



On the Proper Treatment of the Churchlands

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Abstract

To a significant extent, mainstream Western philosophy is not empirically minded. The neurophilosophy of the Churchlands seems to exhibit the greatest divergence from this orientation by far. Extending and neutralizing Quine's naturalism, the Churchlands have been known to challenge most assumptions and principles of contemporary *mainstream* analytic and even existing naturalistic philosophies. Even the philosophers who identify themselves as full-blown naturalists have an inexplicably negative attitude toward the Churchlands. For many philosophers of the mind, the Churchlands' problem is not that they are philosophically wrong, but that they have no philosophical approach that could be wrong. They are nonphilosophers working at philosophy departments. Proper philosophy is not what they do or think they are doing. In this article, I argue to the contrary. The Churchlands would seem surprisingly moderate, and neither trivial nor near-trivial, when closely scrutinized.

1 Introduction

In the introductory section, I will discuss who counts a neurophilosopher. In Sect. 2, I will zoom in on key aspects of the Churchlands' neurophilosophy, with a special focus on the allegations of triviality or radicalism. In Sect. 3, I will try to show that eliminative materialism (hereafter: EM) about folk psychology (hereafter: FP) is quite a modest claim. In Sect. 4, I will focus on the possible reasons for the exclusion of the Churchlands' neurophilosophy from the mainstream of philosophy in analytic and even naturalistic circles. The last section is a brief conclusion.

The founders and leading figures of neurophilosophy are Patricia and Paul Churchland (1979, 1981, 1983, 1986a). The term "neurophilosophy" was first used, to my knowledge, in the title of one of the review articles in the "Notices of Recent Publications" section of the journal *Brain* (Williams 1962). The term was a creation similar to "neurobiology" or "neurochemistry." The book under review, entitled the *Neural Basis of Human Behavior*, was written by Harold S. Burr, a professor

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of anatomy at Yale University. The word did not appear in the same journal again until the year 2001. The roots of neurophilosophy can be traced back to the naturalistic philosophy of the modern period. Patricia Churchland (1985, p. 185) names the following modern and contemporary figures: Hume, Quine, and Crick.¹ For living examples, she mentions Paul Churchland, Dennett, Bechtel, and herself. Sean Allen-Hermanson (2015, p. 61) recently named Bechtel, Bickle, Brook, Glymour, Dennett, Lloyd, Mandik, Ross and Thagard as being neurophilosophers in a strong sense, in addition to the Churchlands. Allen-Hermanson thinks that Patricia Churchland is even more radical than the rest of the list. John Bickle mentions himself as a former neurophilosopher (2018). Dennett is hardly a neurophilosopher because he is expressly against the idea that neuroscientific work, in the broadest possible sense of the term, is of vital importance, even with the qualification that “but of course not sufficient, to account for cognition.” Similar remarks can also apply to the others.

Although somewhat ignored in Anglo-American philosophical circles, neuroscientist–philosopher Georg Northoff is another neurophilosopher. Northoff wrote books and articles on the philosophy of the brain and neurophilosophy (Northoff 2004b, 2011, 2014a, b, 2018). Northoff claims that his neurophilosophy is incompatible with the Churchlands’ narrow neurophilosophy (2014a, pp. 100–101). Whatever the truth about who counts as a real neurophilosopher, it is obvious that philosophers believe that the Churchlands are more radical than the other naturalist philosophers.²

2 The Churchlands’ Neurophilosophy: Trivial or Radical?

An easy way to decide, if ever possible, the boundaries, if there are any, of the set of neurophilosophers is to start with a summary of the neurophilosophical approach given directly by its allegedly most extreme proponent. By doing so, we will be able to pass directly to the intriguing discussion of the “(neurophilosophy is) either trivial or radical” debate:

Neurophilosophy embraces the *hypothesis* that what we call “the mind” is in fact a level of brain *activity*. A corollary of this hypothesis states that we *can* learn *much* about the reality of mental function by studying the brain at *all* levels of organization. Until fairly recently, many philosophers preferred to

¹ In fact, the importance of the brain for having a deep understanding of the mind has also been offered by other philosophers and scientists. For some examples and a discussion of the relationship among these thinkers, including Quine and the Churchlands, see (Northoff 2014a, p. 98). Northoff argues that Quine cleared the path for the naturalization of philosophy, as well as philosophy’s “methodological replacement by neuroscience,” and the Churchlands followed him (p. 98). One might think that, given the historical context, the Churchlands would seem less radical, as one of the anonymous reviewers (henceforth: the reviewer) suggests.

