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ORIGINAL RESEARCH

'Mind' and 'mental': extended, pluralistic, eliminated

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Abstract
The terms 'mind' and 'mental' are used to refer to different phenomena across and within at least philosophy, psychology, psychiatry, and cognitive science. My main aim in this paper is to argue that the terms 'mind' and 'mental' are in this way 'pluralistic', and to explore the different options for responding to this situation. I advocate for a form of pluralistic eliminativism about the terms 'mind' and 'mental', 'mind concept eliminativism,' because I believe that current use of the terms results in both public and scientific confusions that hamper progress on important issues and increase stigma around certain vulnerable groups.

Keywords Extended mind · Pluralism · Eliminativism · Mind concept eliminativism · Mark of the mental

1 Introduction

If the mind is the system that underlies and gives rise to mental capacities, then it 'extends' beyond the skin– such is the core claim of the extended mind thesis. Over the years, many arguments have been offered in support of this thesis, and many have been offered against. Various versions of the thesis exist, tied to different ways of drawing the boundaries of the material system they identify as the mind. My suggestion is that the extended mind thesis, its different iterations, and the objections to it are best understood in the context of recognizing that 'mind' and 'mental' are pluralistic terms, used to refer to different phenomena and to pick out different categories across and within at least philosophy, psychology, psychiatry, and cognitive science.

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The terms 'mind' and 'mental' play different and ostensibly incompatible roles in different theories and areas of inquiry. In these different areas of use, they demand different definitions, support different models, theories, and generalizations. They are, in this sense, currently 'pluralistic', and therefore candidates for conceptual pluralism and eliminativism of the sort discussed by, among others, Bursten (2018); Chang (2017); Haueis (2018, 2021a, 2021b); Neto (2020); Ruphy (2010, 2017); Ruthenberg and Mets (2020); Slater (2009); Taylor and Vickers (2017); Wilson, 2006, and Gough (2022b).

Conceptual pluralism about a term accepts the state of affairs described, perhaps on the basis of its communicative and cognitive benefits, its precedents in natural language with phenomena such as polysemy (Haueis, 2021b), and its role in encouraging interdisciplinary and intertheoretic integration (Neto, 2020). Eliminativism about a term contends that this state of affairs is overall detrimental, and that the relevant term ought to be abandoned– because it encourages pointless definitional debates and intrascientific conflations and confusions (eg, Ereshefsky, 1992; Taylor & Vickers, 2017), or because it encourages harmful misconceptions and conflations among nonscientists such as policymakers and the public (Gough, 2021, 2022b).

My main aim in this paper is to argue that the terms 'mind' and 'mental' are in fact pluralistic, and to explore the different options for responding to this situation. I believe that eliminativism is the best option. I advocate for a form of pluralistic eliminativism, or 'eliminative pluralism' (Ereshefsky, 1992), about the terms 'mind' and 'mental', that I call 'mind concept eliminativism.'

Mind concept eliminativism takes aim at the way the terms 'mind' and 'mental' are used to link capacities and phenomena together under one umbrella, and the role that these terms thereby play in structuring thought and inquiry. I believe that current use of the terms results in both public and scientific confusions that hamper progress on important issues and increase stigma around certain vulnerable groups. While I believe there are distinct, equally legitimate uses of the terms 'mind' and 'mental' to pick out different phenomena, connotations of different uses are carried over between different areas of use, and the different phenomena picked out are frequently conflated. I am also concerned to motivate mind concept eliminativism because I believe that *refuting* mind concept eliminativism would be a huge step forward: to do so would require identifying why and where the terms are most beneficial and what solutions are best for the problems in their current use. Such a refutation might also serve to clarify the state of the debate over the extended mind thesis, if indeed it is forthcoming.

2 'Mind' and 'mental' as pluralistic

The use of the terms 'mind' and 'mental' in psychology and cognitive science bears the hallmarks of pluralistic scientific terminology. I argue that human beings comprise many distinct well-integrated control systems performing different tasks and operating at different time-scales– some of which are the material systems identified by the extended mind proposals. Each of these is an imperfect candidate for identification with the mind, with none winning out over the others. Living, embodied,

situated human beings are a big messy bundle of complex systems, many of which are a little like the prototypical image of the mind, none of which is perfectly like it.

Many pluralistic scientific terms vary in their precise referent depending on differences in the spatial and temporal scale of interest to the scientific work in question (eg, Bursten, 2018; Haueis, 2021b; Ruphy, 2017; Wilson, 2006). When it comes to mental processes and the material systems that implement them, exactly this feature appears to be present. Relevant variations in temporal scale range from sociocultural processes, to developmental processes, to the span of individual human memory, to split-second decision-making processes (see especially Kent, Van Doorn et al., 2022; Singhal & Srinivasan, 2021; Wallace, 2012).

There is also variation in the size of the material systems that are involved in implementing different mental processes. This variation has some interesting relations to the time-scale on which the relevant process operates. For example, bodily signalling systems such as the endocrine system are more often involved in processes that themselves operate over longer time-scales (see especially Sapolsky, 2017; for the idea that the body is involved in the implementation of mental processes, see especially Ciaunica et al., 2023; Varela et al., 2016).

