



The Fundamental Limitations of Cognitive Neuroscience for Stating and Solving the Ubiquitous Metaphysical Issues in Philosophy of Mind

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By employing various sorts of neuroimaging techniques such as EEG, fMRI and PET—cognitive neuroscientists gather very helpful empirical data on electrical activity, regional blood/oxygen flow, and other biochemical processes that occur in the brain. In turn, these data allow the neuroscientists to make more precise the different correlations, causal dependencies, and functional relations between conscious and brain states than were available when Aquinas and other people before him noted that damage to the brain not only disrupts but also, in some serious cases, entirely inhibits thinking. Nancy Murphy claims even more about the impact of neuroscience: “Science has provided a massive amount of evidence suggesting that we need not postulate the existence of an entity such as a soul or mind in order to explain life and consciousness.”¹ Advances in science, she says, makes dualism a view with very little justification.

However, *contra* Murphy’s claims, I shall defend the following thesis: When the central issues in philosophy of mind are made clear, it becomes evident that cognitive neuroscience which is rooted in the empirical data offers very little help, if at all, for selecting, clarifying and arguing about the central

ABSTRACT: According to Nancy Murphy, advances in science have made substance dualism a position with very little justification. However, *contra* Murphy’s claims, I defend the following thesis: When the central issues in philosophy of mind are made clear, it becomes evident that cognitive neuroscience which is rooted in the empirical data offers very little help, if at all, for selecting, clarifying and arguing about the central metaphysical issues, especially questions about the existence and nature of consciousness and the soul. Thus, the Autonomy Thesis seems warranted in philosophy of mind. To defend this thesis, I, first, show that the central metaphysical issues in philosophy of mind are largely autonomous with respect to neuroscientific discoveries; second, respond to claims made by Murphy that, if true, would undermine my thesis.

1. Nancy Murphy, “Human Nature: Historical, Scientific and Religious Issues,” in *Whatever Happened to the Soul?*, ed. Warren S. Brown, Nancy Murphy, and H. Newton Malony (Minneapolis: Fortress, 1998), 18.

metaphysical issues, especially questions about the existence and nature of consciousness and the soul. Thus, the Autonomy Thesis seems warranted in philosophy of mind. To defend this thesis, I shall, first, show that the central metaphysical issues in philosophy of mind are largely autonomous with respect to neuroscientific discoveries and, second, respond to claims made by Murphy that, if true, would undermine my thesis.

Neuroscience and the Autonomy of Philosophical Reflection on the Central Issues Regarding Consciousness and the Self

Neuroscientific empirical data are metaphysically neutral and the empirical study of the brain and goings-on within it are blind with respect to the existence and nature of consciousness and the self. And in moments of honesty, most (if not all) neuroscientists admit this is the case.

In fact, in an important article, Francis Crick and Christof Koch acknowledge that one of the main attitudes among neuroscientists is that the nature of consciousness is “a philosophical problem, and so best left to philosophers.”² Elsewhere, they claim that “scientists should concentrate on questions that can be experimentally resolved and leave metaphysical speculations to ‘late-night conversations over beer.’”³ Along similar lines, neuroscientist Jeanette Norden admits that “neuroscience cannot address questions related to whether there is a soul, separate entity, ethereal quality, or spirit that survives the death of the brain; the emphasis in modern neuroscience is to understand the brain, and ultimately how the brain and mind are related.”⁴

To give one reason why these statements are correct, consider the following: According to some neuroscientists, if a certain type of neuron—*mirror neuron*—is damaged, then one cannot feel empathy for another.⁵ How are we to understand this? To answer this question, let us look at some of the *empirically equivalent theories*. If two or more theories are empirically equivalent, then they are consistent with all and only the same set of empirical observations. Thus, an appeal to empirical data cannot be made in favor of one such theory over the others without begging a question.

Here are three empirically equivalent solutions for the mirror-neuron claims: (1) strict physicalism (a feeling of empathy is identical to something

2. Francis Crick and Christof Koch, “Consciousness and Neuroscience,” *Cerebral Cortex* 8 (1998): 97–107.

3. Cf. John Horgan, “Can Science Explain Consciousness?,” *Scientific American*, July 1994, 91.

4. Jeanette Norden, lecture series entitled *Understanding the Brain* (The Teaching Company, 2007), 6.

5. See Marco Iacoboni, *Mirroring People: The New Science of How We Connect with Others* (New York: Farrar, Straus and Giroux, 2008).

physical, for example, the firings of mirror neurons); (2) mere property dualism (a feeling of empathy is an irreducible state of consciousness *in the brain* whose obtaining depends on the firing of mirror neurons); (3) substance dualism (a feeling of empathy is an irreducible state of consciousness *in the soul* whose obtaining depends (while embodied) on the firing of mirror neurons).