² The reviewer wrote that my paper neglected to distinguish between Patricia and Paul Churchland. The reviewer is correct. The philosophical practices of Patricia and Paul Churchland are slightly different. Patricia Churchland is more neuroscientifically-oriented than Paul Churchland. I thank to the reviewer for pointing this out.

believe that important domains of mental function could *never* be addressed using the tools of *empirical* science. Nevertheless, co-evolutionary progress by psychology and the neurosciences on many topics, including consciousness, free will and the nature of knowledge, have meant that such convictions need to be *updated*. Some large-scale mind-brain problems have not yet been solved, and do require significant *theoretical* innovation. In particular the problem of how to understand the true nature of representations remains unsolved. (Churchland 2007, p. 185) (All italics are added.)

Neurophilosophy is a hypothesis, and as such it is not presented as an infallible metaphysical certainty.³ It does not deny the existence of what we call the mind, but reconceives it as a level of brain activity. That studying the brain at all levels would be very useful to understanding the reality of mental functions naturally follows from the first sentence. Churchland claims in the next sentence that many philosophers have the conviction that some domains of mentality are, in principle, closed to scientific scrutiny, but that coevolutionary progress showed that their convictions should be updated. Neuroscience is in its infancy, we do not have a large-scale brain theory, and some problems related to the mind–body relation require theoretical innovation. The nature of inner states is a good example of those problems. This characterization of Patricia Churchland is, in fact, not quite differentiating. It may have been so during the seventies and eighties, but not today. It certainly excludes “mysterians” (McGinn 1989) and pure conceptual analysts (also see Wilkes 1991). For McGinn, Churchland’s work is neuroscience cheerleading (2014). He speaks for many when he says that “If there is anyone left in the world who does not believe that the mind can be minutely controlled by the brain, right down to particular molecules, then this book [*Touching a Nerve*] might disabuse them of such ideas” (2014). This denigrating remark is supposed to suggest that Churchland’s neurophilosophy either is trivial or mistaken. This is, in fact, what Allen-Hermanson recently argued (2015). In short, according to McGinn, ideas such as the ones expressed in the first sentence of the above quote from Churchland are very weak to the extent that even a heavy Cartesian dualist would agree. This weak position is vacuously true. However,

³ The reviewer notes that the Churchlands “do not really define NP.” The Churchlands truly say that neurophilosophy is a hypothesis. This comment is parallel to what Georg Northoff wrote when he defined neurophilosophy: “[A] special i.e. method neurophilosophy is developed in order to enable empirical, epistemic and ontological determination of the brain” (Northoff 2004a, p. 8). At this point, I should make note, as the reviewer did, that there are several characterizations of neurophilosophy. I herein focus on the Churchlands’ version of neurophilosophy. As far as I understand, Northoff conceives of neurophilosophy as situated between philosophy and neuroscience. From his perspective, the Churchlands’ neurophilosophical hypotheses are not neurophilosophical at all, but only empirical. The Churchlands’ neurophilosophy is a collection of empirical hypotheses; but it also offers a way to do philosophy, including philosophy of the mind, of science, and ethics.

For a discussion of several things collected under the name *neurophilosophy*, see (Bickle et al. 2012). That article distinguishes neurophilosophy from the philosophy of neuroscience. For another discussion that includes some subspecies of neurophilosophy, see (Northoff 2004a, pp. 25–26). Northoff emphasizes that his neurophilosophy is pluralistic and wider than that of the Churchlands. Northoff argues that his approach is non-reductive but brain-based (2014a, pp. 101–102). This sort of neurophilosophy is clearly not radical, as the reviewer notes.

McGinn, Allen-Hermanson, and most others strongly feel that there is a deeper hidden agenda in Churchland's neurophilosophy. They are mistaken in both their triviality accusations and their deeper agenda suspicions. What is distinctive is not the hypothesis stated in the first sentence, but the corollary coming with it: "A corollary of this hypothesis states that we can learn much about the reality of mental function by studying the brain at all levels of organization." It might be pointed out that both of the critics find the corollary trivial as well:

It is just possible to discern some points beneath the heated rhetoric in which Patricia Churchland indulges. But none of these points is right. If you hold that "mental processes are actually processes in the brain," to quote Churchland, then you are committed to the thesis that it is sufficient to understand the mind that one understands the brain, and not merely necessary. This is just the well-known "identity theory" of mind and brain: mental processes are *identical* to brain processes; and the identity of *a* with *b* entails the sufficiency of *a* for *b*. To hold the weaker thesis that knowledge of the brain is merely necessary for knowledge of the mind is consistent even with being a heavy-duty Cartesian dualist, since even such a dualist accepts that mind depends causally on brain. (Churchland, reply by Colin McGinn 2014)

