment include experts in the community, the history of use going back to the introduction of a term, complex patterns of use over time, and what the world happens to be like (independently of what the speakers believe the world is like). (Cappelen 2018: 63)

According to Cappelen, one must act upon these kinds of factors to engineer intensions (and thus the world).

However, Cappelen is not optimistic about the engineer's prospects. Firstly, the factors relevant to determining meaning are 'too complex, messy, nonsystematic, amorphous, and unstable for us to fully grasp or understand' (*ibid.*: 72). Secondly, the factors 'are not within our control' (*ibid.*). In other words, according to the Austerity Framework, our control over the intensions of words is limited and consequently, our conceptual engineering ambitions are as well. It is in this sense that, on the Austerity Framework, there 'isn't really any engineering'.

2.3. Summary

Suppose, then, that you are a conceptual engineer, trying to revise the concept of war. According to the Austerity Framework: you are best interpreted as trying to change the intension of 'war'; you are very unlikely to succeed; but, were you to succeed, your efforts would change the nature of war itself.

3. Objections to the austerity framework

We have distinguished two core components of any theory of conceptual engineering: a theory of targets; and a theory of engineering. Accordingly, we will distinguish between two core groups of objections to the Austerity Framework: objections to Cappelen's theory of targets; and objections to Cappelen's theory of engineering. We take them in reverse order.

3.1. Objections to Cappelen's theory of engineering

According to Cappelen, we (philosophers) have almost no control over the meanings of our words. But many supporters of conceptual engineering think that their proposals are implementable. This is a pernicious instance of the so-called *implementation problem*, the objection that conceptual engineers cannot implement their proposals (Deutsch 2020a).³ Driven by this and other concerns, a host of objections have been raised to Cappelen's theory of engineering. Two principal strategies have been taken: argue that Cappelen is endorsing the wrong metasemantic theory; or argue that metasemantics is irrelevant, and so Cappelen shouldn't be appealing to a metasemantic theory *at all*.

Koch (2021a, 2021b) develops one instance of the 'wrong metasemantic theory' strategy. He points to variants of semantic externalism, such as those

3 See Koslow (2022) for an empirically informed investigation of the prospects of conceptual engineering projects; see Schroeter & Schroeter (2020) for an argument that conceptual engineering is not as inscrutable as Cappelen makes it out to be.

of [Evans \(1973\)](#) and [Devitt \(1981\)](#), that are explicitly designed to explain reference change. Koch argues that such variants give groups of people ‘collective long-range control’ over the meanings of words. In effect, to change the meaning of a word from m_1 to m_2 , speakers must collectively (mis)use that word as if it means m_2 until, after some time, the meaning shifts. According to Koch, any plausible metasemantic theory should allow for collective long-range control; and so a theory of conceptual engineering should be built around such a metasemantic theory.

More generally, Riggs objects to Cappelen’s emphasis on semantic externalism. According to Riggs, ‘if semantic externalism of the sort under consideration is true, then conceptual engineers don’t want to change meanings after all’ ([Riggs 2019](#): 4). Riggs imagines a fictionalized Richard Rorty who ‘wants “justified” to stop meaning something like “properly mirroring the world” and to start meaning something like “defensible to one’s peers”’, because ‘this way will lead to more fruitful theorizing’ (*ibid.*: 2). Riggs then imagines that everybody adopts Rorty’s proposal, using ‘justified’ in the proposed way, leading to the envisaged more-fruitful theorizing. Riggs argues that, even if semantic externalism were true and – because of, for example, the structure of reality or the opinions of experts – the meaning of ‘justified’ hadn’t changed, Rorty would rightly be satisfied. Meaning-as-envisaged-by-the-semantic-externalist simply isn’t what conceptual engineers (should) care about. If this is right, then an adequate theory of engineering will not be built around an externalist metasemantic theory.