Of these three positions, no empirical datum can pick which is correct. Neuroscience is helpful in answering questions about what factors in the brain and body generally hinder or cause conscious states to obtain (and conversely). Yet empirical neuroscientific data are silent about the nature of conscious properties/states. This is one of the reasons why we do not see a single position being defended by researchers of brain science.

For example, in the last few decades, three Nobel Prize winners in neuroscience or related fields were a substance dualist (John C. Eccles), an emergent-property dualist (Roger Sperry), and a strict physicalist (Francis Crick). What divided them were philosophical differences, not neuroscientific facts. Moreover, there is a cottage industry of philosophical views about consciousness and the self that are all consistent with the empirical data.

What we have observed so far is best captured by a thesis offered by George Bealer:

The autonomy of philosophy: Among the central questions of philosophy that can be answered by one standard theoretical means or another, most can in principle be answered by philosophical investigation and argument without relying substantively on the sciences.⁶

This Autonomy Thesis is best illustrated by presenting some central questions in philosophy of mind. These questions tend to revolve around inter-related families of issues:⁷

(1) Ontological Questions: What is a property? What is an event? To what is a mental or physical property or event identical? To what is the owner of mental properties/events identical? What is a human person? How are mental properties related to mental events? (For example, do the latter exemplify or realize the former?) Are there essences and, if so, what is the essence of a mental event or of a human person?

(2) Epistemological Questions: How do we acquire knowledge about other minds and about our own minds? Is there a proper epistemic order to first-person knowledge of one's own mind and third-person knowledge of other minds? How reliable is first-person introspection and what is its nature (for example, a nondoxastic seeming or a disposition to believe)? If reliable, should first-person introspection be limited to providing knowledge about mental states or should it be extended to include knowledge about one's own ego?

6. George Bealer, "On the Possibility of Philosophical Knowledge," in *Philosophical Perspectives*, vol. 10, *Metaphysics*, ed. James E. Tomberlin (Cambridge, MA: Blackwell, 1996), 1.

7. Paul Churchland, *Matter and Consciousness* (Cambridge, MA: MIT Press, 3rd ed., 2013).

(3) Semantic Questions: What is a meaning/semantic content? What is a linguistic entity and how is it related to a meaning/semantic content? Is thought reducible to or a necessary condition for language use? How do the terms in our commonsense psychological vocabulary get their meaning and accomplish reference?

The main second-order topics in philosophy of mind are these:

(4) Methodological Questions: How should one proceed in analyzing and resolving the first-order issues that constitute the philosophy of mind? What is the proper order between philosophy and science? What is the role of thought experiments in philosophy of mind and how does the “first-person point of view” factor into generating the materials for formulating those thought experiments?

Time forbids me to proffer an analysis of the topics these questions underlie, but even a brief reflection upon them makes evident that they are philosophical issues. It is far from clear how neuroscientists *qua* neuroscientists can formulate, much less argue about these issues exclusively within the domain of neuroscience. While advances in neuroscience continue to enrich our understanding of the empirical basis of the functioning of the brain, it is far from clear whether they can mitigate against the autonomy of philosophy in the sense described and illustrated above.

As far as the role of scientific data in philosophy of mind literature is concerned, we can make three main observations. First, admittedly, these days philosophers are incorporating scientific data in philosophy of mind literature. However, such data do not call for the need to revise the autonomy of philosophy.

Second, sometimes the relevance of the scientific data incorporated in philosophy of mind literature is not obvious. A curious example of this second observation comes from Paul Churchland’s book *Matter and Consciousness*, first published in 1984 and a third revised edition released in 2013. Churchland is a hard-core physicalist who rejects first philosophy and advocates scientism as a second-order methodological thesis for approaching topics in philosophy of mind. Yet, while he does include scientific information in *Matter and Consciousness*, that scientific information comes in the second half of the book and it plays absolutely no role whatever in presenting the core philosophical issues and arguments in the first half of the book. This ordering has remained constant for more than twenty-nine years. Clearly, Churchland’s actual practice underscores the Autonomy Thesis.

