**‘Are mental disorders brain disorders?’ is a question of conceptual choice.**

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Abstract. This contribution focuses on what type of question 'Are mental disorders brain disorders?' is and what task Anneli Jefferson performs in her book with the same title (Jefferson, 2022). I distinguish between conceptual engineering and conceptual choice, the former involving the individuation of an adequate concept for a specific goal, and the latter involving the normative problem of whether we should employ the concept at hand. I contend that Anneli Jefferson’s book is a work of conceptual engineering, which is valuable in and of itself, but that this is insufficient to answer an equally essential version of the question, ‘Are mental disorders brain disorders?’, namely, whether we should adopt the newly engineered concept or not, considering a broader range of goals for mental health research and practice.

Keywords: mental disorders, psychiatry, mental health, neuroscience, concepts, conceptual engineering, conceptual analysis, metaphilosophy

1. **Introduction**

There are many things we do not know about the conditions we call mental disorders, and many on which we need more research, good data, and quality experimental studies; perhaps, with better and less scarce evidence, some of the fiery debates that exist today within the psychiatric and psychological community (with philosophers, affected people, and caregivers partially involved) will eventually be quelled by consensus. Apart from this optimistic assessment, some questions will not be settled with more evidence and more experiments, because they concern how best to think about or classify such conditions and can admit different answers even granted the same, and a sufficient amount of, evidence. Let us call them conceptual questions. The obvious example of a conceptual question in psychiatry is: how should we define mental disorders? Are they harmful conditions, some kind of dysfunction, or both? Another conceptual question is whether or not the concept of a mental condition itself should be maintained; Lisa Bortolotti recently argued against this (Bortolotti, 2020). These investigations logically precede the scientific study of the conditions we refer to as mental disorders.

In her book, Anneli Jefferson delves into precisely one of these crucial conceptual questions in psychiatry: what does it mean that mental disorders are disorders of the brain, and what does this conceptualization entail? As we read in the precis of the book, she offers a philosophical account of what it would require for a mental disorder to be a brain disorder, or what stating that mental disorders are brain disorders can logically amount to (Jefferson, 2023). Once this question is settled, we can then investigate, on an empirical basis, whether the conditions listed in current nosologies are disorders of the brain, or in what way a certain condition or symptom is a disorder of the brain. And, as Jefferson notes, we can avoid apparent and fruitless disagreements, in which those for and those against the hypothesis that mental disorders are disorders of the brain mean different things by 'disorders of the brain'. This question is precisely conceptual, and – to repeat - it is this that Anneli Jefferson addresses in the book. She answers that for a mental disorder to be a brain disorder requires involving some brain dysfunction, and brain dysfunction need not – and frequently cannot – be recognized as such unless it manifests psychological dysfunction.

Two other closely related conceptual theses discussed in the book (chapters 4 and 5) are that there is no justified link between having a brain disorder and stigmatisation, and that there is no justified route from "this person has a brain disorder" to "this person is not an agent" or "this person is not responsible." Again, these are conceptual claims, as Jefferson is more interested in the normative question - are stigmatising attitudes towards people with brain dysfunctions justified?, and is it possible to maintain agency and responsibility if we adopt the brain disorder concept? - than the empirical question of whether such stigmatising and agent-undermining attitudes exist or not, towards people with diagnoses of mental disorders or brain dysfunctions, which is debated, but sadly mostly accepted as true.

As anticipated, I will not take issue with any of the details of Anneli Jefferson’s answer to any of these conceptual questions. I will also take for granted that the concept of brain disorder proposed in the book is, as she claims, empirically adequate to the evidence we have on the mind-brain relationship, on the causes of mental disorders, which are not only organic but multifactorial, and also to the evidence we do not have, i.e. we are not able to correlate every psychological difference with a difference at the level of the brain; in short, that her proposal is empirically adequate to the approach taken by the RdoC (Research Domain Criteria) experts (Cuthbert, 2022) (Jefferson, 2022) (see eg. p.28). The issue I want to address is that, of the various conceptual questions surrounding mental disorders as brain disorders, Anneli Jefferson's book only addresses the one I just described: what is the concept of mental disorder as a brain disorder that is both theoretically sound and most appropriate to the goal of accounting for scientific evidence on mind-brain relationships? However, the question remains if this is the best concept when additional goals, such as classification, diagnosis, discriminating between disorders and non-disorders, or empowerment of individuals, are considered, and a ranking of these objectives is taken into account. To make my point more precise, I'll use the terms “conceptual engineering” and “conceptual choice”. This necessitates a diversion into the contemporary debate in metaphilosophy.