Versions of the ‘metasemantics is irrelevant’ strategy is developed by [Pinder \(2021\)](#) and [Nado \(2021\)](#). Pinder considers cases of local conceptual engineering, in which one designs and articulates a technical definition for local use. For example, imagine a soccer pundit making this argument:

There’s a certain type of person who loves soccer in a nerdy way. She never plays, but she watches all the matches, knows all the stats, and understands the minutiae of the rules. I call her a *statistician*. My theory is that most soccer referees are statisticians, but that ex-players make better referees than statisticians.

According to Pinder, this local revision of ‘statistician’ counts as an instance of conceptual engineering. And, if the expected audience understands how the term is being used, it is a *successful* instance of conceptual engineering. But this judgement of success is prior to our metasemantic theorizing. That is, we do not need to engage in metasemantic theorizing *at all* to see that the soccer pundit has successfully undertaken local conceptual engineering. According to Pinder, this shows that, at least in local cases, metasemantic theorizing is irrelevant to conceptual engineering.

Nado focuses on a very different kind of case – one concerning social justice.

Suppose that the God of Semantics were to descend from on high and reveal to us that the correct metasemantic theory is such that meaning is wholly determined by factors present at the time of a word's introduction, such that no amount of usage change will ever amount to meaning change. And suppose further that the God of Semantics informs us that, due to the actual facts of its introduction, 'marriage' refers exclusively to partnerships between a man and a woman. Would that matter? I'd suggest it wouldn't, really – we conceptual engineers would continue to attempt to convince others to classify same-sex partnerships together with heterosexual pairings. (Nado 2021: 4)

The point is not supposed to be specific to the case of 'marriage', nor to the specific pronouncement of the 'God of semantics'. The thought is that, *in general*, the kind of projects conceptual engineers actually have in mind simply are not hostage to the metasemantic facts.

If Pinder and Nado are right, then Cappelen's theory of engineering doesn't make rational sense of what conceptual engineers are doing. One should not appeal to a metasemantic theory in a theory of engineering.

3.2. *Objections to Cappelen's theory of targets*

The Austerity Framework identifies intensions as the principal targets of conceptual engineering. Several objections have been raised against this view. The objections have tended to motivate the idea that it is a mistake to leave concepts out of the picture – although the considerations deployed vary dramatically.

One obvious consideration is that there is some kind of tension involved in labelling a phenomenon that doesn't involve concepts 'conceptual engineering'. According to Isaac:

If conceptual engineering is not (to be) about concepts, then [...] the very label of conceptual engineering would contravene another of the very core purposes of conceptual engineers, that is: Creating better representational devices to foster better thinking, talking, and reasoning. It would then confront conceptual engineers with a self-discrediting predicament. (2021a: 2058)

Deeper concerns have been raised about the suitability of Cappelen's theory of targets to do the requisite explanatory work. Machery (2022) argues that what conceptual engineers really care about is to improve our overall performance in cognitive tasks, for example, by avoiding contradictions and by making more reliable inferences. However, there are 'unending controversies' (*ibid.*: 340) about how the intensions of expressions are related to these phenomena. According to Machery, one way or another, Cappelen will ultimately need to draw on the psychological underpinnings of our categorization and inference-making mechanisms. This leads Machery to conclude that Cappelen's theory

of targets is making an unnecessary ‘semantic detour’ (*ibid.*). As a description of conceptual engineering practice, then, Machery concludes that the Austerity Framework could be improved by cutting out the semantic detour.

Sawyer agrees that concepts are needed to do the requisite theoretical work, but points to different theoretical work. According to Sawyer (2020a), the Austerity Framework cannot adequately account for the fact that terms can undergo even radical changes in meaning while continuing to concern the same topic.