Time-scale is not the only dimension of variation that affects the material system individuated as being responsible for a given capacity or process. Methodological and explanatory considerations regarding the goals and interests of the relevant scientists are frequently also relevant. For example, (eg, Clark, 2008; Clark & Chalmers, 1998) argues that material components outside the skin may serve as the vehicles of mental representations, and therefore count as part of the mind where the mind is seen as 'extended' beyond the skin. Among the most interesting objections to this view, as I see it, turn on how amenable such external components are to the precise methodology of experimental psychology and fine-grained timing base studies (Rupert, 2004), and whether it is possible for cognitive science to exist as a coherent discipline while studying such a wide-ranging set of material components (Adams & Aizawa, 2010). What such objections suggest is that how the boundaries of 'the mind' are drawn depends at least in part on pragmatic factors, such as maintaining the disciplinary coherence of cognitive science, and the methodology used.

From the other direction, Kirchhoff and Kiverstein (2019) suggest that the original 'extended mind' proposal does not go far enough, since it does not make room for sociocultural, interactive, and developmental processes that in their view create and sustain us as cognitive individuals, and which they think should therefore be a part of the material system identified as part of the mind, the *explanans* for mental processes and capacities. As I see it, this debate over the spatial 'boundaries' of the mind provides more evidence for the pluralistic nature of control systems, cognitive systems, and processes of human beings than it does for any particular proposal being the correct one (see also Müller, 2012, 2018 for a rather more blunt argument). This is perhaps unsurprising– if 'the mind' is supposed to be the mechanism that underlies mental capacities, many accounts of how the boundaries of mechanisms are and ought to be drawn would predict that there would be multiple equally good candidates, with different candidates tied to different explanatory interests, practical goals, and precise characterizations of the explananda phenomena (eg, Bechtel, 2015; Kaiser, 2017; Kauffman, 1971; Wimsatt, 1972, 2007).

Even without considering the widespread environmental and social facilitation of cognitive processes (eg, Clark, 2003; cf. Turner, 2000), much recent research paints a picture of human beings as containing many overlapping 'control systems' involved in coordinating and regulating the inner and outer activity and milieu of a living human being. Some such research explores plausible links between epigenetic mechanisms and certain kinds of intergenerational trauma (Kellermann, 2013; Youssef et al., 2018), between the immune system and processes related to mood and social motivation (Eisenberger et al., 2010a, 2010b; Eisenberger et al., 2010a, 2010b), and between the heart, autonomic nervous system, and cognitive functions including attentional and emotional regulation (Forte, Favieri, & Casagrande, 2019). Intelligent behaviour, personality, thought, and feeling all appear to be generated by a variety of processes operating on different time-scales, and these processes are frequently implemented by different parts of the overall human being in fairly systematic ways.

These systems and processes seem to form a *heterarchy* of overlapping, mutually-regulating, and diversely-interacting control systems (Bechtel & Bich, 2021), importantly distinct, jointly responsible for the capacities and processes attributed to the 'mind', as well as jointly and often individually responsible for much more besides. The total sum of these control systems would have to include everything from the production of cells in the bone marrow partly responsible for social-motivational changes (eg, Levy et al., 2019; Motsan et al., 2021; Pariante, 2019; Priest, 2021; Slavich et al., 2020; Ulmer-Yaniv et al., 2018; see also McEwen & Wingfield, 2003) to the heartbeat and its role in the regulation and implementation of anxiety and threat-responses (eg, Azevedo et al., 2017; Critchley & Garfinkel, 2017; Owens et al., 2018)– the sum total of all these control systems is more-or-less the whole human being, and more-or-less responsible for all its vital capacities and processes (see also Wilkes, 1992b).

None of the systems that are candidates for being 'the mind' is the *best* candidate, although all have their virtues. None aligns particularly better than the others with major prescientific concepts of mind (cf, eg, Descartes, 1984; Kenny, 1989; Ryle, 1949). Every candidate material system 'large' enough to be responsible for *all* mental functions is not remotely plausibly responsible for *only* mental functions. For example, even if we were to grant that the nervous system, brain, or cerebrum were responsible for *all* mental activity, they would still nevertheless *also* be responsible for, eg, the regulation of body temperature. This is unsurprising in light of the fact that the nervous system evolved at least as much for inward-looking processes of internal coordination and metabolism as it did for more outward-looking processes with a more prototypically 'mental' and behavioural flavour (Godfrey-Smith, 2016).[1]

The terms 'mind' and 'mental' therefore, have multiple similarly plausible referents within cognitive science and psychology. They could refer to any number of a huge range of systems and processes, each of which fulfils some mental functions

[1] One option might be to claim that whatever system performs *all* 'mental' functions is the best candidate for identification with the mind. This would require biting the bullet on the entailment that the mind is more multifunctional than previously recognized, and perhaps therefore counting things like the regulation of body temperature and coordination of immune responses as 'mental' capacities. This option, suggested to me by Andy Clark, is clearly revisionary with respect to current use of the terms, and I believe falls to my argument against revision offered in §4.4.

(often alongside some others), or to various combinations of these systems and processes, with no 'goldilocks' system which implements just the right set of systems and processes. Additionally, there are multiple, equally legitimate ways of demarcating the boundaries of the material system, within the body or without, depending on precisely one's methodological and theoretical concerns in studying 'the mind' in the first place. The terms therefore appear to be clear-cut instances of pluralistic terms.[2] I am not (yet) arguing that this is a problem– there are many perfectly good pluralistic terms in use in science and medicine.

One reviewer objects that the apparent diversity and plurality are merely a consequence of functionalism, at least on some construals: if mental state terms are defined in relation to a *role* that can be realized in multiple different ways, it furnishes us with an explanation of why mental state terms pick out multiple *realizing* systems and processes (cf, eg, Lewis, 1972; Putnam, 1967). What these different realizing systems have in common is the role that they play, guaranteeing that these systems have an interesting property in common, which can be the basis of some sorts of explanation and generalization: *that they play such-and-such a role*.