Finally, a conviction that neuroscientific data are highly relevant to the central issues in philosophy of mind and, in fact, settle those issues in favor of physicalism, leads to disparaging the role of metaphysics (seen in light of the Autonomy Thesis). As a result, stating and solving those issues sometimes distort those issues in a way that careful attention to metaphysics would, if done properly, disallow. Sometimes this disregard for the impor-

tance of metaphysics is done by identifying it with first philosophy and setting aside the latter on the (false) grounds that first philosophy is motivated by an epistemic commitment to Cartesian foundationalism or on the grounds that it represents a shopping-list approach to philosophy instead of the more preferable serious-metaphysics approach.⁸ Either way, Patricia Churchland got it right when she said that “naturalism follows hard upon the heels of the understanding that there is no first philosophy.”⁹

I select Paul Churchland, again, to provide one example of the distorting effect of which I am speaking. In treating what he calls the semantic problem in philosophy of mind, Churchland begins by identifying what he takes to be the central issue in dispute: “Where do the terms in our common-sense psychological vocabulary get their meaning?”¹⁰ If one returns to my list of the central issues in philosophy of mind and looks at those mentioned in association with semantic problems, one will find the following questions included: What is a meaning/semantic content? What is a linguistic entity and how is it related to a meaning/semantic content? Is thought reducible to or a necessary condition for language use? In light of these questions, Churchland’s treatment of “the semantic problem” is distorting in two ways.

First, it violates the proper order that becomes evident from thinking about “the semantic problem.” If one attends to that order it becomes clear that the questions just listed must be treated first before one can be in a position to address appropriately the issues involved in stating and resolving the question about where the terms in our folk-psychological vocabulary get their meaning. Second, had Churchland approached “the semantic problem” in the proper order, his own treatment of the problem would often be seen as question-begging in favor of physicalism as well as inadequate in light of what must be addressed as discerned from grappling with the prior questions.

Responding to Nancey Murphy’s Defeater-Claims

As I mentioned at the beginning of this paper, Nancey Murphy rejects the Autonomy Thesis and claims that while substance dualism cannot be proven false, nevertheless, “biology, neuroscience, and cognitive science have provided accounts of the dependence on physical processes of *specific* faculties once attributed to the soul.”¹¹ Murphy asserts that we should take

8. For examples of the former, see Patricia Churchland, *Neurophilosophy: Toward a Unified Science of the Mind/Brain* (Cambridge, MA: MIT Press, 1986), 265; David Papineau, *Philosophical Naturalism* (Oxford: Blackwell, 1993), 4. For the paradigm case of the latter, see Frank Jackson, *From Metaphysics to Ethics* (Oxford: Clarendon, 2000), chap. 1.

9. Churchland, *Neurophilosophy*, 277.

10. Churchland, *Matter and Consciousness*, 87.

11. Nancey Murphy, “Human Nature: Historical, Scientific, and Religious Issues,” in *Whatever Happened to the Soul?*, ed. Warren S. Brown, Nancey Murphy, and H. Newton Malony (Minneapolis: Fortress, 1998), 17. Also see 13, 27, 139–43.

physicalism, not merely as a philosophical thesis, but primarily as the hard core of a scientific research program. If we look at physicalism not as a philosophical thesis but as a scientific theory, then there is ample scientific evidence for it.¹² For Murphy, “science has provided a massive amount of evidence suggesting that we need not postulate the existence of an entity such as a soul or mind in order to explain life and consciousness.”¹³ Thus, since advances in science have provided detailed accounts of mental/physical dependencies which make postulation of the soul otiose, the Autonomy Thesis is false, at least in this case.

Before I offer responses to these claims, I should reply to Murphy’s criticism of my employment of them. On November 16, 2017, Murphy and I served on a three-hour panel at the national meeting of the Evangelical Philosophical Society in Providence, Rhode Island. The panel debated the relative merits of substance dualism versus different physicalist alternatives, and the format involved three two-person debates by the panel members. As it turned out, I debated Murphy. One of her charges against me was that I was quoting statements she had made twenty or thirty years ago that are now outdated and no longer relevant. Those quoted statements are the ones with which I began this section.