Consider, for example, what happened to the word ‘fish’ over the previous centuries: while ‘fish’ perhaps included whales in its extension in the 17th century, it doesn’t now. Nonetheless, it seems that the original topic of fish has been preserved. Even after excluding whales from their extension, we are still talking about the unchanged topic of fish. This stability of topic allows us to describe the exclusion of whales from the concept of fish as a scientific discovery instead of an accidental change in the way we speak. According to Sawyer, this and other examples show that topics and intensions/extensions are ontologically distinct. However, Cappelen’s Austerity Framework is too austere to account for this duality:

In order for topics and extensions to be ontologically independent, there must be two ontologically independent representational relations: one to connect a term to an extension, the other to connect a term to a topic. Only then will it be possible for the topic of a term to remain stable through a radical shift in its extension. (*ibid.*: 560)

Sawyer argues that what connects terms to their respective topic are concepts, and concludes that ‘the phenomenon of conceptual engineering cannot be adequately explained without making reference to concepts’ (*ibid.*: 556).

A different kind of objection is raised by Jorem & Löhr (2022). They effectively argue that Cappelen’s theory of targets fails to make rational sense of conceptual engineering practice. Conceptual engineers rely on the idea that they are *improving* their conceptual or linguistic repertoires in some way. But, according to Jorem and Löhr, there is no sense in which one intension can be better or worse than another. Functions from possible worlds to extensions are simply not evaluable in this way. Whether the word ‘dog’ picks out Chihuahuas or not is, by itself, neither good nor bad. Similarly, whether the word ‘war’ has cyberattacks in its extension or not is, by itself, neither good nor bad. This echoes an objection by Deutsch, who argues that ‘knowledge’, ‘free action’ and ‘woman’ are not semantically defective ‘if their purpose is to allow us to speak of, and communicate about, things like knowledge, free action, and women’ (Deutsch 2020a: 3955). If we cannot make sense of the idea that there can be anything wrong with an intension, then Cappelen’s theory of targets leaves conceptual engineering without a rationale.

So far we have focussed on objections to the view that conceptual engineering targets intensions. Recall, however, that Cappelen also argues

that conceptual engineering ultimately changes the world. There has been less discussion of this aspect of Cappelen's account, perhaps because (anecdotally) supporters of conceptual engineering have had difficulty interpreting Cappelen's arguments. Nonetheless, some concerns have been raised.

Recall that, according to Cappelen, a conceptual engineer who successfully changes the intension of 'war' can truthfully utter sentences like 'What a war is has changed'. In such a case, the *semantic* meaning of the uttered sentence would be *false*, but the conceptual engineer would be using the sentence to utter a *different* (and true) proposition.

In particular, a salient proposition in certain settings will be one where the intension of ['war'] is variable—where, so to speak, what it takes to be [war] at t is different from what it takes to be [war] at t^* and where these differences correspond to the different meanings ['war'] had at t and t^* . (Cappelen 2018: 139)

However, various concerns have been raised about what this salient proposition could be. One could plausibly use 'What a war is has changed' to express a metalinguistic truth, namely, that what 'war' means has changed. But this fails to establish Cappelen's conclusion that conceptual engineering is worldly (Sawyer 2020a: 563). Alternatively, one could use 'What a war is has changed' to express that the *topic* of war has changed. However, without an account of topics, it is very difficult to assess this option. For example, Koch (2019: 254) worries that there is no reason to think that the topic of war has indeed changed – in which case the utterance of 'What a war is has changed' would turn out to be false. And Pinder (2022: 3285-3287) argues that, while Cappelen can in fact make sense of the claim that the topic of war has (qualitatively) changed, there is no reason to think that the worldly effect is of any theoretical interest.

Ball captures the underlying worry succinctly.

One might also wonder whether this phenomenon is really a theoretically significant respect in which [conceptual engineering] changes the world; it seems that all of the interesting change is in the language, even if we can talk about that change without mentioning words. (Ball 2020: 253)

It remains unclear whether Cappelen can maintain that there is an interesting sense in which, on the Austerity Framework, conceptual engineering is worldly (see Podosky 2022 for an alternative account).

4. *Beyond the austerity framework: new theories of conceptual engineering*

In this section, we sketch several views that have been proposed in response to Cappelen's Austerity Framework. In each case, we mention the objections to the Austerity Framework that motivate the view, before sketching the corresponding theory of targets and theory of engineering.