1. **Conceptual engineering**

A relatively recent trend in metaphilosophy – the study of philosophical method, or of the nature of philosophy – is that philosophers should engage in conceptual engineering, defined as the process of assessing and improving our concepts, motivated by the fact that, sometimes, they must be ameliorated to attain certain beneficial consequences, which may be social, theoretical, political, or otherwise (Isaac et al., 2022). To the objection that philosophers have always dealt with this, the answer is that conceptual engineering is different from conceptual analysis. Conceptual analysis is found in the Socratic dialogues and most modern and contemporary discussions on the good, the beautiful, virtue, justice, happiness, knowledge, justification, and so on. In traditional conceptual analysis, one looks for the definition of the concept safe from counterexamples, i.e. the one set of necessary and sufficient conditions that all things to which the concept applies must meet. Conceptual analysis fails when the proponent's opponent finds a counterexample, i.e. something that lacks the indicated characteristics but to which the concept intuitively applies, or something that has the indicated characteristics but is intuitively outside the scope of the concept – provided that the proponent and the opponent share the intuitions behind these judgements. For example, if the proposed analysis is that happiness is fulfilling desires, but the proponent and the opponent agree that the condition of one who has fulfilled a harmful desire that leads him to suffer is not happiness, then the proposed analysis fails. In other words, philosophical analysis is descriptive and can be falsified by a counterexample. In contrast, conceptual engineering is prescriptive and normative: it proposes a different concept that should be used because it is better than the one already in use with respect to a goal, and there is no sense in which proposals and norms can be falsified (Schwartz, 2014).

Schematically, a conceptual engineering intervention works like this. One starts with a goal, evaluates existing concepts of a certain phenomenon against that goal and, if found to be adequate, proposes a new concept that must then be implemented in practice. Even more schematically: needs analysis, engineering and implementation are the phases. Stepping out of the corporativist metaphor for a moment, this was down to what the neo-positivist philosopher Rudolf Carnap was doing when he proposed replacing certain existing scientific concepts, such as temperature, with others that were more precise, measurable and unambiguous; here the goal was scientific accuracy and for Carnap, the method was called ‘explication’ (Dutil-Novaes, 2020). In other cases, the goal can be removing a specific theoretical obstacle, for example devising a concept of truth that is not vulnerable to metasemantic paradoxes (Scharp, 2013). Goals in conceptual engineering can also be and often are ethical and political. Sally Haslanger's concept of woman is among the most well-known examples. Haslanger contends that the traditional biological concept of woman is inadequate for achieving social justice and eradicating discrimination against women. Therefore, she suggests that the definition of woman be changed to a person systematically subordinated based on perceived or imagined female bodily features (Haslanger, 2000).

As said above, conceptual engineering is not vulnerable to the same objections as conceptual analysis. It does, however, have other problems. First of all, it must be ensured that the new concept is not a radical change of subject matter, i.e. that its extension is at least partially overlapping with that of the concept already in use; and that it is not empty. Then, that the new concept does not have epistemically or ethically harmful consequences, as in the dystopia of George Orwell's novel 1984, in which the dictator deletes terms of language that could damage his claim to power, or changes them for his own interests (Marques, 2020). Further problems include legitimacy (under what conditions is it legitimate to propose a new concept, and where does the authority of conceptual engineers come from?), subject matter (what exactly can be changed with conceptual engineering, e.g. the meanings of words, what people have in mind, or none of these?), and implementation (How can a new engineered concept be put into practice in place of the old ones? (Jorem, 2021) (Koch, 2021) (Thomasson, 2021). Moreover, there is no consensus on the definition of a goal or function of a concept and on how to assess the adequacy of a concept with respect to a goal (Cappelen, 2018). These problems are now being discussed in the specialist debate (Isaac & Koch, 2022). However, in order to get to the connection with Anneli Jefferson's work, I cannot get into these intriguing questions here. Let us take a quick look at whether and how conceptual engineering is employed in the field of mental disorder research.

