**The Consequences of Neurophysiological Materialism**

Most of us believe that our mental contents play a central role in explaining what we believe about those contents and justifying our beliefs about them. For the most part, we take it for granted that we can know what those contents are simply by apprehending them reflectively in consciousness. Thus, I can know that I am presently aware of a red sense-datum (for example) simply through the fact that a red sense-datum is directly and immediately present in and to my consciousness, a fact that I am capable of making explicit to myself in reflection through directing my attention to that mental content. I thereby *apprehend* it, so that I am not merely aware of that red sense-datum but also aware of the fact that I am aware of it. On this traditional, everyday account of the matter, the presence in and to consciousness of a particular mental content, in this case the red sense-datum, is essential to my claim to know this fact and thus the truth of the proposition expressing that fact. Further, this is so in two ways. First, the presence of that sense-datum in and to consciousness is explanatorily essential to my *apprehension* of it as a fact of my mental life, by providing both the *content* and the *object* of that reflective mental act. Secondly, that apprehension provides the *epistemic ground* for the truth of my beliefs concerning that mental content, such as that I am presently aware of a red sense-datum, that I apprehend that mental content, that I know these facts obtain, and thereby know the truth of the statements that express that knowledge. These beliefs, in turn, will be *rational* to the extent that they are explicitly based on grounds or reasons that *justify* those beliefs, or at least capable of being so based by those who hold them. These reasons, in turn, derive from our direct apprehension of our individual mental contents, *a priori* insights, deductive and inductive inferences, observation and experiment, etc. The systematic study of substantive questions using the procedures of discursive reason, which we may call *theoretical inquiry* and of which philosophy and natural science are examples, pursues truth and knowledge in a sustained, methodical way, hoping to arrive a general picture of the nature of things. At any rate, so it seems to common sense and has been affirmed by traditional philosophers as well.[[1]](#footnote-1)

In this essay, I argue that if neurophysiological materialism is true, this ordinary picture of the role and significance of mental contents cannot be sustained. By *neurophysiological materialism,* I mean the thesis that each and every mental content present in consciousness, regardless of its properties, is the product of the operation of non-mental, purely physical causes existing in the brain, causes whose operation cannot be apprehended *as such* even in principle but must be posited as extramental, theoretical entities. If this claim is true, we can always provide a *full* and *complete* explanation of the presence of any mental content in consciousness by reference to such causes. In that case, I argue, the presence in consciousness of those contents plays no essential role in any of the judgments we make or beliefs that we arrive at concerning those contents or their justification. This, in turn, generates insuperable epistemological problems for the neurophysiological materialist. I conclude that, since it is impossible for us to entertain the idea that our mental contents are irrelevant to judgment and belief, we ought to reject neurophysiological materialism, even if it cannot be disproven on rational grounds alone.

Suppose I believe, *allegedly* on the basis of my immediate experience, that I am currently perceiving a red sense-datum. If neurophysiological materialism is true, then there is a complete explanation of my believing this, one to be given in terms of the activity of non-mental, purely physical causes existing in my brain. This explanation will make no essential reference to my immediate experience or its contents at all. As such, my belief that I presently *perceive* a red sense-datum owes nothing to the presence in my mind of the *putative* red sense-datum I claim to perceive, even if it is there. In that case, that red sense-datum itself (even if present) is in no way the cause or ground of my belief that it is present to me. This is important, because as I have explained, I would ordinarily claim to *know* that my belief that I am now perceiving a red sense-datum is true on the basis of my direct and immediate apprehension of the red sense-datum itself as my current mental content. If neurophysiological materialism is true, however, the red sense datum and my putative awareness of it played either no role whatsoever or some completely dispensable role in the acquisition of that belief. That is because if neurophysiological materialism is true, every mental state is the product of the operation of non-mental, purely physical causes existing in my brain and this includes all my beliefs, including my beliefs about my putative apprehensions. Thus, for example, the fact that I believe that I am apprehending a red sense-datum will likewise be the product of the operation of non-mental, purely physical causes existing in my brain, which will completely explain why I am in that belief-state. Once again, then, my belief that I am presently apprehending that red sense-datum owes nothing to that apprehension itself, even if I am actually apprehending a red sense-datum at the present moment. Thus, if neuropsychological materialism is true, I have that belief solely due to the operation of non-mental causes existing in my brain, causes that have produced that belief in me in a manner indifferent to the presence or absence of the apprehension that is the object of that belief.