This objection misunderstands what I am claiming here. A key part of my argument is that there are many different functionalism-friendly way of identifying a material system that underlies the mind. Indeed, I take this to be one of the few points of consensus of the extended mind debate. One functionalism-friendly view, that no-one appears to hold, is that anything that at any time plays a role associated with a mental state term is thereby part of your mind for that time. In addition to the 'cognitive equivalence conditions' which speak to the functional criteria, Clark endorses two criteria known as 'trust and glue' (Clark, 2010, p.46; for discussion see Aizawa, 2018). Rupert (2019) endorses a way of drawing the bounds of a cognitive system by considering the conditional probability of any two proposed parts jointly contributing to cognitive processes. There are also approaches drawing on Markov blankets (Kirchhoff & Kiverstein, 2019) and general accounts of mechanisms and their boundaries (Smart, 2022). Importantly, while all functionalism-friendly, these accounts end up identifying different systems, different systems *that are functionally-characterized from the outset*. Additionally, these different systems support different methodologies and approaches, in ways that are extremely important to the nature and boundaries of cognitive science and psychology (Adams & Aizawa, 2010; Rupert, 2004).

3 An objection: the mark of the mental and the mind–body problem

Different people have different approaches to trying to work out what the mind and the mental are. Rather than looking for a some scientifically-attested system or process that can be identified with the mind (as in the approaches discussed above),

[2] One might worry that the phenomenon of vagueness means that counting 'mind' and 'mental' as pluralistic relies on holding the terms to too high a standard: that this is just an instance of 'the problem of the many' (Lewis, 1993). This is not so. The problem of the many is the problem that what we typically take as *one* system at a *relevant* degree of granularity transpires to be *many* systems at a *higher-than-relevant* degree of granularity (*ibid.*). Conversely, my point is that there is a plurality *at the relevant degree of granularity*, because there are important and relevant differences between these systems.

many look for a philosophical characterization of what unifies different mental phenomena.[3] For example, many of those who discuss the mark of the mental take themselves to be defending monisitic positions on the nature of the mind and the mental. The mark of the mental, the feature that is supposed to justify or explain our classification of phenomena as mental and nonmental, is hotly-disputed in recent philosophy (eg, Tartaglia, 2008). One might therefore object to the preceding argument as follows: the argument of §2 shows not that 'mind' and 'mental' are pluralistic, but that they are not primarily to be understood as referring to scientifically-attested systems (cf. Sellars, 1962). Proposals for the mark of the mental are also a major source of objections to the extended mind proposal (Adams & Aizawa, 2001, 2008, 2010; Aizawa & Adams, 2005).[4]

Proposals for the mark of the mental include: intentionality (aboutness or world-directedness, eg, Crane, 1998, 2007; but see Nes, 2008; Tartaglia, 2008); consciousness (Searle, 1983, 1992; but see Tartaglia, 2008)[5]; incorrigibility (Rorty, 1970; although this is supposed only to unify mental *events*, not states); and introspectibility (Tartaglia, 2008; but see Rorty, 1970; Schwitzgebel, 2012); one might also consider immunity to error through misidentification (but see Morgan, 2019; Morgan & Salje, 2019). Each of these proposals identifies an interesting and important category of philosophical interest; each faces serious objections; none stands out above the others as the best supported.

There is another important role that the mark of the mental is supposed to play: constraining the target explanandum associated with the 'mind–body problem.' Discussion of the mind–body problem is perhaps the most famous area of explicit discussion of the mind and its nature in philosophy. Crane (1999, p.546) suggests that solving the mind–body problem means explaining how mental phenomena are related to bodily phenomena. As Crane clarifies, questions probing the relation between two classes of thing do not alone constitute philosophical problems: for there to be a philosophical problem 'there has to be something… that makes the relation between them seem problematic' (p. 547) in the first place.

Many features have been proposed as the source of the difficulty. Kim (2001) suggests a modest two: mental causation and consciousness. Mental causation, the (ostensible) power of mental phenomena to cause things, is problematic only given further assumptions, including that the mental is nonphysical, and that the physical is causally closed. The problem of mental causation can be distinguished from the 'interaction problem' of how two utterly distinct kinds of substance can interact,

[3] There are many other possible approaches. I lack space to consider most of these in depth. Two relatively obvious ones, ultimately unpromising for those in search of a monistic analysis of the terms, are as follows: one might look for folk consensus about which systems are recognized as 'having minds' and which phenomena are recognized as 'mental', but such consensus is unlikely to be forthcoming (see especially Clark, 2010); alternately, one might look to ordinary-language use of the terms, but the many idioms and expressions in which the terms feature do not appear to point to any coherent underlying concept (see especially Squires, 1970).

[4] For partial scepticism of the utility of the notion of a 'mark' of the mental, see Allen, 2017; Facchin, 2023; Gough, 2022c, 2023b.

[5] It is also difficult to see how this proposal could survive increasingly popular extreme positions such as Russellian panpsychism (Chalmers, 2013; Goff, 2017), eliminativism (Irvine, 2012; Irvine & Sprevak, 2020; Sytsma & Ozdemir, 2019), and illusionism (Frankish, 2016, 2018, 2021).

perhaps the oldest of the 'mind–body problems', identified by critics of Descartes, most famously Elisabeth, Princess of Bohemia (Westphal, 2016). Where the interaction problem is posed as a problem specifically for the interaction of the mental and the physical, of mind and body, Kim's mental causation problem applies also and in many formulations primarily to 'intralevel' causation, between mental phenomena (eg, a belief that it will rain giving rise to a desire for an umbrella).