4.1. *The speaker-meaning picture*

Motivation. Metasemantics is irrelevant, especially in local cases of conceptual engineering.

Theory of targets. Pinder (2020, 2021) and Jorem (2021) argue that conceptual engineering can proceed via changes to speaker-meaning, where speaker-meaning is what a speaker intends to convey by an expression on a given occasion, regardless of the expression's literal or semantic meaning.

Theory of engineering. The accompanying theory of engineering is developed, in the first instance, for cases of *local* conceptual engineering such as the 'statistician' case in §3.1. In such cases, the conceptual engineer proceeds by stipulating a (newly designed) technical or theoretical definition for a term and, within the local context, using that term accordingly. As we have significant control over the mechanisms in play here, the speaker-meaning picture makes this kind of local conceptual engineering easy to carry out.

Can this simple mechanism make rational sense of what conceptual engineers are doing in more interesting cases? Jorem is not particularly optimistic, appealing to more substantive linguistic mechanisms in more interesting cases. Pinder, in contrast, suggests that most of the cases discussed in the literature can be carried out within the speaker-meaning picture. Effectively, Pinder argues such cases are charitably interpreted as *local* conceptual engineering projects. He argues that Haslanger's project to ameliorate gender concepts (Pinder 2022) and Scharp's project to replace the concept of truth (Pinder 2019), when charitably interpreted, proceed via the local introduction of theoretical terminology.⁴ If (as Pinder claims) this is simply a case of making speaker-meaning explicit, then both projects can be charitably interpreted through the lens of the speaker-meaning picture. If Pinder's interpretations are fair, this provides initial motivation for thinking that his theory of engineering generalizes more widely. (See Deutsch 2020b and Pinder 2020 for an extended discussion of the speaker-meaning picture.)

4.2. *Psychological concepts*

Motivation. Conceptual engineering should be about concepts. What matters to conceptual engineers is our performance in cognitive tasks.

Theory of targets. According to Machery (2017, 2022), Isaac (2021a, 2021b) and Pollock (2021), conceptual engineers should target the psychological objects that figure in higher cognitive tasks such as categorization, deduction, induction, action-planning, analogy-making, and linguistic understanding (Isaac 2021b: 296). Machery and Isaac appeal to what many psychologists consider to be concepts, that is, certain bodies of information (prototypes, exemplars or theories) that are retrieved by default; Pollock

4 In Pinder (2020, 2021), Pinder offered a more global interpretation of Haslanger's project, but that interpretation has now been superseded.

appeals to conceptual role theory. For example, on this kind of view, we might interpret the ‘war’ example as attempting to directly change people’s body of default-retrievable beliefs or inferential patterns associated with ‘war’, affecting how people categorize and reason. According to Machery, this yields a more direct and less controversial theory of conceptual engineering:

[I]t is worth emphasizing the crucial advantage of a non-semantic approach: the conceptual engineer proposes to modify the conceptual role of a concept without having to worry whether this conceptual role is constitutive of the meaning of the concept. Unending controversies about what constitutes the meaning of a concept are entirely bypassed, and we can focus on what matters: avoiding contradictions, inferring reliably, etc. (Machery 2022: 340)

Theory of engineering. If we understand concepts in this way, then there are two principled ways of engineering concepts. The first is to add or remove some of the default-retrievable information, or some of the inferences, encoded by our concepts, to remove falsehoods, invalidities and inconsistencies, or to accommodate new data. The second is to change which parts of our overall beliefs are retrieved by *default*, that is, in an automatic, particularly speedy and context-independent fashion. Thus, a certain belief can be upgraded to default status, or degraded to non-default status. (On Pollock’s view, this isn’t strictly a conceptual engineering process. See her discussion of stereotypes (2021: 11598f).) Both of these are instances of a ‘mind-refurbishing process that aims to ameliorate the efficacy of concepts as cognitive devices’ (Isaac 2021b: 297).