It follows, then, that my belief to the effect that my belief that I currently perceive a red sense-datum is based on my immediate experience of a red sense-datum is, after all, *false*. If neurophysiological materialism is true, the actual causes of my believing this are quite other than the one I take it to be, and this will hold regardless of whether that sense-datum is present to consciousness or even that I do in fact apprehend it. My conviction that my belief that I am experiencing a red sense-datum is based on my apprehension of that sense-datum has to be dismissed as an illusion, or at best, an example of the false, pre-scientific “folk psychology” that modern science supposedly supersedes.

II

This is a highly counterintuitive result, to say the least, but is it epistemically fatal? Couldn’t my apprehension of the red sense-datum still serve as the *epistemic* or *justificatory* ground of the beliefs associated with it? After all, if I actually have it, why not?

Here is the reason why not. The foregoing argument will also hold for my belief that I am epistemically justified in believing that I presently perceive a red sense-datum in the same way as it did in the other cases. If neurophysiological materialism is true, this belief too will be the product of the operation of non-mental, purely physical causes existing in my brain in which my apprehension of that sense-datum, even if actual, will play no role, or only a purely dispensable one, in its acquisition. The same will hold, in turn, for my belief that I *actually* apprehend a red sense-datum at the present moment. If neurophysiological materialism is true, I hold that belief as well due to the operation of non-mental, purely physical causes existing in my brain. For still the same reason, the same will hold for the *conjunction* of these two claims, i.e., that I am epistemically justified in believing that I perceive a red sense-datum at the present moment *because* I actually apprehend a red sense-datum at the present moment. This belief too will be the product of the operation of non-mental, purely physical causes existing in my brain in which that apprehension, even if actual, plays no significant (non-dispensable) causal or explanatory role. At no point in any of this, then, does my putative apprehension, even if actual, play any role that will permit it to serve as the causal or justificatory ground of my beliefs, even if they are true and even if that apprehension could in principle provide such grounds for that belief. At every point, the operation of non-mental, purely physical causes existing in my brain blocks me from asserting any claim that makes indispensible reference to the mental content itself in such a way that it makes an explanatory contribution to my actually holding that belief. In so doing, it also prevents my apprehension of that mental content from serving as the epistemic ground of that belief, constituting it as epistemically justified for me. This will hold even about such facts as those concerning the immediate contents of consciousness, even supposing that I do in fact apprehend them.

III

Surely, one will say, if I really do apprehend a red sense-datum, even if that apprehension is the product of non-mental, purely physical causes existing in my brain, I can be certain that I do apprehend it and so appeal to that apprehension to justify epistemically the foregoing beliefs. However, if neurophysiological materialism is true, it is perfectly possible that this claim is false. There is no reason to suppose that non-mental, purely physical causes existing in my brain might not produce *unshakeable conviction* that I am apprehending a red sense-datum when in fact, I am doing no such thing and there is no red sense-datum present to my consciousness *at all*. More than this, it is arguably an empirical fact that this sometimes happens. Oliver Sacks, for example, has documented cases of people who sincerely believe, and claim with the sort of complete conviction that accompanies incorrigible belief, that they can see and have visual experiences even though they are blind and to have such experiences is physically impossible for them.[[2]](#footnote-2) If my putative apprehension of a red sense-datum is the product of non-mental, purely physical causes existing in my brain, my mere testimony that this sense-datum is present to my consciousness is on a par with, hence no better than, that of the people described by Sacks. The presence or absence of that sense-datum, then, may well make absolutely no difference to the fact that I hold the belief that I do, and given the same causal antecedents, I would have believed it regardless of what (if anything) was going on in my consciousness.