Kim's modest list of two is unusually sparse. Pernu (2017) suggests five features as sources of the mind–body problem: intentionality (aboutness, or world-directedness), consciousness, free will, teleology (purposiveness, or end-directedness), and normativity (see also Hornsby, 2001; cf. Sachs, 2022; Seibt, 2016). Feigl (1958) suggests eight: subjectivity (which he equates with privacy), nonspatiality, qualitativeness, purposiveness, mnemicity, holism, emergence, and intentionality. Rorty (1979) endorses Feigl's list, and adds to it eight more features: incorrigible self-knowledge, 'ability to exist separately from the body', 'ability to grasp universals', 'ability to sustain relations to the inexistent', 'ability to use language', 'ability to act freely', 'ability to form part of our social group', and 'inability to be identified with any object "in the world"' (p.35). This brings us to 20 features, and 20 philosophical problems. Of course, not all of these 'marks' are equally significant today. Some of the 'marks' on Rorty's list would not be accepted by materialists (eg, 'ability to exist separately from the body'). Some, such as the ability to sustain relations to the inexistent, arguably follow from others (plausibly intentionality, in this case). However, at least intentionality, consciousness, normativity, subjectivity, freedom, and incorrigibility remain significant to this day, and cannot obviously be equated or subsumed into one another.

Rather than supporting monism about 'mind' and 'mental', I take both the diversity of plausible but imperfect proposals for the mark of the mental, and the diversity of features proposed as giving rise to a mind–body problem, as further evidence that the terms 'mind' and 'mental' are pluralistic, partially referring to multiple distinct, overlapping, and closely-related phenomena (see Field, 1973), but not singling out any particular one.[6] There simply seems no obvious reason to believe that one of the many interesting features or phenomena offered for identification with the mind or the mental should 'win out' over the others. Instead, I think it is better to view the different proposals and analyses on offer as delineating different strands of use of the terms 'mind' and 'mental', understood in a pluralistic manner. At this stage, it is important to note, I am *not* (yet) trying to suggest that the pluralistic nature of the terms in philosophy is in any way illegitimate: it might be that the reason that there is one term highlighting all these different phenomena is because they are so very similar, or so very closely related, and simply not worth distinguishing in most contexts.

[6] Wilkes (1992b) lays the blame for this at the feet of Descartes and Brentano.

4 Mind concept eliminativism

Whether one is more interested in a philosophical characterization of the mind and mentality, or a scientifically-attested system or process which can plausibly be identified as the mind or the material basis of mental processes, it seems that we are pushed towards viewing the terms as pluralistic. If we accept that currently, the terms 'mind' and 'mental' are pluralistic, this raises the question of what we ought to do about it. We could accept the current use of these terms, and embrace a conceptual pluralism about them. We could advocate revising current use of these terms in some way, whether or not this allows them to remain pluralistic. We could advocate simply abandoning the use of these terms, an option I call mind concept eliminativism. My preferred option is mind concept eliminativism. Below, I will explain the reasons for my preference. First, however, it is worth beginning by clarifying what this option amounts to.

4.1 The nature of mind concept eliminativism

There are two main strands to mind concept eliminativism, as a form of pluralistic eliminativism. The 'eliminative' strand is that it advocates abandoning the terms 'mind' and 'mental', at least in philosophy, psychiatry, psychology, and cognitive science– although I suspect that they are also harmful in folk discourse (see further below). The 'pluralistic' strand is that this eliminativism is partly motivated by the view that the terms 'mind' and 'mental' are currently pluralistic.

The potential import of mind concept eliminativism is not merely terminological. Advocating abandonment of the terms arguably amounts to advocating the abandonment of the concepts *mind* and *mental*, especially combined with the view that there can and should be no direct replacement for these terms. Abandoning the concepts is in turn closely linked to a 'negative existential claim', ie, to the view that there is no such thing as a mind and nothing is mental, combined with certain kinds of ontological and metaontological views. This close link can be understood as constitutive, (eg, Carnap, 2005; Hampshire, 1992; Passmore, 1992; Peirce, 1878; Quine, 1948; Thomasson, 2016) or as evidential (cf. Sider, 2009).[7] My aim here, however, is not to explore this aspect of the ontological and metaphysical entailments of mind concept eliminativism.

Mind concept eliminativism is a somewhat novel form of eliminativism in the philosophy of mind, but it is by no means without precursors. There are several imperfect precedents for pluralistic eliminativism about 'mind' and 'mental', ie, mind concept eliminativism. Perhaps the most notable is the position indicated in the early part of Rorty's (1979) *Philosophy and the Mirror of Nature* (see also Rorty, 1982), although this is complicated by Rorty's hedged identification of a mark of the mental (Rorty, 1970), and by his endorsement of something close to eliminative materialism (discussed further below). As influences, Rorty (1979) lists Wittgenstein (see also Hacker, 2021, especially p. 19; 1993), Heidegger (see also Guignon, 2005),

[7] For dissent, see Cowie, 2009; Ramsey, 2021; for a view that the ontological issue is a distraction, see Taylor & Vickers, 2017

and Dewey (see also Johnson, 2006). Some have argued for rejecting the concept of mind, albeit for reasons rather different than Rorty's and those considered here– these authors appear to advocate for some kind of partial eliminativism, but not obviously due to a view that the terms are pluralistic (see Müller, 2012, 2018; Squires, 1970; cf. Clark, 2010). The closest precent is perhaps the position of Wilkes (), who argues that the importance of the concept *mind* is overestimated, that it is not important to psychology, that it does not have direct synonyms in other languages (see also Lillard, 1997; Wierzbicka, 1992, 2006), and that it does not refer to a legitimate explanandum; she believes, with Rorty, that it is part of the burdensome inheritance from Descartes with which we are saddled.