What should we make of Murphy’s claim? In short, it is simply false. I do, indeed, cite references that were made by Murphy in her coedited book *Whatever Happened to the Soul?* published in 1998. But for two reasons, these citations cannot be taken as anachronistic, outdated, or no longer relevant.

For one thing, as far as I can tell, she has never retracted these claims and, indeed, she has continued to appeal to science in general, and neuroscience and neurobiology in particular, as authoritative in solving problems in philosophy of mind. For example, in a piece published in 2005, Murphy appeals to the findings of neuroscience to explain our capacity for moral responsibility and judgments, the nature of the self and its relation to a self-concept, and the nature and cause of personal identity over time.¹⁴

In her 2006 book *Bodies and Souls, or Spirited Bodies?* Murphy devotes an entire chapter to the impact of physics, evolutionary biology, and neuroscience on our view of human nature.¹⁵ At the beginning of the chapter, she asserts that there were three major points in church history where Christians were *forced* (!) to reevaluate their views of human nature. At one key point she says, “The third major scientific impact is taking place right now due to

12. Nancy Murphy, “Nonreductive Physicalism: Philosophical Issues,” in *Whatever Happened to the Soul?*, 127–48.

13. *Ibid.*, 18.

14. Nancy Murphy, “Nonreductive Physicalism,” in *In Search of the Soul*, ed. Joel B. Green and Stuart L. Palmer (Downers Grove, IL: InterVarsity, 2005), 122–31.

15. Nancy Murphy, *Bodies and Souls, or Spirited Bodies?* (New York: Cambridge University Press, 2006), 39–70.

the influences of contemporary neuroscience. It is becoming increasingly obvious to many that the functions and attributes once attributed to the soul or mind are better understood as functions of the brain.”¹⁶

I make two observations of this statement: (1) It was published eleven years prior to the panel and this is hardly the twenty to thirty years between the content of my panel citations and her actual position, a position that remains the same from 1998 to 2006. (2) If you compare this quotation with the first citation that begins this section, they are virtually identical in content. No anachronisms here.

This last observation provides a nice transition to my second response to Murphy’s charge. Not only has she never retracted her 1998 assertions and, indeed, has continued to rely on the authority of neuroscience to solve problems in philosophy of mind, but she has explicitly reaffirmed the statements I cite at the beginning of this section. We just saw one example of this. Another is this assertion in the 2005 publication *In Search of the Soul*: “What are the grounds for thinking that physicalism is true? . . . Recent successes of the neurosciences in studying mental capacities as brain functions have provided strong motivation for physicalism . . . I have argued (elsewhere) [*she cites the same 1998 article from which my own quotations were derived*] the best way to view the contest between dualism and physicalism is to treat each position not merely as a philosophical thesis but as the ‘hard core’ of a scientific research program.”¹⁷

Returning to Murphy’s claim that since advances in science have provided detailed accounts of mental/physical dependencies which make postulation of the soul otiose, so the Autonomy Thesis is false, I offer three responses. First, many substance dualists do not believe in a substantial ego (or the nature of various conscious states) primarily because it is a theoretical postulate with superior explanatory power. Rather, they take the ego to be something of which people are directly aware. Assuming this dualist view, the point is that advances in our knowledge of mental/physical dependencies do not pose any serious threat to the conception of human ontology under consideration. And the further debate about which approach is the fundamental one for defending substance dualism is not something for which advances in scientific knowledge are directly relevant.

Second, in those cases where substance dualism *is* postulated as the best explanation for a range of purported facts, typically, those facts are distinctively philosophical and not the scientific ones Murphy mentions. Arguments from the unity of consciousness, the possibility of disembodied survival or body switches, the best view of an agent to ground libertarian freedom, the metaphysical implications of the use of the indexical “I” are typical of argu-

16. *Ibid.*, 40.

17. Murphy, “Nonreductive Physicalism,” 131 (italics in square brackets mine).

ments offered by substance dualists, and the facts Murphy mentions are not particularly relevant for assessing these arguments.