Now one may want to insist that, however it may be with people like those described by Sacks, I *am* actually aware of what I sincerely avow to be the case when I assert that I currently perceive a red sense-datum, and that this makes all the difference in the world between my case and theirs. However, on this supposition, the difference between my case and theirs crucially turns on the factual question of whether the red sense-datum is *actually present* in and to my consciousness while it is absent in theirs, despite their unshakeable belief to the contrary. How could I resolve this factual question? I could do so easily if I possessed a power of intellectual, introspective apprehension that made it possible for me to grasp, directly and immediately, my mental contents and their properties *as such* and thus ground my beliefs and their justification on that apprehension. However, if neurophysiological materialism is true, *all* of my mental states, even my putative apprehensions of my own mental contents, are the product of the operation of non-mental, purely physical causes existing in my brain. As such, I never have direct, unmediated access to any of my mental contents sufficient to confirm either their presence or their qualitative properties: the operation of non-mental, purely physical causes existing in my brain always dispose of the matter independently of those contents and their properties, whatever they might be. I thus have no way to confirm that matter-of-fact, and thereby resolve that empirical question, in this or any other case. The truth of neurophysiological materialism preempts and excludes mental contents from having any influence over our beliefs about our mental contents, rendering them useless as an epistemic ground for any belief whatsoever, including the belief that I am actually aware of a red sense-datum at the present moment, *even if I am*! The same, of course, will hold of my belief that it *seems* to me that I perceive a red sense-datum at the present moment, and so on.

IV One might want to protest that, given the fact that mental contents are nomically dependent on their corresponding neural correlates, that it was not causally possible for those antecedents to have obtained without the presence of the appropriate sense-datum in consciousness. On this view, part of what it *means* to be in a particular neural state *is* for the person in that state to be aware of a particular mental content, existing as the mental correlate of that particular neural state. Thus, one might argue that the people described by Sacks will have acquired their delusive belief in another way, one neurologically distinguishable from our own, and that given this their case may safely be put aside.

One can say such things, of course, but this claim can hardly be a *conceptual truth* about these states or knowable *a priori* in some way independently of the operation of non-mental, purely physical causes existing in my brain, at least if neurophysiological materialism is true. Nor, in any case, do mental states and their neural correlates appear to be internally related so that (like left and right) we can apprehend the one only if we at the same time apprehend the other. To the contrary, I can (apparently at least) have detailed knowledge of my own mental states through direct and immediate apprehension of their contents and properties without even knowing that I have a brain or believing that the brain has anything to do with cognition. The supposed correlations, then, are clearly logically contingent. Since apprehension of my mental contents as such does not carry with it the same – or indeed any – sort of apprehension of the supposed neural correlates upon which they somehow depend, that there is such a correlation here needs to be justified somehow. So how could we confirm that these correlations actually exist?

Apparently, this will only be possible if we can somehow empirically *confirm* these nomic connections between mental contents and their neural correlates. Leaving aside the problem of how we would establish the *nomic* (hence modal) aspect of this claim, the very project of establishing such a correlation using empirical methods is surely conceptually impossible if neurophysiological materialism is true. Such correlations cannot be established by neurophysiology alone, because they make inevitable reference to mental contents or properties that cannot be empirically detected *except* through the presence of their neural correlates. So no such correlation can be established in this way without presuming what is not in evidence and begging the question. Presumably, we can establish such correlations only by matching people’s reports about their subjective mental contents and the properties of those contents with publically observable brain-states.[[3]](#footnote-3) This, however, presupposes that the experimental subjects do actually possess mental contents and can accurately describe the properties of those states. Such correlations could be established only if those subjects had some sort of direct, unmediated access to their own mental states and their properties by means of a faculty that apprehends them directly and immediately, hence independently of the influence of non-mental, purely physical causes existing in our brains. However, if neurophysiological materialism is true, we have no such access, and any such project is stillborn. Indeed, for reasons we have seen, if neurophysiological materialism is true, we are in no position to affirm with any confidence that any such mental states or properties even exist. Such correlations, then, cannot be even so much as established in the first place, let alone used to prove that such contents are nomically connected to their supposed neural correlates. As such, we are blocked from establishing either the dependence or the identity of mental events with their supposed neural correlates through knowledge of any such correlations, even in principle.