Others have argued for rejecting a conceptual split between mind and body, without entirely rejecting the concept of mind (see, for example, Bickhard, 2009, 2012; Fuchs, 2017, 2020; Nedelsky, 2011; Thompson, 2001, 2007; see also Haugeland, 1982, 1993; van Gelder, 1993 and Keijzer, 2021). Still others have focused on more specific but related issues, often attempting to separate out issues that the concept of mind lumps together, such as the 'phenomenal' and 'psychological' conceptions of mind (Chalmers, 1996; Maung, 2019), moral status and the subject-matter of cognitive science (Figdor, 2020), the everyday conception of persons and the subject-matter of cognitive science (van Gelder, 1993), issues in traditional philosophy of mind and philosophy of cognitive science (Chemero & Silberstein, 2008), possessing propositional attitudes and *having a mind* (Baysan, 2022), and more (Figdor, 2018; Schwitzgebel, 2020).

As a form of pluralistic eliminativism, mind concept eliminativism does not deny the existence of any of those capacities we generally count as 'mental', like beliefs and desires, nor even the existence of those broader phenomena to which 'mind' and 'mental' can be used to refer, like intentionality, reason, agency, and consciousness. Instead, it advocates changing how we refer to and think about these phenomena, especially their relations to each other. This is one key way that mind concept eliminativism is distinct from the other main form of eliminativism that has been argued for in broadly analytic philosophy of mind. This other form is eliminative materialism, which argues that (some significant subset of) those states we generally consider 'mental'– eg, beliefs, intentional states, or conscious states– do not in fact exist (eg, Churchland, 1981; Ramsey et al., 1990). Eliminative materialism and mind concept eliminativism differ in their motivations, arguments, and entailments.[8]

[8] Eliminative materialism is associated with a 'monistic' view of the relevant terms (eg, 'belief'); mind concept eliminativism is a form of pluralistic eliminativism. There are two main arguments for eliminative materialism: 1. that there is some description analytically associated with the to-be-eliminated concepts and that nothing in the world meets that description (Ramsey et al., 1990); 2. that the relevant concepts belong to a (quasi-)scientific theory, that that theory is defunct, and that the theory and the concepts that belong to it should therefore be abandoned (Churchland, 1981). A supporter of mind concept eliminativism would struggle to accept analogues of either claim. There is no single description associated with 'mind' and 'mental' across different areas of use; instead, they are adapted for use in different areas (cf. Taylor & Vickers, 2017). There is no theory, (quasi-)scientific or otherwise, which can claim ownership of these concepts, which are widely and variously used by multitudinous theories.

4.2 Motivating mind concept eliminativism

Having laid out the basic claim of mind concept eliminativism, I now want to run through the core argument. In this section, I will explain the core motivation for eliminativism over conceptual pluralism. I will then consider two objections in the remaining sections: first, that the benefits of the current ways the terms 'mind' and 'mental' are used outweigh the harms; secondly, that rather than abandon the terms, it is better to revise how they are used.

A key motivation for mind concept eliminativism is the view that the current pluralistic use of the term is unsustainable. The core reason that I hold this position is that I believe that current use of the terms results in both public and scientific confusions that hamper progress on important issues and increase stigma around certain vulnerable groups. While there are distinct, equally legitimate uses of the terms 'mind' and 'mental' to pick out different phenomena and play different roles, these different uses of the terms are not kept cleanly distinct in that connotations, arguments, and associations are carried over between different areas of use– or in short, the different uses of the terms are frequently conflated and equivocated.

A key aspect of the stigma surrounding psychiatric disorders is the belief that sufferers can control their conditions and simply 'pull themselves together' (Crisp et al., 2005). This notion stems from viewing psychiatric disorders as 'mental.' However, when these disorders are seen as biological rather than mental, this belief is dispelled. Additionally, viewing psychiatric disorders biologically makes those affected more likely to be considered appropriate candidates for medical treatment (e.g., Schomerus et al., 2012).[9]

The issue lies specifically in labelling these illnesses as 'mental,' which induces more stigma and 'blatant dehumanization' than many specific diagnostic categories (Boysen et al., 2020). This distinction addresses a significant problem with proposals to change terminology to avoid stigma, thus avoiding the 'euphemism cycle' described by S. H. Taylor (1974; often incorrectly attributed to Steven Pinker). Names for stigmatized groups or phenomena generally acquire associated stigma over time because the stigma is not primarily due to the name but instead due to existing biases. However, the term 'mental' carries stigmatizing connotations independently of pre-existing social stigma, such as notions of dualism and contrasts with 'real' or 'biological,' reinforced by phrases like 'all in the mind.'