4.3. Engineering new kinds to serve as targets

Motivation. Semantic externalism is the wrong metasemantics, and/or metasemantics is irrelevant.

Theory of targets. Perhaps conceptual engineers can engineer a new kind of thing to serve as targets. For example, Riggs suggests that conceptual engineers ‘engineer a new sense of “meaning” that isn’t externalist and doesn’t make conceptual engineering impossible’ (Riggs 2019: 13).

Nado (2021) develops the idea further, engineering a new kind of entity to serve as the target of conceptual engineering:

Classification procedures, as I’ll define them, are essentially ‘recipes’ for sorting entities – for determining whether a given entity is in or out of the category picked out by the classification procedure. Like recipes, classification procedures are abstract, and may be utilized (often more or less imperfectly) by multiple individuals. (*ibid.*: 2)

According to Nado, classification procedures are associated with words and concepts. When a classification procedure is associated with a word

or concept, we ‘use’ that classification procedure to guide our use of that word or concept (regardless of what the word means and regardless of the concept’s content). Sometimes that ‘use’ might be automatic (when we see a bird and do *not* classify it as a dinosaur), whereas sometimes that ‘use’ might be intentional (when we see a bird and *do* classify it as a dinosaur).

Theory of engineering. For Nado, classification procedures are abstract objects. So we ‘engineer’ a classification procedure by carefully describing it. And we ‘implement’ a conceptual engineering proposal by associating it with a word or concept and – although Nado is not concerned with this aspect of the proposal – encouraging others to do the same.

Notice here that Nado’s account offers a kind of flexibility: it effectively allows us to choose (on a case-by-case basis) between the speaker-meaning picture and a psychological concepts view. This is because, when we associate a classification procedure with a word or concept, the association can be *intentional* or *automatic*. On the first disjunct, one implements a proposal simply by intentionally using a word (or concept) in accordance with a specific classification procedure – which, in practice, is what is proposed by the speaker-meaning picture. On the second disjunct, one implements a proposal by changing the cognitive mechanisms that underpin our (automatic) classification processes – which, in practice, is what is proposed by the psychological concepts view. If you believe that both the speaker-meaning picture and the psychological concepts view are getting at something important, then you may well see this flexibility as an advantage.

4.4. *Dual representation accounts*

Motivation. Two levels of content are required to do the requisite explanatory work.

Theory of targets. Sawyer (2020b) and Koch (2021c) argue that conceptual engineering should be understood as targeting two levels of content. One level of content fixes what we refer to on some occasion; and the other level of content encodes our linguistic or cognitive behaviour more generally. Sawyer sees these contents as belonging to different entities (concepts and meanings respectively), whereas Koch sees them as both belonging to concepts. Regardless, the distinction brings various theoretical benefits. Firstly, if the reference-fixing content remains stable when we adjust the behaviour-encoding content, we can give a clear motivation to the idea that a meaning/concept has been engineered without changing the subject. Secondly, by distinguishing reference from behaviour, we can keep two important motivations for conceptual engineering clearly in view: changing the truth values of sentences, and changing people’s linguistic and conceptual behaviour.

Theory of engineering. On this kind of view, the conceptual engineer proceeds either by changing the referential content of a concept, or changing people’s (linguistic/conceptual) behaviour. On Sawyer’s view, most conceptual engineering will be of the latter variety; Koch is more optimistic that both levels

of content can be engineered. On both views, changes in people's linguistic or conceptual behaviour are brought about by changing their (occurrent and non-occurrent) beliefs. Engineering this type of content amounts to updating one's world knowledge in light of new, or previously unfamiliar, evidence. Here, familiar methods from developmental psychology and the education sciences are likely to play a role, as well as science in general. Koch offers an account of how to engineer referential content, building on the metasemantic theory developed by [Evans \(1973\)](#). On this view, one engineers referential content by introducing new causal sources into the network of mental states that dispose us to apply a term or concept. If the *dominant* causal source changes, reference change occurs (see [Deutsch 2021](#) for critical discussion).