Worse even than this, we have to note that, in order to make these correlations, even on the side of neurophysiology, it has to be possible for us to observe the brain, its states, the outcomes of scientific experiments, and so on, since only in this way could we acquire the empirical evidence required to establish that such correlations exist. However, any such observations, depending as they do on sense-experience, would have to be mediated to us by our own conscious states and their contents, which putatively inform us of the relevant empirical facts. However, as I have just argued at length, if neurophysiological materialism is true, our conscious states have no role whatsoever to play in the formation of our beliefs about the external world. All such contents are preempted in this role by the operation of non-mental, purely physical causes existing in our brains, which given the foregoing we can never apprehend, even in principle. Thus, if a scientist believes that he can arrive at such correlations based on the empirical evidence derived from observation and experiment, and neurophysiological materialism is true, he or she must surely be mistaken about this. The scientific judgments and beliefs supposedly based on observation and experiment owe nothing at all to these *as such*. Instead, those judgments and beliefs are simply the product of the operation of non-mental, purely physical causes that operate indifferently to the presence of any such contents, and can (for all we can possible know if neurophysiological materialism is true) in principle realize their effects without them. In that case, it is not clear that any form of theoretical enquiry, not even neurophysiology itself, is possible even in principle.

Science will not be possible unless it is possible for us to apprehend the external world in some fashion, to make observations and measurements, construct and observe the outcomes of experiments, and to reason from (observable) effects to (usually hidden) causes. In turn, the very possibility of all these operations requires that our beliefs be based on the input of the senses and the judgments they evoke, and which are subsequently accepted as beliefs on the basis of that evidence. However, by preempting their influence, non-mental, purely physical causes existing in the brain exclude anything like this from being a correct depiction of what is happening when a scientist does his work. At best, the account of scientific reasoning sketched above constitutes a kind of “folk psychology” of scientific inquiry, one that a truly scientific description of the matter would show to be a mere, pre-scientific illusion. However, it is not immediately clear what such a view could even amount to, let alone formulated and verified in a way consistent with its own claims and within its own strictures. I leave it to others to ponder that speculative question.

For my part, I think that the standard account of intellectual inquiry, far from being a folk-psychological myth, cannot be denied without destroying not only the possibility of intellectual inquiry, but of human rationality itself. Any successful scientific inquiry would provide a *pro ambulo* refutation of the claims of neurophysiological determinism. In that case, our very success in establishing correlations between mental events and their supposed neural correlates, must be taken as evidence *against* neurophysiological materialism rather than support for it (as it is universally taken to be). To the contrary, it ought to be taken to be evidence that we have a capacity to apprehend, directly and immediately, our own mental contents without the mediation of non-mental, purely physical causes existing in the brain.

V

This sort of argument can be extended to every other sort of knowledge claim: mathematical and logical truths, *a priori* truths, claims based on deductive and inductive inference, empirical claims based on observation and experiment, and so on. *If we know anything at all, we know that neurophysiological determinism must be false*.[[4]](#footnote-4) Having illustrated how this argument works for what it is presumably the most difficult case, I leave further extensions of this argument to these other cases as an exercise for the interested reader. Let’s cut to the chase.

The upshot is this: only if I am able to both apprehend my mental contents and to make some reflective judgments independently of the operation of non-mental, purely physical causes existing in my brain is it possible for me to have any knowledge at all, even of the facts that I would claim to know with the greatest certainty. This prospect of neurophysiological materialism does the Evil Genius argument one better but, like the argument from the possibility that I am insane, it destroys itself as a ground for skepticism, by destroying rationality altogether. If I cannot have the kind of direct access to my mental contents that is required in order for them to play some role in the production of the thoughts by means of which I reflect on them, then rationality is an illusion and all reflective thought comes to an end. I may think that I am capable of reflective thought, and believe that I actually engage in it, but that is only because I have been caused think this by non-mental, purely physical causes existing in my brain. In the same way, should I try to reflect on that fact, it will obtrude that I have been caused to think that I have been caused so to think, and so on, by other causes of the same sort. The operation of non-mental, purely physical causes always serves to break the connection between reflection and its object, interposing itself between them so that the reflective act never attains its putative object or does so only indirectly and merely accidentally. Our subjective experience testifying to the contrary must be rejected as false if neurophysiological materialism is true. In that case, I can never genuinely think at all in the sense that thinking is related to rational belief as traditionally understood.