In the philosophy of medicine and psychiatry of anglophone tradition, philosophers initially engaged in classical conceptual analysis, seeking definitions or, on the other hand, devising counterexamples to the proposed definitions of disease, mental disorder, or health. Arguably, this is true of Christopher Boorse, Lennar Nordenfelt, Jerome Wakefield, and some of their first critics. As the definition-counterexample game failed to produce progress for many years, some authors concluded that philosophy of medicine and psychiatry should give up worrying about general concepts at all (Lemoine, 2013) (Sholl, 2020). This, however, also means abandoning the idea that different concepts correspond to different research, care, and treatment policies, which is one of the reasons that led and continues to lead the discussion towards the philosophical investigation on health, disease and disorder. Between the stalemate of the debate and the option to address other issues, conceptual engineering offers a solution, that is, to move from the descriptive to the prescriptive and normative levels and to propose better concepts in line with particular goals. The prescriptive turn, or the substitution of conceptual engineering for conceptual analysis in the philosophy of medicine and psychiatry, is now increasingly recognized and endorsed (Kingma, 2019). It has also been proposed that medical research contains examples of conceptual engineering, that is, cases in which the research community proposes concept ameliorations with specific goals in view. For example, some experts have proposed that defining obesity as a disease would serve the goal of de-stigmatising this condition and targeting research resources, but there is heated debate about this among the metabolic disease experts themselves (Jastreboff et al., 2019). Applying conceptual engineering to mental health research and medicine may be easier than applying it to ordinary speech concepts, at least in regards to the problems of subject matter and implementation mentioned above. Indeed, in research, concepts are frequently expressed by clear definitions or characterizations, operationalized, and often related with measuring scales, and there is open discussion among experts on all these elements, which sometimes results in the suggestion of revised definitions. Medical concepts are implemented through scientific distribution techniques as well as guidelines, classification volumes, and other documents with prescriptive value in an expert community (Lalumera, forthcoming). Psychiatry itself offers one of the clearest examples of conceptual engineering in the scientific community. When Robert Spitzer and the group of experts in charge of DSM-III nomenclature changed the concept of mental disorder by defining it as a dysfunctional but also harmful condition, their goals were to account for the available evidence at the time, to counter the antipsychiatric movement's attacks with a demarcation criterion for pathologies, but also to respect social justice and support the claims of homosexual people who wanted their condition to be recognised as non-pathological. The new, engineered concept was regarded to be the most adequate at the time to accomplish all of these ambitious goals. (Spitzer, 1981) (Zachar & Kendler, 2012).

 **3. Conceptual choice**

I now present the idea of conceptual choice, which does not exist in these terms in contemporary conceptual engineering debates, but I believe it is latent in some recent discussions on conceptual goals (Simion & Kelp, 2020). Let us return to the corporatist metaphor used previously for conceptual engineering. Following the analysis of needs and the design of an appropriate artefact to meet those needs, as well as its implementation proof, the cycle includes a stage featuring a question, or series of questions: is the new product worth the effort? Is that a crucial need, or are there others that are more serious, urgent, and important to a larger population? Even if what has been built fulfils its goal well, it could be that that goal is not one of our primary concerns. Going back to concepts, conceptual choice is then the appraisal of concepts considering the relative importance of the goals they may serve and the possibility of conflict, or ranking, of such goals. We therefore move from the question: what is the appropriate concept for this purpose? to the question: what is the most important purpose in this domain and therefore what is the concept we must choose? As I said, there is debate on exactly how to define the goal of a concept and I cannot go into those details here. At least in part, it will suffice to say that in cases where a concept is explicitly defined by a community, such as a group of scientists - see the case of Spitzer already mentioned, or that of the obesity experts – the goal of the concept is the explicit reason the group states when proposing it, or their “concern” - the latter term is found in (Queloz, 2022). Conceptual goals can include scientific representation of a phenomenon or kind, induction, classification, discrimination, expression of a feeling, empowerment of a group, stigmatization and de-stigmatization, and combinations of these.