4.5. Entitlements and social norms

Motivation. Fixing representational devices (and their intensions) is not what conceptual engineers ultimately care about.

Theory of targets. In contrast to all the above accounts, several authors have recently pushed for a more pragmatist picture. They argue that representations are not the ultimate target for conceptual engineers and should not be treated as such. [Löhr \(2021\)](#) and [Thomasson \(2021\)](#), for example, have argued that what conceptual engineers really aim to change are entitlements to apply concepts and entitlements to draw conclusions from such applications. From this perspective, the philosopher who claims to be engineering the concept of war is better understood as wanting to change our entitlements to apply and react to the word 'war'. She claims that we are entitled to apply the word 'war' to states in which two countries engage in state-sponsored cyberattacks against each other. On this view, another person would not be entitled to criticize her for applying the word to such states.

Theory of engineering. Several tools for changing entitlements and commitments have been proposed. The most direct way of implementing such changes is by changing social norms ([Nimtz 2021](#), [Löhr 2021](#), [Thomasson 2021](#)). According to a prominent account of social norms by [Bicchieri \(2016\)](#), changing norms usually involves changing the expectations and beliefs of individuals and groups. However, Thomasson and other non-representationalists still insist that it would be a mistake to think that these representational states are the target of the conceptual engineer. On Löhr's account, changing entitlements and commitments in concrete joint action might be achieved by (for example) changing the shared goal of the group from which many entitlements derive.

5. Conclusion and future directions

The question of what, exactly, conceptual engineers are (and should be) doing is hotly debated. Here, we have sketched several options. According to Cappelen, conceptual engineering is best understood as proposing and trying to revise a word's intension, where success (however, unlikely) would have direct worldly consequences. Other authors disagree, appealing to, for example, speaker

meanings, psychologically construed concepts, conceptions, classification procedures, dual contents, commitments and social norms, and so on.

Where do we go from here? There seem to be two general options. It might be that one of the proposals reviewed in this paper is correct whereas the others are not. In that case, however, we are not currently in the position to say which one it is. Alternatively, it might be that conceptual engineering is not a single unified phenomenon. Instead, perhaps ‘conceptual engineering’ is an umbrella term for a plethora of subtly different activities (and metaphilosophical reflection thereof), each of which to be accounted for by a different theory of targets and engineering (cf. [Isaac et al. 2022](#)). On this view, the options we have reviewed in this article are not mutually exclusive, but may instead complement each other in interesting ways.

Even following this pluralist route, however, several questions remain. What types of conceptual engineering are there? What kind of project is associated with each type of conceptual engineering? Is it the goals of a project, the nature of the underlying domain, or something else, that determines what type of conceptual engineering is appropriate on a given occasion? Are there any residual conflicts between theories of conceptual engineering? Even on a pluralistic picture, it might turn out that some of the proposals reviewed in this article are in fact conflicting theories of a single type of conceptual engineering. Adopting pluralism does not free us from carefully assessing and comparing different theories of conceptual engineering. Pluralism about conceptual engineering does not come cheap: it is a substantial view of a complicated subject matter that has yet to be explored and defended. We leave this to future research.