In that case, theoretical inquiry as we ordinarily take it to be will be impossible as well, since the purpose of such inquiry is presumably to arrive at rational beliefs about substantive matters of fact. After all, I can think to some purpose in this regard only if my thoughts are responsive to my mental contents, logic, and governed by the rules of inquiry rather than merely being the product the operation of non-mental, purely physical efficient causes existing in my brain, as must be the case if neurophysiological determinism is true. Since philosophy and natural science are branches of intellectual inquiry, the truth of neurophysiological materialism will also exclude those activities as well, and for the same reason. At the same time, if I cannot do natural science, then I cannot provide scientific evidence for the truth of neurophysiological materialism – presumably the only sort of evidence relevant to determining the truth or falsity of that theory.

Given the foregoing, we need never fear that science will prove that neurophysiological materialism is true, since any such proof would be at the same time proof that science, as a mode of theoretical inquiry, is impossible for human beings. Neurophysiological materialism, then, is epistemically self-refuting. It does not follow from this, of course, that neurophysiological materialism is false. A transcendental argument of the sort I have been constructing here cannot arrive at any such substantive result. However, this is cold comfort for the proponent of neurophysiological materialism. If I am even to be able to seriously consider the question of whether neurological materialism is true, it has to be possible for me to arrive at a rational judgment concerning this substantive, factual question. If neurological materialism is true, however, then as we have there is no way for me even to begin to do this. Indeed, I cannot even so much as entertain the possibility that neurophysiological materialism might actually be true, since its actual truth would exclude my being able to do so. Thus, regardless of whether neurological materialism is true, I can only proceed on the assumption that it is false if I am to consider the question of its truth at all, since the falsity of neurophysiological materialism is a necessary condition for this to be possible. In that case, of course, further discussion of the question is clearly otiose. Surely, then, we are well within our rights as rational beings to reject any such theory, even if the foregoing argument does not (as it does not from the rational point of view) *prove* that this theory is false. It would never be reasonable to accept it, even on a provisional basis, since to do so would constitute intellectual suicide given the implications of that theory. To do this would not even be intelligible if there was no alternative, and this is clearly not the case.

Quite the contrary: I am much more certain that I directly and immediately apprehend my own mental contents than I am of the truth of any scientific theory, let alone a philosophical theory like neurophysiological materialism. Indeed, I would claim to know this fact with *incorrigible* certainty, a certainty that excludes all possibility of error or deception. Thus, to the extent that neurophysiological materialism is inconsistent with that incorrigible fact, I must reject it as obviously false. Further, this common sense assumption of traditional philosophy proves to be self-referentially consistent and intuitively satisfying as the basis for an account of apprehension, judgment, inference, and rational belief-formation, a fact that shines out in relation to the supposed neurophysiological “alternative.” Therefore, given that neurophysiological materialism proves to be inconsistent with that sort of account and is itself of doubtful coherence, it appears to me I have every right as a rational being to reject neurophysiological determinism as false.

1. It is to be noted here that our concern in this context is solely with the contents of our own minds, not with the objects they putatively represent to us. The question, then, concerns our knowledge of our own thoughts and other mental states. [↑](#footnote-ref-1)
2. See the case study “The Last Hippie,” in Oliver Sacks, *An Anthropologist on Mars*, New York, Vintage, 1996, 42-76. [↑](#footnote-ref-2)
3. As I shall insist immediately below, however, all publically observable things, events, and states-of-affairs are mediated by subjective mental states that are directly apprehended by individual observers, so that there is no prospect of supplying such correlations in any event. [↑](#footnote-ref-3)
4. Of course, it doesn’t follow from the foregoing that we do know anything, or that neurophysiological determinism is false. However, for reasons that will emerge below, we need never worry that someone might actually prove that this is the case. [↑](#footnote-ref-4)