In this passage, McGinn states two related claims. The first states that "mental processes are actually processes in the brain" and implies that understanding the brain is not only necessary but also sufficient to understand the mind. The second is that the weaker thesis that it is not sufficient but only necessary is compatible with being heavily Cartesian. That is, the necessity claim is the surface thesis, which has been explicitly endorsed by Churchland, but the sufficiency thesis is her hidden agenda. It is hidden but also expected, given that she argues for the idea that the mind is the brain. I do not think that legalism over the meaning of "is" is the right way to unpack her ideas.

In his book review of *Brain-Wise*, by Patricia Churchland (2002), Alva Noë said that "In *Brain-Wise*, Patricia Smith Churchland provides an introduction to what she calls 'neurophilosophy'—philosophy as it is being transformed by advances in neuroscience" (Noë 2003). It is a fair enough one-sentence summary of Churchland's neurophilosophy. It does not say that "philosophy as it is being revolutionized by advances in molecular or cellular neuroscience and physical chemistry." It is John Bickle, "a former-neurophilosopher-turned-philosopher-of-neuroscience," who loves to present the early days of neurophilosophy in that way (2018). In his historical account, Patricia and Paul Churchland were "the wild-eyed philosophical revolutionaries." In contrast, herein I will argue that Churchland-type neurophilosophy *is* neither radical nor trivial (as obviously as *some* of their ideas are nearly trivial today, there was *something* nearly radical in them in the eighties.) For Gold and Stoljar, the Churchlands defend an extreme and improbable version of neurophilosophy, which they call "the radical neuron doctrine" (Gold and Stoljar 1999). This is what Allen-Hermanson calls "strong neurophilosophy" (Allen-Hermanson 2015). It is radical or strong because these philosophers believe that the Churchlands argue for the reduction (or elimination) of psychology to (or in favor of) "neurobiology alone." "Neurobiology alone" is

a mythical science which involves no, for example, psychology of classical conditioning (Gold and Stoljar 1999, p. 857). In response to the appropriate question as to what they mean by neuroscience, Gold and Stoljar (1999) give the following shocking answer:

In the case of Kandel's theory, both neurobiology and the psychology of classical conditioning are relevant. If you mean something more stringent than Kandel's theory, however, such as the view we call the radical neuron doctrine (RND), according to which neurobiology alone will explain the mind, then your view is not supported by our best current science. Nor is it supported by general considerations of philosophy and the history of science. The best evidence we now have, therefore, supports only the weak claim that the successful theory of the mind will be an eclectic one. The evidence may change, but at the moment, the rational view is an agnosticism about the possibility that neurobiology alone will explain the mind. The significance of this conclusion is that many in the field believe, or seem to believe, that the opposite is true (p. 857).

The authors make a distinction between what they call "biological neuroscience" and "cognitive neuroscience," and assert that the distinction is paralleled in the distinction between the radical and trivial neuron doctrines (p. 813); betting on the latter as reasonable, but betting on the former as totally unjustified. We should be agnostic about the possibility of the long-term success of the "neurobiology alone" theory. Given this, their answer is utterly shocking because the Churchlands themselves envisage "a matured (or complete) cognitive neuroscience" as the (candidate) reducing or eliminating theory (1986a, pp. 153–154, 310, 360, 373–376, 383, 419). In addition, "the theory of elementary learning in *Aplysia californica* developed by Eric Kandel and his coworkers" (Gold and Stoljar 1999, p. 856) is in fact a paradigmatic case for the Churchlands' allegedly radical neurophilosophy. The Churchlands repeatedly use the example of the Kandel's theory to "illustrate the revolutionary discoveries in the neurobiology of behavior" (1986, pp. 67, 70–73, 79, 145, 368–369). Patricia Churchland says that "These discoveries are truly remarkable both because they represent a landmark in the attempt to understand the neurobiological basis of plasticity and because they show that memory and learning can, despite the skepticism, be addressed neurobiologically" (1986a, p. 369). Neurobiological reduction of psychology refers to the neurobiological addressability of the most psychological problems. However, Gold and Stoljar (1999) explicitly state that Kandel's theory is not a "neurobiology alone" theory, nor a radical version of the neuron doctrine. Neither is the Churchlands' theory. Therefore, what does explain Gold and Stoljar's claim that the Churchlands expect a neurobiology alone theory to reduce or eliminate psychology? Here is their answer:

To say that we should expect a reduction of psychology to neuroscience, and therefore that we should expect to understand psychological phenomena in neuroscientific terms, is to say that we expect that a successful theory of the mind will be a solely neuroscientific theory. In other words, it is to endorse the neuron doctrine. (1999, p. 811)

This sort of inference is very similar to McGinn's, which I discussed above. In this line of reasoning, there are four steps. The conclusion is that the Churchlands endorse the radical version of neurophilosophy. This conclusion is supposed to naturally flow from the last part of the sentence before the conclusion: "A successful theory of the mind will be a solely neuroscientific theory." Whatever this "solely neuroscientific theory" is, it is perfectly clear that Kandel's account of learning is not an example of it. We know this since Gold and Stoljar (1999, p. 857) acknowledge as much in the "Authors' Response" (subtitle: Interpreting neuroscience and explaining the mind) section of the article; and I have quoted the relevant passage above. As I said earlier, the idea that we should expect that psychology will reduce to neuroscience is equal to saying that psychological problems can be addressed neurobiologically, as Kandel and the others have exemplified.⁴ It is so, plain and simple.

But maybe the problem with the Churchlands is not their neurophilosophy, but their infamous EM:

Without question the philosophical shock of Churchland's eliminative materialism accounts for much of why broader philosophy took notice. It is not easy to separate the revolutionary import of neurophilosophy per se from that of the eliminativism about folk psychology advocated so forcefully by two of its principal early proponents. (Bickle 2018)

I now turn to this problem. Here is the core of my answer: EM establishes the eliminative possibility with regard to the fate of FP, and proffers the eliminative outcome. It is just an empirical prediction. A much more suitable title for their approach is revisionism (also see Bickle 1992), and this point is repeatedly stated by the Churchlands themselves (Churchland 1998c, p. 287; Churchland and Churchland 1996, p. 298). Eliminativism is just an empirical prediction, revisionism is a call for a neutrally informed philosophy of the mind; and it is widely accepted that the latter is

⁴ The reviewer made the following comment: "NP can be understood in a reductive and non-reductive sense. Reduction vs non-reduction is here only meant in a methodological sense, not ontological or epistemological sense as implied in the discussion about EM and FP." It is true that I approach the issue mainly in methodological terms. Some readers critical of the Churchlands might think that the real problem with their neurophilosophy only becomes apparent when ontological considerations receive primacy. Other readers would say "what about the physicalism problem?" Do the Churchlands prefer panpsychism, physicalism, mentalism, interactionism, or epiphenomenalism over to the rest of the list? Do the Churchlands have a brain ontology, if we speak in Northoff's terminology? What is their exact answer to the mind-brain problem on ontological grounds? That the Churchlands are physicalists and scientific realists is well-known. These are their ontological positions. In the current Anglo-American scientific philosophy, the distinction among the methodological, epistemological, and ontological domains has been blurred over the last few decades. I think this is perfectly compatible with the general spirit of scientific philosophy and makes the problem of physicalism less important than it seems.

Not everyone would agree with me. Northoff argues that the Churchlands' neurophilosophy is reductive, strongly physicalistic and is of a replacement naturalistic character. Northoff offers what he calls "cooperative naturalism" and "non-reductive neurophilosophy," which disagree with methodological monism, domain monism, and strong physicalism (Northoff 2014a, pp. 95–101). Northoff claims that the Churchlands rely only on experimental methodology: "the observational experimental approach of science" (p. 100). Northoff discusses that this narrow-type neurophilosophy tends to eliminate philosophy altogether in favor of neuroscience. That is, there is a danger of replacement of philosophy by neuralism.

not a radical philosophical idea (Allen-Hermanson 2015). In short, eliminativism is extraneous to their neurophilosophy. The former does not form an essential or vital part of the latter.

3 EM is not an Obituary for FP

FP is the mentalistic framework with which lay people, by invoking propositional attitudes such as belief and desire, explain, predict, and manipulate other peoples' thoughts and behaviors. EM is the Churchlands' empirical prediction as to the fate of FP. In a one-sentence summary, it is reasonable to say that the Churchlands guess that FP will not survive this century *intact*.⁵ Its integrity is decaying and its posits are roughly true *at best*. Thus, wholesale rejection of FP is a coherent and intelligible idea; it is possible. Whether it is probable is a rather different problem, and the answer is empirical in character. The precise fate of FP is an open question, and there is room for reasonable disagreement between philosophers.