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References

- Ball, D. 2020. Fixing Language: an essay on conceptual engineering (review). *Mind* 129:245–56.
- Bicchieri, C. 2016. *Norms in the Wild: How to Diagnose, Measure, and Change Social Norms*. Oxford: Oxford University Press.
- Burge, T. 1979. Individualism and the mental. *Midwest Studies in Philosophy* 4:73–121.
- Cappelen, H. 2018. *Fixing Language: An Essay on Conceptual Engineering*. Oxford: Oxford University Press.
- Carnap, R. 1950. *Logical Foundations of Probability*. Chicago, IL: University of Chicago Press.
- Deutsch, M. 2020a. Speaker's reference, stipulation, and a dilemma for conceptual engineers. *Philosophical Studies* 177: 3935–57, doi: [10.1007/s11098-020-01416-z](https://doi.org/10.1007/s11098-020-01416-z)
- Deutsch, M. 2020b. Trivializing conceptual engineering. *Inquiry*, doi: [10.1080/0020174X.2020.1853343](https://doi.org/10.1080/0020174X.2020.1853343)
- Deutsch, M. 2021. Still the same dilemma for conceptual engineers: reply to Koch. *Philosophical Studies* 178: 3659–70, doi: [10.1007/s11098-021-01619-y](https://doi.org/10.1007/s11098-021-01619-y)
- Devitt, M. 1981. *Designation*. New York: Columbia University Press.
- Evans, G. and J.E.J. Altham. 1973. The causal theory of names. *Aristotelian Society* 47: 187–225, doi: [10.1093/aristoteliansupp/47.1.187](https://doi.org/10.1093/aristoteliansupp/47.1.187)
- Haslanger, S. 2012. *Resisting Reality: Social Construction and Social Critique*. Oxford: Oxford University Press.
- International Astronomical Union. 2006. Resolution B5: definition of a planet in the solar system. Retrieved November 11, 2022, from https://www.iau.org/static/resolutions/Resolution_GA26-5-6.pdf
- Isaac, M.G. 2021a. What should conceptual engineering be all about? *Philosophia* 49: 2053–2065, doi: [10.1007/s11406-021-00367-x](https://doi.org/10.1007/s11406-021-00367-x)
- Isaac, M.G. 2021b. Broad-spectrum conceptual engineering. *Ratio* 34: 286–302, doi: [10.1111/rati.12311](https://doi.org/10.1111/rati.12311)
- Isaac, M.G., S. Koch and R. Neftci. 2022. Conceptual engineering: a roadmap to practice. *Philosophy Compass* 17(10), e12879, doi: [10.1111/phc3.12879](https://doi.org/10.1111/phc3.12879)
- Jorem, S. 2021. Conceptual engineering and the implementation problem. *Inquiry* 64: 186–211, doi: [10.1080/0020174X.2020.1809514](https://doi.org/10.1080/0020174X.2020.1809514)
- Jorem, S. and Löhr, G. 2022. Inferentialist conceptual engineering. *Inquiry*, doi: [10.1080/0020174X.2022.2062045](https://doi.org/10.1080/0020174X.2022.2062045)
- Koch, S. 2019. Cappelen, H. 2018. Fixing Language. An essay in conceptual engineering (review). *History of Philosophy and Logical Analysis* 22: 248–56.
- Koch, S. 2021a. The externalist challenge to conceptual engineering. *Synthese* 198: 327–48, doi: [10.1007/s11229-018-02007-6](https://doi.org/10.1007/s11229-018-02007-6)
- Koch, S. 2021b. There is no dilemma for conceptual engineering: reply to Max Deutsch. *Philosophical Studies* 178: 2279–91, doi: [10.1007/s11098-020-01546-4](https://doi.org/10.1007/s11098-020-01546-4)
- Koch, S. 2021c. Engineering what? On concepts in conceptual engineering. *Synthese* 199: 1955–75, doi: [10.1007/s11229-020-02868-w](https://doi.org/10.1007/s11229-020-02868-w)
- Koslow, A. 2022. Meaning change and changing meaning. *Synthese* 200(94), 1–26, doi: [10.1007/s11229-022-03563-8](https://doi.org/10.1007/s11229-022-03563-8)
- Kripke, S.A. 1980. *Naming and Necessity*. Oxford: Basil Blackwell Ltd.
- Löhr, G. 2021. Commitment engineering: conceptual engineering without representations. *Synthese* 199: 13035–52, doi: [10.1007/s11229-021-03365-4](https://doi.org/10.1007/s11229-021-03365-4).
- Ludlow, P. 2014. *Living Words: Meaning Underdetermination and the Dynamic Lexicon*. Oxford: Oxford University Press.
- Machery, É. 2017. *Philosophy Within its Proper Bounds*. Oxford: Oxford University Press.