A particularly striking example is Szasz's argument that there is no such thing as mental illness (Szasz, 1960, 1974, 1994). He argues that since the mental is by definition immaterial, and since illness by definition requires a material basis, there can be no mental illness: either a condition is mental and not an illness, or an illness and not mental (see also Chapman, 2023 pp.71–2). He further argues from this that specific mental illnesses, such as schizophrenia and depression, are not genuine illnesses. Additionally, since psychiatry is in his view the treatment of the mind, psychiatry cannot therefore be a legitimate branch of medicine. His argument relies on the concept of mind, its links to dualist theories of humans' make-up, its use in referring to

[9] This is not, by any means, to endorse a construal of them along these lines, which has its own problems; see Gough (2023b) for discussion and a proposed solution.

a set of human capacities, its use in characterizing a specific set of conditions, and its use in characterizing psychiatry itself. It is only by having a concept that ranges across these that Szasz was able to make his argument at all.

This argument has done great harm to patients of psychiatry. As well as distracting from many more legitimate problems in psychiatry, its popular reception helped to speed up the closing of the asylums, resulting in mass criminalization and homelessness among their previous residents, and to justify governments spending less on psychiatry to save money (Chapman 2023, ch.7). It also feeds into contemporary folk stigma about psychiatric disorders as imaginary or under the control of their sufferers, and about psychiatric patients as lacking reason and as dangerous individuals lacking agency and self-control– stigma again facilitated by the concept of mind's plurality of potential referents, including a posited realm of inner representations, the part of us under immediate voluntary control, reason, and agency.

While the problems are most striking in psychiatry, they are not confined to psychiatry. The concept of mind is not assigned all that many important roles in science and medicine, and generally not treated as a causal-explanatory category or used to frame inductive generalizations (see Wilkes, 1992a). It is, however, used in a few significant ways in science and medicine: as well as characterizing the subject-matter of psychiatry, it is used to characterize the subject-matters of cognitive science and psychology; it is used in 'construct-formation,' the characterization and identification of phenomena of interest; and the search for a material system that underlies our mental states, processes, and capacities. While I do not have space to do justice to these arguments here, I can at least adumbrate towards some of them. Taken together they constitute defeasible reason to believe that the terms 'mind' and 'mental' are *generally* unhelpful: these areas are among those in which one would expect the terms to be most helpful, their 'home turf', and even here they appear not to be. Outside science and medicine, there are also arguments that the terms are the source of methodological problems in the philosophy of mind (eg, Chemero & Silberstein, 2008; Rorty, 1982).

Construing cognitive science and psychology as to do with 'the mind' has led to an overestimation of their similarity and overlap as disciplines (Gough, 2023a), a misleading view of what is at stake in classifying phenomena as within or outside their disciplines (Gough, 2022c, 2023a, 2023b) which destabilizes at least cognitive science (Keijzer, 2021), and public misperceptions of the scope and significance of findings within these disciplines, often accompanied by a countervailing scepticism of the disciplines, their methods, and their claims within neighbouring disciplines (Gough, 2023a). 'Theory of mind', alongside its close cognates mentalizing and mindreading, is perhaps the most significant construct formed using the concept of mind, and it is highly pluralistic, widely misunderstood by experts and nonexperts alike, and closely tied to the stigmatization and dehumanization of autistic people (Gernsbacher, 2018; Gernsbacher & Yergeau, 2019; Gough, 2021, 2022b; Yergeau & Huebner, 2017).

The search for a material basis for the mind has proved quite unhelpful, in large part due to the actual make-up of human beings as discussed in §2. Construing the brain and parts of it as being 'the mind' or its basis has repeatedly undermined our scientific understanding of the brain and its parts– a view increasingly widely-held in

various disciplines. For example, some argue that a construal of the brain along these lines has led to a systematic neglect of nonmental neural functions (Haueis, 2018). Others identify a neglect of nonnervous activity within the brain (Abraham et al., 2019; Leng, 2018). Others still argue that the construal of the brain as the mind relies on (Macmillan & Lena, 2010) and has led to (Fuchs, 2011) an overestimation of the brain's importance (see also Mudrik & Maoz, 2015), as well as an overemphasis on the study of the brain (Berent, 2020, 2022).[10] The brain and its structures are often overemphasised in ethically-significant debates over animal psychological capacities (Gough, 2022a; Nafcha & Gabay, 2019). Our understanding of the brain and its parts has suffered from forcing them through this inappropriate lens.

At least one major reason that construing the brain or some part of it as the basis of the mind is misleading and unhelpful generalizes to *all* the systems that are proposed to be the basis of the mind. Each proposed system in this debate, as partially surveyed in §2, is a similarly plausible candidate for being 'the mind,' as well as at least somewhat unified, exhibiting some kind of intentionality, and responsible to some degree for the generation of flexible, intelligent behaviour. It is misleading to claim that any of the various systems discussed is the mind, since by virtue of this plurality none has the kind of privileged role within the human being that the mind has within the folk conceptual understanding of human beings and their make-up. It is mistaken to look for a system that has that kind of privileged role. The folk conception of the human being, as a bipartite system divided into a mind and a body, sits ill at ease with the existence of the manifold ways of carving up a human being corresponding to a huge plurality of distinct systems which are similarly good candidates for being 'the mind.'

As an alternative, one might instead consider the relative contributions of– and even debate the existence and coherence of– different systems to person-level phenomena, whether these are (depending on the question at hand) proposed control systems, behaviour-generating systems, intentional or representational systems, and whether they are contributing to consciousness, decision-making, intelligent, flexible behaviour, or personality. Such a framing of the debate not only points towards more fine-grained explananda, but also starts by making space for the plurality of systems of which human beings are made, and of which a human being can be made.