The whopping majority of philosophers of the mind think that the Churchlands are quintessentially eliminativist, in the sense that they try to establish an eliminative outcome for FP. The Churchlands' EM is feared because it is believed that it might eviscerate philosophy.⁶ Even considering wholesale rejection as a mere possibility, just by emphasizing the *a priori* reasonableness of an outright elimination, leads some opponents to think that the Churchlands have jeopardized the integrity of our self-conception (and also of human dignity). This is why some philosophers thought a defense needed to be put in place to nip it in the bud. However, this mere

⁵ Not everyone summarizes EM as I do. For example, Northoff, in his latest book, says that:

First and foremost, the suggestion to replace the concept of mind in favor of a world–brain relation seems to be reminiscent of eliminative materialism (EM) (Churchland 1988, 2002). Roughly, EM claims that we can eliminate the concept of mind as well as mental features such as consciousness in favor of the brain and its neural activity. Although such elimination of mind seems to be well in accordance with the present approach, the similarity is only superficial at best. There are several important differences for us to consider. (2018, p. xx)

He claims that, although his approach and the approach of the Churchlands seem compatible, these approaches are in fact significantly different.

⁶ According to the reviewer, the Churchlands predict that philosophy will be replaced by neuroscience. Furthermore, the reviewer asserts that their prediction does not hold. However, the Churchlands routinely note that we do not yet have a theory of the brain. Nor do we have a hard and fast notion of consciousness. We do not even know the basic function of the brain. I think the reviewer can count on the support of the Churchlands for the existence and importance of these problems. Other technical problems, such as the types of coding and their relation to the problems of consciousness, subjectivity, and self are discussed in (Northoff 2014b).

The complexity of the nervous system is another problem related to the current state of neuroscience (see Northoff 2014a, p. 102). An article written by both Paul and Patricia Churchland on intertheoretic reduction states: "The complexity of the neural systems we are dealing with may forever preclude anything more than useful approximations to the desired ideal account" (Churchland and Churchland 1998, pp. 27–28).

possibility of a wholesale rejection of FP just means that the possibility is neither absurd nor self-contradictory.⁷

Neurophilosophy is less an ontological thesis than a methodological one. It simply repudiates the fortified boundaries between FP and scientific psychology (hereafter: SP), SP and neuroscience, philosophy of the mind and the philosophy of science, the philosophy of science and the history of science, philosophy and science, and top-down research and bottom-up research.⁸

It is well known that the staunchest critiques of FP have been those of the Churchlands (Churchland 1981). This is why most philosophers mistakenly believe that the Churchlands are committed to the elimination of folk psychology (e.g., Allen-Hermanson 2015). It is possible to identify a range of problems with FP from the trivial to the fundamental. The Churchlands actually identified many of them throughout the years in several publications. However, ontology is a tricky function of epistemology in Quinean scientific philosophy (see also Morris 2018; cf. Quine 1948).

⁷ The reviewer makes the following comment on the status of EM: “EM is one possible position within the broad specter of possible mind–body relationship theories.” Surely, the elimination of folk psychological posits is one of the many possibilities that can occur. Some posits may remain the same, others may only be revised moderately, still others may undergo major reconfiguration that would not count as elimination. The fate of the specific posits, or even the fate of the folk psychological framework itself, is an empirical issue that cannot be known in advance:

With the advantage of hindsight, we feel the expression ‘eliminative materialism’ is in some respects an invitation to misunderstanding. Accordingly, to redress the error, we propose we call the view sketched above and defended in our various writings ‘good-guy materialism.’ It has a pleasant ring, it prejudices the reader in its favor, and it leaves open, as it should, how much revision our current ideas will undergo as psychology and neuroscience proceed. We have no ideological stake in the revision being massive or minor, though our expectations lean toward the former. Science will proceed as it will, and there is no point getting terribly exercised in predicting just how much revision we can expect. What we do believe is that our current framework is not sacred, that it is neither manifestly nor divinely given, and that ‘obviousness’ is a familiarity phenomenon rather than a measure of metaphysical truth. That said, let us all wait and see what happens. (P. S. Churchland and Churchland 1996, pp. 298–299), also see (Churchland 1998a, b, c, p. 903).