Why is the conceptual choice step required after conceptual engineering? Let's use Sally Haslanger's example. I believe we can easily be persuaded that the new concept she proposes - person systematically subordinated based on perceived or imagined female bodily features - is not empty in its extension, and that it significantly overlaps with the extension of the ordinary concept of women most people use; it is empirically plausible that people we classify as women are also women in Sally Haslanger's sense. In terms of unintended consequences of implementing the new concept, Haslanger contends that if feasible, her new concept would have the impact of promoting social justice and combating gender discrimination. So, we may claim that her concept of woman is adequate: true of and not damaging to the category of women. But examine some additional alternative conceptual goals. Is it the best criterion we might use for assessing who it is to be a woman? In this case, intuitions are less evident. For example, it has been claimed that Haslanger's idea of woman is not a good criterion for being a woman since it excludes trans people who do not have observed or imagined feminine body traits, and so is not sufficiently inclusive (Jenkins, 2016). . Similarly, someone might object that, even if it is true that women are systematically subordinated based on perceived or imagined female bodily features, and even if her concept is adequate for the goal of enhancing social justice, other goals for the concept of woman exist and should be assessed alongside the social justice goal, such as the goal of serving public health needs and epidemiological research, to which Haslanger's new concept would be unsuitable. Here, my aim is not to delve into the heated debate on what is a woman, but just to exemplify how questions of conceptual adequacy and conceptual choice can be distinguished. In other words, the reasons for agreeing (or disagreeing) with Haslanger that her new concept is the best for promoting social justice towards the people we now call women, are not the same reasons we need for choosing or not choosing that concept, as goals enter this further level of decision. Which is the best goal for a concept of women? Is public health more valuable than social justice in the context of our choice, or the other way round? Should we have different concepts in different contexts and discourses, in alternative?

I think it is at least briefly necessary to address here an intuitive objection that the very idea of conceptual choice may receive from the realist camp of philosophy. It may be argued that the preceding example is not representative of all concepts and especially not of scientific ones, because being a woman is a social construct rather than an empirical category, such as brain disorder or mental disorder. The criticism would be that there is nothing to choose when it comes to empirical concepts because reality makes the choice for us; conceptual choice is required only when dealing with social constructions.

Hopefully, my second example will show that the objection is misguided. It comes from medical nosology, and it involves the concept of diabetes. In the WHO definitional guidelines issued in 2019 we read that “it is now generally agreed that the underlying characteristic common to all forms of diabetes is the dysfunction or destruction of pancreatic β-cells” (World Health Organization, 2019). Let us consider the question of whether diabetes is a dysfunction or destruction of pancreatic β-cells in the four readings we distinguished above. The question “Is diabetes a dysfunction of pancreatic β-cells” has an affirmative answer in our 1st and 2nd sense above, the empirical sense. Also, the same document tells us that there is evidence that the β–cell-centric concept of diabetes would help optimize diabetes research and precision treatment – that is, if the goal is to advance research and precision therapy, the concept is good for this goal, and the adequacy condition is met. Let us go one level up, to the third reading of our question: the criterion question. Is being a dysfunction of pancreatic β-cells a good criterion for diabetes? Here, the given answer is no. The WHO guidelines report that the Expert group decided that dysfunction of pancreatic β-cells is not the best criterion for diabetes, and diabetes is better not be classified as a dysfunction of pancreatic β-cells (our question 4). They maintained clinical criteria for diabetes (such as hyperglycemia), and diabetes is still classified as a metabolic disease. The reason for this conceptual choice has to do with the goals they value most for a concept (or a classification) of diabetes. They preferred a concept of diabetes that would be internationally applicable, using easy and readily available clinical parameters and resources; reliable and equitable, and feasible to implement. The problem with the concept of diabetes as pancreatic β-cells dysfunction, they argue, is that it requires diagnostic tests that are either not standardized or not routinely available in most clinical settings, thereby failing the above-preferred goals. In other words, here again, we have a newly proposed concept - diabetes as pancreatic β-cells dysfunction – that is clear and adequate for its goal, but the reasons for adequacy of the concept were deemed not sufficient for the conceptual choice question: the clinical concept was preferred based on an evaluation of goals. Notice that even if diabetes is arguably less a social construct than woman, reality did not “make the choice” for the WHO experts, as for the objection considered above, because it is both true and real that all forms of diabetes are pancreatic β-cells dysfunctions, and that they have a certain clinical presentation.