4.3 Integrative utility

In the previous section, I identified several communicative, epistemic, and societal harms facilitated by the pluralistic terms 'mind' and 'mental.' Conceptual pluralism of the relevant sort is often defended by reference to its desirable communicative (and thence epistemic) consequences (Haueis, 2021a, 2021b; Neto, 2020; see also Mitchell, 2002). One way to object to mind concept eliminativism is to claim that such benefits outweigh the harms. In my view, there is little evidence of such benefits in the case of 'mind' and 'mental.'

Even so, one might think that the relationship between psychology, cognitive science, and psychiatry is sufficiently close that it is appropriate to characterize them all as to do with the 'mind', as in some sense concerned with the 'same thing', and

[10] For those who doubt that the brain *is* overemphasised, see Scull, 2022.

as especially relevant to one another.[11] This relationship, one might think, makes it a good idea to encourage integration and communication by use of the terms 'mind' and 'mental.'

However, using 'mind' to highlight the relevance of psychiatry, psychology, and cognitive science to one another comes with a cost. This approach obscures the relevance of other areas, and casts some irrelevant areas as relevant. It obscures the relevance of certain areas of biology that adopt an approach that is in large part 'cognitive', such as computational systems biology, and others that study systems also partly in the remit of psychology and cognitive science, such as immunology (Gough, 2023a). Conversely, the terms 'mind' and 'mental' have been indispensable in harmfully linking psychology, psychiatry, and cognitive science to irrelevant and unhelpful bodies of theory and areas of dispute (*ibid.*).

This problem becomes fatal because 'mind' and 'mental' are not required for or best-suited to the bridging roles that *do* need to be played between ostensibly mind-related disciplines. Sometimes, such roles are better played by terms that are similarly abstract but less imprecise, such as intentionality, phenomenal consciousness, control of adaptive behaviour, biological information-processing, goal-directedness, and so on. Other times, such roles are better played by terms that refer to lower-level categories and concepts. For example, consider the particularly productive interdisciplinary integration of cognitive science, psychology, psychiatry, and philosophy of mind that centres on the notions of *belief* and *delusion* (eg, Bortolotti, 2009; Coltheart, 2007; Coltheart et al., 2011; Davies & Egan, 2013; Dibitonto, 2014; Fulford & Thornton, 2016). This integration relies not on the idea that everyone in the area is talking about the mind or the mental, but on the idea that they are talking about *delusions*, which many hold are a form of *belief.* This more fine-grained focus is a better model for interdisciplinary integration and interaction than a coarse-grained focus on the mind.[12] For example, the focus on *belief* has facilitated the involvement of other relevant areas of philosophy– in particular, epistemology (see especially Bortolotti, 2020).

I know of one apparently successful case[13] where a higher-level category, closer to the abstractness and breadth of the pretheoretic concept of mind, has been successfully used to bridge between psychology, psychiatry, and cognitive science (not to mention biology, and various topics in medicine).[14] However, this category is *more* encompassing than any category plausibly associated with folk use of the

[11] This need not even be false: according to many, *talking about the same thing*, is more coarse-grained than one's conceptions of or beliefs about that thing, thus allowing disagreement (Cappelen, 2018; Feyerabend, 2001; Kidd, 2012; Sawyer, 2018; Varzi, 2011).

[12] This is, of course, not to deny that other 'mental' states than belief are relevant to the study of delusions– but in as much as they are, it is either because it is proposed that delusions *are* that kind of mental state, rather than belief (eg, Dibitonto, 2014), *or* because that kind of state is thought to be relevant to the formation of delusional beliefs (again see Bortolotti 2020).

[13] The autopoietic and enactivist frameworks deserve mention here too, but the versions of each offered as accounts of *all* mental phenomena are amenable to arguments very similar to that offered below, and if anything are more explicit than the FEP in treating the 'mental' as no more than part of some broader category (see Villalobos & Palacios, 2021).

[14] The success and nature of this account are both highly disputed. See especially Andrews, 2021; Raja et al., 2021. See also Litwin & Miłkowski, 2020.

terms 'mind' and 'mental', subsuming them entirely. The free-energy principle is an account of living systems: it understands living systems as actively self-sustaining systems, and accounts for 'mental' activities as part of this broader system of living, self-maintaining activity (Bhat et al., 2021; Friston, 2010, 2012, 2013; Owens et al., 2018; Parr & Friston, 2019; Pezzulo et al., 2015; Sims, 2016, 2017). The free-energy principle is currently the most promising candidate in the race to offer an overarching account of *all* mental phenomena. It does so, however, by subsuming mental activity into a larger category, and accounting for it alongside allostasis and homeostasis (cf. Wilkes, 1992b). As such, it seems that currently, the benefits of using the terms do *not* outweigh the harms.

4.4 Revisionary options

There is a third option, which neither endorses current use of the terms 'mind' and 'mental' nor advocates their abandonment: this is to change their use in some way, or 'revision.' There are various reasons that one might believe that it is in general better to revise than to abandon the use of extant terms, especially widely-used ones such as 'mind' and 'mental.' However, I do not believe that this is a tenable option here– it suffers from a problem of motivation, and is unlikely to have the intended effects.

The problem of motivation, perhaps the most significant problem, is that in as much as the terms *are* purported to be beneficial, this appears to *rely* on the claim that they have a well-known, *nonrevisionary*, 'folk' meaning. It is this that is meant to give them their easy comprehensibility by nonexperts, and their potential role in marking a pretheoretically interesting domain (Ramsey, 2017). Adopting a revisionary understanding of the terms undercuts this, the main motivation for making use of them in the first place in the kinds of contexts considered.