⁸ The reviewer wrote that “If one properly characterizes NP as purely methodological strategy, the Churchlands clearly opt for a reductive strategy which, in its radical version, leads to elimination of philosophy altogether.” The Churchlands truly explicitly acknowledge that they opt for a reductive strategy (Churchland 1986a, b, p. 242), but see also (Churchland and Churchland 1998, p. 26) to gain a deeper understanding of what reductionism does not amount to under the Churchlands’ approach. There are some neurophilosophers who strongly emphasize their non-reductive orientation. Northoff is clearly one of them:

Due to the asymmetric nature of the relationship between logical and natural conditions, any attempts to eliminate the former in favor of the latter must necessarily fail. Such attempts of elimination are described by McCauley (2001:439–441), who relies on the theories developed by the Churchlands (see Churchland and Churchland 2001). ... In our case, this implies the consecutive and complete elimination of the logical conditions and thus of any philosophical theory in favor of natural conditions and neuroscientific hypotheses. However, such an elimination would only be possible in the case of a symmetric relationship between logical and natural conditions—since this is not the case, elimination in this radical sense remains a priori impossible (2004a, p. 30).

The Churchlands’ reductionism does not amount to the elimination of philosophy in any sense. The Churchlands do not deny the place of conceptual analysis, rational argumentation, thought experiments, or speculation in neurophilosophy. The implication that the Churchlands’ approach amounts to the elimination of philosophy will be argued against in Sect. 4.

That FP posits do not exist primarily means that they will probably will not be a part of the ontology of a complete cognitive neuroscience. The denial of FP posits is tantamount to the assertion of the falsity of FP. However, what does it mean to say that FP is wrong? It means that its pillars are deteriorating and its posits are fraying. As Rorty put it, the old notion of mentality involved the idea that being mental is incompatible with being physical (Rorty 1970). It was once a well-entrenched principle, but became obsolete. Problematic features of mentalistic notions and folk understandings of mentality have gradually improved over the last half century. However, it is clear that these extensions and partial revisions are not revolutionary in any sense. There has been no radical transmutation in our mentalistic concepts. “We do not think that FP is profoundly mistaken,” say the critics of eliminativism with regard to FP. If they mean that it is not for the moment certain that FP will turn out to be deeply wrong, then these critics can count on the support of the Churchlands. The Churchlands argue that FP mishandles or totally ignores some of the mental phenomena. The accusation of the mishandling of genuine distinctions is not equal to asserting that it is a pure mythology (Smith 1982), and even less equal to regarding its posits as spooky things.⁹

EM is not a withering critique of nor a friendly amendment to FP. Certainly, it is not a flat rejection. It is rather a moderate critique. FP is not in a grave, but a hospital bed. FP is a decaying research program; but that does not mean that it is moribund. The Churchlands do not claim that its days are clearly numbered. However, EM is an ominous bugle-call, because FP’s emerging wallflower status is argued to bode ill for its future (Churchland 1998a, p. 8).

The Churchlands, who have previously speculated about the global elimination of FP, now say that they have never claimed to argue for the elimination of consciousness or subjectivity (Churchland and Churchland 1996). Not elimination but transmutation is Patricia Churchland’s choice of the word:

The theme of this paper is that a similar fate may befall concepts respected and revered in our own prevailing conception of how humans works, and the concept on which I mean to focus is consciousness. To the degree that there are already afoot misgivings about the integrity of the traditional conception of consciousness, some of the problems discussed will be familiar, especially to psychologists. But the extent of the erosion of the concept by recent empirical findings is, I suspect, greater than hitherto reckoned. The aspects of the orthodox concept which I shall discuss include the alleged transparency of the mental, the supposed unity of consciousness and the idea of the self, and the allegedly special relation thought to obtain between language and consciousness. (Churchland 1983, p. 80)

⁹ Northoff asserts that according to the Churchlands “there is no need any more for any kind of mental concepts” (2016, p. 7). On another occasion, he claims that “Finally, EM draws the radical conclusion that mental futures such as consciousness do not exist and are not real because they can be eliminated and replaced by neuronal features” (2018, p. xx). The next couple of pages will elaborate on these sorts of claims.

Patricia Churchland says that denying consciousness is silly, and she does not propose to eliminate consciousness (1996). The mind is not transparent to itself and it is not unitary but is unified. FP lacks a cohesive structure. For some philosophers of psychology, FP is everything but is expanding. If it is expanding, someday it will break apart and that will be the end of everything because it is everything. This is why Fodor once said that, if my believing and wanting is not literally the cause of my behaviors, “then practically everything I know about anything is false, and it is the end of the world” (1990, p. 156). In addition, the solution Fodor proposed for the problem was saying something like the following: You are in rationalistic philosophical psychology; it is not expanding; it will not be expanding for centuries. We should try and enjoy FP while we are still in the philosophy of the mind. What has science got to do with it?

