

NAGEL, PHYSICALISM AND SUBJECTIVITY

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The twentieth century has seen the demise of nonphysical theories of mind. The Cartesian tradition of mind-body dualism according to which "the natures of mind and body are acknowledged to be not only diverse but even, in a manner of speaking, to be the contraries of one another," (Descartes, p. 8), today seems quaint to most thinkers. Although a few contemporary theorists continue to embrace Descartes' view that mind is a nonphysical substance that interacts with the (physical) human body,¹ arguments against dualism "have moved most ... of the professional community to embrace some form of materialism" (Churchland, p. 21).

"Materialism," or "physicalism," is the position that takes our modern scientific worldview seriously. The position assumes that humans fall unproblematically into the biological world of trees, flowers, fish, monkeys and amoeba. The biological world is in turn explainable in terms of the dances of elementary bits of matter and the forces which play roles in their interaction. "The message of the last 300 years of science is that ultimately we—and all else—are nothing but swarms of particles" (Sterelny, p. 2).²

Thus physicalism forces us to conclude that human minds—like human bodies—fall squarely in the domain of our physical theories. The phenomena we call "mental" are on an ontological par with the activities of squid, radiation and bricks; the entities are different only in organization and complexity.³

However popular among contemporary philosophers and scien-

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¹ Namely John Eccles (1979, 1980) and Karl Popper (cf. in Eccles 1980).

² One should remember, though, that the terms of physics change with empirical and theoretical developments. (cf. J.J.C. Smart: "By 'materialism' I mean the theory that there is nothing in the world over and above those entities which are postulated by physics (or, of course, those entities *which will be postulated* by future and more adequate physical theories)" (p. 159, italics mine).

³ But the "only" here should not be read as diminutive; these differences should not be taken lightly. The human brain is host to over 50 billion neurons and *trillions* of interneuronal connections. For more on the importance of the boggling power of the human organ of thought, see Dennett's "Fast Thinking" (*IS*, pp. 323–337).

tists, the dominant strains of physicalism have been resisted by some non-dualist theorists as patently wrong or, at best, incomplete.⁴ These philosophers fear that the materialist position leaves out something important about our nature and in so doing presents an incomplete picture of the world. These thinkers challenge the notion that contemporary science is able fully to explain the universe, for, they claim, the concepts of modern science are in principle unable to subsume certain facts that we know or intuit to be true—facts which center on the mind-body problem in philosophy.

This essay deals with a prominent exponent of this hesitancy toward physicalism, Thomas Nagel. In a series of essays and books, Nagel has developed his position around the issue of subjectivity.

The problem is one of opposition between subjective and objective points of view. There is a tendency to seek an objective account of everything before admitting its reality. But often what appears to a more subjective point of view cannot be accounted for in this way (*MQ*, p. 196).

My work here focuses on evaluating the import for physicalism of Nagel's concerns about subjectivity. My treatment of the issue breaks into two tasks: first, identifying and describing the various senses of subjectivity that Nagel finds problematic for physicalism, and second, sketching a possible salve for the quandary elicited by each sense. I hope in this way to answer the following question by the end of the paper: *Does subjectivity pose an intractable problem for a modern physicalist worldview?*

My approach relies on the notion that one can make progress on even seemingly big problems when steps are taken to identify manageable parts. By taking those steps in this paper, I hope at least to point the way toward an ultimate reconciliation between Nagel's notion of subjectivity and physicalism—a useful enterprise even if the reader fails to accept my own formulations for this feat.

⁴ I shall not deal here with contemporary dualists. I take their positions to be obviously untenable for reasons any cursory look at the materialist literature will reveal.

The first sense: Intraspecies Subjectivity

On Nagel's view, we miss something when we describe a person in the objective terms of physics. The thing that physical descriptions leave out is "the internal element ..." which "remains, even if ignored, as the true source of persistent dissatisfaction with all physical or other external theories of the mind" (MQ, p. 202). Nagel thinks that this internal feature of subjective experience "cannot be captured by the purified form of thought suitable for dealing with the physical world that underlies the appearances" (VN, p. 15). Subjective experience for Nagel includes such phenomena as "raw feels" and "intentional mental states" (VN, p. 15).