Additionally, in as much as there *is* evidence for a 'folk' meaning it appears to be quite deeply confused and unhelpful, and this appears to be partly a result of previous attempts at revision. Valtonen et al. (2021) argue that 'the folk' reconcile a widespread belief in some form of dualism, with a widespread belief that according to 'science', the brain is responsible for all mental activity by treating mental phenomena almost as epiphenomenal– by viewing them as highly susceptible to overwhelming influence from the brain, but unable to influence the brain. They call this belief 'neurodualism', a mish-mash of dualism and neurocentric materialism. This position, it seems, inappropriately impacts judgements of guilt and innocence by reason of insanity. Neurological evidence is overweighted in such judgements, often in inappropriate and unobvious ways (Allen et al., 2019; Gurley & Marcus, 2008; cf. Schweitzer et al., 2011).

It therefore seems that as philosophical views, analyses, and revisions of the mind and the mental proliferate, these proposed revisionary uses of 'mind' and 'mental' are incorporated into highly loosely-defined and broad concepts of the mind and the mental, layering on top of one another in a confusing morass (see especially Lakoff 1987, ch.5; cf. Hopper & Traugott, 2003 for the notion of 'layering'). The problem is that while many theorists may be careful about defining 'mind' and 'mental' where they use the terms, and while many other theorists may be careful about paying attention to these definitions, the public may well not be– especially when they only

hear reports of conclusions or 'consensus' without careful definition. The solution, it seems to me, is to start with less ambiguous terms, to mitigate the proliferation of definitions and the potential for misunderstandings of this sort.

If revisionism is to be pluralistic, it suffers from another problem of motivation. There are significant harms associated with the terms' current pluralistic state, but no notable benefits from their use. It is, as such, unclear what the *point* of saving the terms is meant to be: if there is no baby in the bathwater, we do not need to worry about throwing out the bathwater. Importantly, to stress again, my worry here is not that the terms are imprecise or pluralistic, but that they play no helpful role and do cause harm.

Imprecise or pluralistic terms can be helpful in any number of ways– for encouraging transfer of methodological approaches and general theoretical claims (Neto, 2020), for organizing inquiry in subtle yet important ways (Novick & Doolittle, 2021), for aptly summarizing contentious areas (Akagi, 2018, 2021), and highlighting new analogies and areas of investigation (Allen, 2017; Gough, 2022a). 'Mind' and 'mental' just do not appear to be helpful in these ways. Additionally, I agree with Novick (2023) that most pluralistic concepts pluralism are fairly harmless even when they are not helpful, and with Novick and Haueis (forthcoming) that eliminating most pluralistic concepts is more work than it is worth– pluralistic concepts arise commonly and almost inevitably, by very general mechanisms of analogical extension, disciplinary specialization, and conceptual adaptation.

However, in this case, I think that it *is* worth cleaning up the mess– in part because the terms have such public and nonspecialist significance as to significantly amplify the harms that they are capable of causing and actually do cause (see also Gough, 2022b). Furthermore, I think that when it comes to revisionist pluralism the question of benefits becomes significant, because while elimination may be difficult, it seems to me that it is likely to be much harder to revise the ongoing use of an incredibly messy concept with great public significance that seems– as discussed above– to be resistant to effective revision. Once one grants the harms caused by the concept, and accepts the need for *something* to change, it seems necessary to call on benefits of using the concept as a way of defending revision over elimination. That is *not* to say that such a defence is required *by default* when considering whether to retain a pluralistic or imprecise concept.

Conversely, if revisionism is to be monistic, there is no principled way of choosing among the many, many extant uses of the terms. This is especially a problem because these different uses are each associated with different areas. If one of philosophy's or psychology's definitions were to be privileged, and used to define the terms 'mind' and 'mental', then the terms would no longer work in the roles assigned to them by other disciplines. That is not *necessarily* a problem, although it would involve going most of the way towards eliminativism regardless, but it strikes me as unlikely that these other disciplines would not only give up on the terms, but also accept the continued legitimacy of philosophy or psychology's use of the terms. Instead, it seems to me, different uses of the terms would continue to proliferate.

5 Conclusion

In contemporary scientific and philosophical use, the terms 'mind' and 'mental' appear to be pluralistic, used in different ways to refer to slightly different phenomena, and thereby demanding different models, methods, explanations, and definitions. This reflects not merely the conventions of their use, but the make-up of human beings, who comprise a big messy bundle of overlapping and interacting control systems which only jointly share the features and capacities generally attributed to the mind and counted as mental. There are several ways one might respond to this situation: embrace it, advocate abandoning the terms, or advocate cleaning up their use a little.

I have argued for abandoning the terms. This is perhaps the most extreme option; even so, I see it as the best in light of their overall disutility, and the difficulties faced by previous attempts at revision. This position, which I call mind concept eliminativism, has several imperfect precursors. It ought, in my view, to be at least a serious contender in the philosophy of mind.

There is a further reason that I believe that it ought to be a serious contender: even if it is wrong, I believe that *refuting* mind concept eliminativism would bring significant benefits. It would identify why and where the terms are most beneficial and what solutions are best for the problems in their current use, and it may even provide the sort of constraints required for a good account of the nature of the mind. A robust refutation of mind concept eliminativism would be a huge step forward—it may well tell us why to believe in the mind, and what exactly it is that we believe in when we do so.

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Declarations

Conflict of interest There are no potential conflicts of interest to declare.

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