EM predicts that some degree of revision will be necessary and that it has already been underway regarding memory, attention, and reasoning (Mölder and Churchland 2015).¹⁰ FP is similar to a natural language, a work in progress. Its posits change gradually over time, sometimes due to changes in the needs of its users, sometimes in response to contact with other images, such as the scientific one:

It sometimes happens in the history of science that well-used, highly entrenched, revered and respected concepts come unstuck. That is, under the suasion of a variety of empirical-cum-theoretical forces, certain concepts lose their integrity and fall apart. Their niche in the theoretical and explanatory scheme of things is reconstructed and reconstrued, and new concepts with quite different dimensions and dynamics come to occupy the newly carved niche. (Churchland 1983, p. 80)

However, the coarse-grain architecture might remain the same. On the other hand, the predictive and explanatory capacity would not stay the same. It would increase, and the fine-grain structure would be enriched. In a sense, this suggests that the philosophers of the mind should keep up with the world of brain and behavioral sciences. Revision is a necessary staging post on the road to elimination; but the reverse does not hold: elimination is not the necessary final city of revision.

Substantial revisions are not just mere possibility, but are fast becoming actual. However, we cannot observe the same for the radical cases. The extension, the depth, the direction, and the objects of revision are empirical issues. They cannot be rightfully anticipated:

Whether FP is false and whether it will fail to reduce are empirical issues whose decisive settlement must flow from experimental research and theoretical development, not from any arguments a priori. The empirical jury is still out and there is ample room for reasonable people to disagree. (Churchland 1994, p. 312)

¹⁰ For memory, just think about the bewildering diversity in types of memory loss; for attention think about the research on selective visual attention; and for reasoning think about well-documented cases of conjunction fallacy.

Yes, the evidence against FP (and as such, in favor of EM) is fragmentary, diffuse, complex, and, thus, less than decisive (Churchland 1981, p. 74, 1988, p. 45). The issue of whether FP will be completely replaced has not yet been decided. The problem is not only that the evidence is diffuse and less than decisive but also that what counts as strong evidence is a lot more complicated than it might seem. The evidence might be vague but is certainly not meaningless, and there is little reason to believe that it is radically off the mark.

This modest view is still deeply different than that of Wilkes: “It is hard to think of any neurophysiological fact that could alter a comment made in CSP” or “CSP is autonomous to a massive degree from the physiological” (Wilkes 1991, p. 26). Here, CSP is the abbreviation of common-sense psychology, which is the same as FP. These two remarks are a pure negation of the neurophilosophy of the Churchlands. For them, true philosophers of the mind must use every means at their disposal to achieve their objectives (i.e., the pursuit of truth about the nature of mind), and neuroscientific results are at their disposal.

Though misrepresentations of it abound, the Churchland’s neurophilosophy is not a convoluted idea:

The sustaining conviction of this book [*Neurophilosophy*] is that top-down strategies (as characteristic of philosophy, cognitive psychology, and artificial intelligence research) and bottom-up strategies (as characteristic of the neurosciences) for solving the mysteries of mind-brain function should not be pursued in icy isolation from one another. What is envisaged instead is a rich interanimation between the two, which can be expected to provoke a fruitful co-evolution of theories, models, and methods, where each informs, corrects, and inspires the other. (Churchland 1986a, p. 3)

Its preferred metaphor is coevolution. The research strategy of the Churchlands is reductionist but perfectly compatible with coevolutionary methodology. In fact, regarding this, one can even say that the Churchlands’ approach is compatible with what Northoff calls “cooperative naturalism” (Northoff 2014a, pp. 95–101).

4 Neurophilosophy and the Philosophical Security Zone: Entrance Forbidden?

Some opponents of neurophilosophy treat the Churchlands, with Quine and the like-minded others, as if they are the authors of an insidious plot to weaken our time-honored philosophy and to establish a new order in philosophy—with themselves as the absolute rulers. For these people, the Churchlands have total and absolute faith in science. More strikingly, most philosophers believe that the Churchlands invite them to visit neuroscience laboratories. On the other side, for Patricia Churchland, anti-brain philosophers’ neuroscience–philosophy separation policy is jaw-dropping. For her, brain and behavior sciences, help, at the very least, to produce better philosophical theories by offering a contrarian opinion so that the relevant community of philosophers can avoid the danger of group-think. We need cognitive diversity. More importantly, the psychological view

motivating our attribution of mental states should be harmonious with the sober research in brain and behavioral sciences. Unquestioned folk psychology, handed down generation to generation through millennia and culminating in our current assumptions about the mind, should be scrutinized to check its veracity (see also Lelling 1993, pp. 1472–1473).