- Machery, E. 2022. Responses to herman cappelen and jennifer nado. *Philosophical Studies* 179: 329–42.
- Nado, J. 2021. Classification procedures as the targets of conceptual engineering. *Philosophy and Phenomenological Research*, doi: [10.1111/phpr.12843](https://doi.org/10.1111/phpr.12843)
- Nimtz, C. 2021. Engineering concepts by engineering social norms: solving the implementation challenge. *Inquiry*, doi: [10.1080/0020174X.2021.1956368](https://doi.org/10.1080/0020174X.2021.1956368)
- Pinder, M. 2019. Scharp on inconsistent concepts and their replacements, or: can we mend these broken things? *Inquiry*, doi: [10.1080/0020174X.2019.1688181](https://doi.org/10.1080/0020174X.2019.1688181)
- Pinder, M. 2020. Conceptual engineering, speaker-meaning and philosophy. *Inquiry*, doi: [10.1080/0020174X.2020.1853342](https://doi.org/10.1080/0020174X.2020.1853342)
- Pinder, M. 2021. Conceptual engineering, metasemantic externalism and speaker-meaning. *Mind* 130: 141–63, doi: [10.1093/mind/fzz069](https://doi.org/10.1093/mind/fzz069)
- Pinder, M. 2022. Is Haslanger’s ameliorative project a successful conceptual engineering project? *Synthese* 200: 1–22, doi: [10.1007/s11229-022-03803-x](https://doi.org/10.1007/s11229-022-03803-x)
- Podosky, P.-M.C. 2022. Can conceptual engineering actually promote social justice? *Synthese*, doi: [10.1007/s11229-022-03469-5](https://doi.org/10.1007/s11229-022-03469-5)
- Pollock, J. 2021. Content internalism and conceptual engineering. *Synthese* 198: 11587–605, doi: [10.1007/s11229-020-02815-9](https://doi.org/10.1007/s11229-020-02815-9)
- Putnam, H. 1975. The meaning of ‘Meaning’. In *Philosophical Paper Vol. 2. Mind, language and reality*, eds. H. Putnam, 215–71. Cambridge: Cambridge University Press.
- Railton, P. 1989. Naturalism and prescriptivity. *Social Philosophy and Policy* 7: 151–74, doi: [10.1017/s0265052500001060](https://doi.org/10.1017/s0265052500001060)
- Riggs, J. 2019. Conceptual engineers shouldn’t worry about semantic externalism. *Inquiry*, doi: [10.1080/0020174X.2019.1675534](https://doi.org/10.1080/0020174X.2019.1675534)
- Sawyer, S. 2020a. The role of concepts in Fixing Language. *Canadian Journal of Philosophy* 50: 555–65. doi: [10.1017/can.2020.5](https://doi.org/10.1017/can.2020.5)
- Sawyer, S. 2020b. Talk and thought. In *Conceptual Engineering and Conceptual Ethics*, eds. A. Burgess, H. Cappelen and D. Plunkett, 379–95. Oxford: Oxford University Press.
- Scharp, K. 2013. *Replacing Truth*. Oxford: Oxford University Press.
- Schroeter, L. and F. Schroeter. 2020. Inscrutability and its discontents. *Canadian Journal of Philosophy* 50: 566–79, doi: [10.1017/can.2020.4](https://doi.org/10.1017/can.2020.4)
- Simion, M. and C. Kelp. 2020. Conceptual innovation, function first. *Noûs* 54: 985–1002.
- Thomasson, A.L. 2021. Conceptual engineering. When do we need it? How can we do it? *Inquiry*, doi: [10.1080/0020174X.2021.2000118](https://doi.org/10.1080/0020174X.2021.2000118)
- Williamson, T. 2007. *The Philosophy of Philosophy*. Oxford: Blackwell.