Third, the discovery of “the dependence on physical processes of *specific* faculties once attributed to the soul” does not provide sufficient grounds for attributing those faculties to the brain rather than to the soul. After all, are dualists supposed to think that mental/physical correlations or causal relations are vague and unwieldy and not specific and regular? To make sense of this question, it is important to get clear on the use of “faculty” as the term has been used historically in discussions of substances in general and the soul in particular.¹⁸ Roughly, a faculty of some particular substance is a natural grouping of interrelated capacities or potentialities possessed by that thing. For example, the various capacities to hear sounds would constitute a person’s auditory faculty. Moreover, a capacity gets its identity and proper metaphysical categorization from the type of property it actualizes. The nature of a capacity-to-exemplify-*F* is properly characterized by *F* itself. Thus, the capacity to reflect light is properly considered a physical, optical capacity. For property and substance dualists, the capacities for various mental states are mental and not physical capacities. Thus, the faculties that are constituted by those capacities are mental and not physical faculties.

Now, arguably, a particular is the kind of thing it is in virtue of the actual and potential properties/faculties essential and intrinsic to it. Thus, a description of the faculties of a thing provide accurate information about the kind of particular that has those faculties. For example, a description of the (irreducible) dispositions of gold provide us with information about the sort of thing gold is.

A description of a particular’s capacities/faculties is a more accurate source of information about its nature than is an analysis of the causal/functional conditions relevant for the particular to act in various ways. The latter can either be clues to the intrinsic nature of that particular or else information about some other entity that the particular relates to in exhibiting a particular causal action, for example, a chemical catalyst.

For example, if Smith needs to use a magnet to pick up certain unreachable iron filings, information about the precise nature of the magnet and its role in Smith’s action does not tell us much about the nature of Smith (except that he is dependent in his functional abilities on other things, for example, the magnet). We surely would not conclude that the actual and potential properties of a magnet are clues to Smith’s inner nature. Similarly, functional dependence on/causal relations to the brain are of much less value in telling us what kind of thing a human person is than is a careful description of the

18. For a general treatment of the history of the philosophical concept of a faculty, see Dominik Perler, *The Faculties: A History* (New York: Oxford University Press, 2015). For a more specific application of “faculty” to the topic of the soul, see F. R. Tennant, *Philosophical Theology I: The Soul and Its Faculties* (New York: Cambridge University Press, 1956), 1–138, especially 33–43.

kind-defining groups of mental capacities, that is, faculties, human persons as such possess. The bottom line here is that essential properties underlie a particular's belonging to its proper kind. For example, Socrates is essentially a human being because he belongs to the kind *human*.

Finally, while there may be value in the heuristic employment of physicalism as a methodological principle in doing neuroscience, for two reasons such employment will not justify the physicalist ontology Murphy claims it does. For one thing, neuroscientific methodology essentially relies on first-person introspective reports based on knowledge by acquaintance with that person's self and conscious states to which the person has private and authoritative access.¹⁹ As John Searle has noted, it will not do simply to dismiss this point as merely epistemological and as one from which no ontological implications follow.²⁰ The point about private, authoritative access and related arguments (for example, various knowledge arguments) is straightforwardly ontological: physical particulars, properties and relations are all publicly accessible and fully describable without leaving the third-person perspective. If the self and conscious states were physical, there simply would be no private, authoritative access. Only if these entities are irreducibly mental do we have an explanation for private, authoritative access.

For another thing, Jeffrey Schwartz has adopted a dualist methodology in dealing with obsessive-compulsive behavior and other issues.²¹ By assuming there is a nonphysical self with libertarian freedom and that thoughts and beliefs are constituted by irreducible semantic content and intentionality, he has been able to bring healing to such patients, and show the importance of dualists' conception of human ontology to understand neuroplasticity which deals with restructuring of the brain.

For these and other reasons, I believe the Autonomy Thesis stands. And if this is so, then cognitive neuroscience is largely irrelevant for stating and solving the ubiquitous metaphysical issues in philosophy of mind.²²

19. For an excellent defense of this point, see Mihretu P. Guta, "Consciousness, First-Person Perspective, and Neuroimaging," *Journal of Consciousness Studies* 22, nos. 11–12 (2015): 218–45.

20. John Searle, *Mind: A Brief Introduction* (New York: Oxford University Press, 2004), 96–9.

21. Jeffrey M. Schwartz and Sharon Begley, *The Mind and the Brain* (New York: Harper-Collins, 2002).

22. I am grateful to Mihretu P. Guta for his invaluable comments on an earlier draft of this paper.