Before concluding this argument, consider this: since diabetes is recognised to be a dysfunction of the pancreatic beta cells (let's say: it is true of diabetes), isn't it just wrong for the WHO experts to adopt another concept? Diabetes must be classified and identified based on what it is rather than what it appears to be. Although this concern is understandable from a purely semantic standpoint, it is important to recall that concepts based on recognition are common in scientific and daily categorisation. Chemical analysis is not part of our everyday concept of water. Even though water is the substance made up of two hydrogen molecules and one oxygen molecule, the chemical criterion would lead us to identify unsweetened tea, coffee, and much of what is in puddles as water. There may be multiple concepts of the same substance or phenomenon, which need to be picked depending on use and context. If those with realist intuitions prefer (the concept is what uniquely determines the extension), another terminology can be used: there are several conceptions of diabetes, water, and most likely, mental disorder, but only one corresponds to the concept (fixes the extension), the others may be useful in specific contexts. The above distinction allows us to argue that, while acknowledging that the concept of diabetes is defined in terms of the dysfunction of pancreatic cells, WHO chose the conception of diabetes that is best appropriate for recognition and classification. The issue of conceptual choice changes to an issue of choice of conceptions, yet the issue still exists. Elisabetta Lalumera, among others, developed the distinction between concepts and conceptions with this role (Lalumera, 2014) (Lalumera, forthcoming).

**4. ‘Are mental disorders brain disorders?’ and conceptual choice**

In her book, Anneli Jefferson engages in a task of conceptual engineering, proposing a concept of brain disorder which is empirically adequate and theoretically sound. What she does not engage in are conceptual choice questions implicit in ‘Are mental disorders brain disorders?’. Here are two examples of such questions: Is it a good demarcating criterion for being a mental disorder, that something is a brain disorder, defined as she defined it? Here, the goal in view is to provide a decision procedure (discrimination) for including or excluding certain conditions from the nosology of the mental, e.g. for deciding whether or not orthorexia should be considered a mental disorder or not. Second, are mental disorders better classified as brain disorders? Here, the goal in view is to establish a systematic classification, or to assess the prospect of RdoC as a classification matrix. To understand that the principles of classification may be different from those of discrimination, let us think of birds: we can classify them according to geography, e.g. European or Asian, but geography does not help us to determine whether an animal is a bird or not.

As mentioned, Jefferson defends the new concept against objections of fostering stigmatisation and loss of agentivity. She is concerned that her conceptual engineering endeavour results in genuine conceptual amelioration and not in a conceptual perversion: she considers that “in principle, one can have a perfectly theoretically sound category of classification which still has undesirable effects on people’s self-perception or the way others see them” (Jefferson, 2022) (p.75). Is this part of her work already a work of conceptual choice, i.e. does she give us reasons for choosing the brain disorder concept of mental disorder, after proving that it is adequate with respect to the scientific objective? I don't think so, and here's why. Jefferson argues that the newly engineered brain disorder concept does not justify stigmatization and loss of agency - and I am much in agreement with that - but she also admits that it is still true (or there is some evidence for concluding that) it is be perceived as stigmatizing and implying loss of agency. I believe this is is not sufficient to show that the concept is the best we could have to counteract stigmatisation or to reinforce agentivity. In choosing among concepts of mental disorder, why should unjustified unwanted consequences of the concepts be less relevant than justified unwanted consequences? This, I feel, is insufficient to demonstrate that the concept is the best we might have to combat stigma or promote agentivity. Why should unjustified unwanted consequences of concepts be less relevant than justified unwanted consequences when choosing between concepts of mental disorder? Consider this: we all agree that the concept of race has stigmatising effects that are unjustified on both epistemic and moral grounds. Still, it is true that people drive stigmatising results from applications of the concept of race, and this piece of evidence, combined with biological evidence for the claim that the concept is empty or at best vague when applied to humans, may contribute to the decision not to choose (or eliminate) the concept of race. In this case, evidence that the concept has unjustifiable negative consequences is accepted as a reason against accepting or employing the concept. The general message is that, in order for a concept to be conceptually adequate to a goal, what people typically do with the concept can be as relevant as what they should do. The word "can" indicates that, in some circumstances, one may have very specific, individualistic goals for a concept or simply purely theoretical goals for which there is no possibility of unfavourable social repercussions (silly example: No one can possibly suffer harm from a distinction between odd and even in the domain of numbers; arithmetical concepts are, so to speak, quite insulated). However, I suppose that concept insulation is not common, and it doesn't seem to be the case for concepts related to medicine and mental health. To be clear, I am not asserting that it makes no difference whether a concept's negative or moralising effects are justified or not. Instead, I believe it to be of the greatest importance in and of itself, both for the understanding of concepts and with a view to disproving stigmatising processes. However, the engineering level (concept's negative effects can be handled), the factual level (concept's negative effects do exist), and the normative level (concept's negative effects are not warranted) are all relevant.