The Churchlands' story starts with getting some illumination from brain sciences, which might turn out to be a perilous voyage to a nonphilosophical land (also see Bickle 2018). On the one hand, the Churchlands claim that this fear is because many opponents of EM begin by misrepresenting the basic tenets of it, though most of them never intentionally do so. One can understand why the critics would be led to attribute the radical version of EM to the Churchlands, even though the Churchlands evidently do not actually espouse this version. On the other hand, some philosophers are treating neurophilosophy like a mental disease. These people have long viewed Churchland-type neurophilosophy as a breeding ground for eliminativism. They find the Churchlands outrageous, even to the extent that they believe the Churchlands are waging a war on truth and reason (Klagge 1989, p. 323). Though EM is just an extraneous part of neurophilosophy, Patricia Churchland suspects that powerful attacks against EM are in fact just meant to discredit and demean neurophilosophy itself. For them, eliminativism implies a shift in the existing role of philosophy. However, Patricia Churchland anticipates that revisions, however substantial or even radical, will create new roles instead of diminishing the role played by philosophy. Radical modifications, if they ever occur, would mean a philosophical shift; but previous philosophical shifts have not had negative effects on the role played by philosophers, as was first feared. There are some notable examples in the history of philosophy. Psychology, one and a half centuries ago, branched off from philosophy; but the contribution of philosophers to the study of the mind did not come to an end. It just transformed. This transformation would signify philosophical progress, instead of a euphuism for the death of philosophy of the mind (for an opposite view see Floridi 2017).

Over time, the mundane changes of a river may result in the change of the course of the river, and it may spill over the dam of FP into the river of a matured cognitive neuroscience. That is, FP is less vulnerable to disproof than to withering away. The Churchlands neither endorse nor deny the eliminative outcome; but they definitively endorse the eliminative possibility. In fact, what they did establish was the eliminative possibility, as it should be, not the eliminative outcome. This seemingly vague approach against FP led most philosophers of the mind to think that it is neither reasonable, nor adequate, nor in the interest of philosophy. However, a prediction should not be less vague than the evidence. For this reason, EM is not inadequate. Churchland-type neurophilosophy has been reasonably moderate since its inception. After all, they have searched for the alternatives (to FP); and no one seems to have found a better alternative than searching for the alternatives. With that being the case, EM is in the philosophical interest. The Churchlands' ideas on the fate of FP (i.e., EM), can be thought of as a strong set of commentaries that has been intended to produce a thoughtful dialogue on an important issue. They were correct in that regard.

5 Conclusion

Philosophy, through its 3000 years of history, has added scores of new assumptions and principles, deleted many outdated ones, most of which had been updated ad hoc before, and revised hundreds more. Making appropriate revisions is imperative, and elimination is predictive. This has nothing to do with being radical. I do not deny that, from the viewpoint of some paradigmatic and leading analytic philosophers of the mind of the past century, the Churchlands seem truly radical. After all, the Churchlands argue that at least some particular versions of FP concepts, such as “the sentential paradigm of belief” are dilapidated old relics, fallen into ruin. In addition, the sentential understanding of “belief” cannot simply be detached from the notion of “belief.” Thus, they become nonbelievers. This casts a suspicion on rationality and agency; but this is only true in a nonnaturalistic understanding of rationality or agency. The Churchlands are thoroughgoing naturalists.

The difficulties with FP are grist for the Churchlands’ mill; but their conclusion is in fact not radical. EM does not signify a craving for the total avoidance of mental states. It is an exploration rather than a heartfelt conviction. The Churchlands’ infamous enthusiasm is well-balanced with caution. Nonetheless, Patricia Churchland in particular believes that extra skills may be needed to cope with new philosophical progress. She already took steps to train herself to catch up; but this is a part of her caution, not a product of her enthusiasm. The idea that the philosophy of the Churchlands is not radical but moderate, yet not trivial or near-trivial, is quite novel, and I hope this conclusion advances the field by influencing future research by reducing the prejudice against the Churchlands’ neurophilosophy.

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