**5. Concluding remarks on conceptual choice in mental health**

In her work, Anneli Jefferson persuasively makes the case that we can characterise mental health conditions and advance research on mental disorders in collaboration with neuroscientists by adopting an unambiguous and adequate concept of brain disorder. She also contends that the concept of brain disorder does not entitle stigmatisation and abdication of responsibility for those who suffer from mental health issues. The point that that I've put forward in this note is that, at least sometimes those who wish to know or argue about whether mental health issues are brain disorders are interested in the criterion question and the categorization question. Is it better to limit mental disorders to those that are linked to or brought on by brain disorders (which frequently derive their dysfunctional status from the psychological dysfunction), as the RdoC project seeks to do? And is it preferable to categorise people's mental health issues as brain disorders, both as tokens and as different types? Should we choose a categorization that is easier to use and share but less epistemically rigorous, based on clinical criteria, such in the diabetes case in the WHO classification outlined above? To address these conceptual choice questions, providing a clear concept of brain disorder that fits the case of paradigmatic mental disorders, arguing that it isn't proven to be harmful, and even assuming that the mental disorders listed in current nosologies are all brain disorders is only the first part of the project.

What exactly would the project's second part include? Actually, I don't have an answer; all I have is some suggestions. Conceptual choice generally entails taking conceptual goals into account. Concepts (or, more accurately, proposals for new concepts, or conceptions, if one prefers the less common terminology suggested above) may have representational goals, like being true of brain disorders or true of diabetes, but they can also have ethical and social goals, like boosting research and empowering a particular group. If more than one concept is aimed at the same goal, the problem of choosing should be centred on evaluating each concept's adequacy for the same goal. But ultimately, a hierarchy of goals is required. The question would then be: Which of the conceptions that are adequate for their own goals fit the bill for the goal that we value the most?

There may be significant competing objectives in the very broad field of mental health, such as advancing research, enhancing the efficacy of interventions, improving the quality of care, expanding access to care, empowering groups of people with mental health issues, and combating stigmatisation. Additionally, it should go without saying that various institutions and groups—such as researchers, healthcare providers, members of society at large, patients, and activists for mental health—can arrive at varying rankings of objectives. If this is the case, who is in charge of selecting among suitable concepts of mental disorder? Thus, the issue of conceptual choice includes a problem of legitimation. Consequently, in a broad sense, the conceptual choice question ‘Are mental disorders brain disorders?’ becomes political. What are the costs and benefits, for scientists, physicians, society, patients, and activists, for any newly engineered concept? For instance, even if Anneli Jefferson makes a strong case that the concept of brain disorder is not stigmatising *de iure* some groups may still feel that it is stigmatizing *de facto*, which raises the costs of adopting that concept.

The conceptual choice project will also have a methodological component. Can there be multiple conceptual options for various groups with various goals—a form of pluralism—as an alternative to the one-choice only model? Although pluralism would respect everyone's unique values, it would complicate efforts to coordinate society, health care, and science. Or, should we instead strive for consensus, which may be attained by having all relevant parties work together to redefine the terms associated with mental health conditions, as in participatory scientific models? These are undoubtedly big questions that significantly stray beyond the focus of this commentary. However, I believe that, in addition to Anneli Jefferson's valuable conceptual engineering work, this zooming out can be useful for indicating how much work remains to be done for philosophers interested in explaining and possibly heating down present debates on mental health issues.

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