So, on a first pass, Nagel seems concerned about what philosophers call "qualia."⁵ The debate about qualia—the intrinsic properties of our sense experience which physical descriptions somehow cannot capture—is familiar to all of us. In fact, many of us discovered the "qualia problem" in childhood. If you ever wondered whether what you call "red" might be seen as "green" to me, *internally*, then you hit on the puzzle. Or, if you ever found yourself troubled that what I call "pain" might not feel the same as what you call "pain," you were uncovering a similar difficulty. Even though we might point to the same things when we say "red," or we might say we feel "pain" in all the same circumstances (perhaps whenever we have our teeth drilled), it seems impossible to say whether my "red" or "pain" is the same—has the same "qualia"—as your "red" or "pain."

But if our qualia are not fixed by reference to our behavior, how can physics, the science of behavior *par excellence*, ever capture what is it to see "red" or feel "pain"? Even if we possessed full neurophysiological descriptions of the brain states involved in the instantiations of these qualia, how would we say in physical terms *what it was like* to "see red" or "feel pain"? In fact this seems what Nagel has in mind in asserting that

⁵ Here I group "raw feels" and "intentional mental states" together. Strictly speaking, the term "qualia" is used in the literature to refer only to "the intrinsic qualitative nature ... that is revealed in introspection" (Churchland, p. 24) of sensations. However, I think that much of what seems irreducible to physical terms in the notion of "intention" might be characterized in terms of qualia.

the subjective character of experience ... is not analyzable in terms of any explanatory system of functional states, or intentional states, since these could be ascribed to robots or automata that behaved like people although they experienced nothing (WLB, p. 436).

The subjectivity problem, then, is first of all an intraspecies problem: How can we say anything about the character of our subjective human mental states—like feeling pain and seeing color—by using the predicates of physics? How could a description like “neuron 800,456 is firing— you are seeing red” capture anything close to what I mean when I say I see “red”?

We could answer this question in at least two ways. A first possibility is to take the position that, because we cannot say much about qualia (try describing what “red” looks like), they prove too flimsy and informationally poor to matter to physics (or artificial intelligence, by the way). A subset of this view might hold that the idea of qualia as entities, as something real, is misguided—there really are no such things as “painness” or “redness” left over when we explain your “pain feeling” or “red feeling” in terms of your physical design and functioning (Dennett takes this view in his brilliant work on consciousness (*CE*, pp. 369–411)). These stances on qualia are ingenious, plausible and perhaps true. But they are also counter-intuitive and controversial. Nagel *seems* correct in saying “our original concept [of pain] already picks the thing out by an essential feature ...” (*VN*, p. 47) If he *is* correct, then we must account for qualia in some way, and *prima facie* we might have to accept Nagel’s “*a priori* claim that the mental cannot be reduced to or analyzed in terms of the physical” (*VN*, p. 48).

As a second way of approaching the qualia problem, suppose that Nagel is right about the irreducibility of phenomena like “pain” and “redness.” Does it follow that physicalism is false or incomplete? The answer seems to be no, and it is helpful to turn to Nagel’s own definition of physicalism to see why: “I mean by physicalism the thesis that a person, with all his psychological attributes, is nothing over and above his body, with all its physical attributes” (*P*, p. 214). The tenability of the thesis seems to depend on the class of the “physical.” If we could expand this class to include such things as

“pains” and “redness,” we would be able to assert a physicalism which covered many of the “psychological attributes” Nagel worries about.

And why not? Many phenomena these days are “physical” which our scientific ancestors would have rejected as patently non-physical or even supernatural. Nagel himself notes this:

Electricity and magnetism could not be analyzed in terms of mechanical concepts of matter in motion. ...The shift from the universe of Newton to the universe of Maxwell required the development of a whole new set of concepts and theories ... specifically devised to describe and explain these newly explored phenomena (VN, p. 52).

Explaining qualia like pain and redness would require new equations which would explain under what physical conditions the qualia—themselves physical—would appear, but this should strike one as no more difficult than describing the phenomenon of, say, life. Of course, it is a challenge, to understate things a bit, to describe what physical conditions produce life. But we have good theories in this arena. We know, for example, that mammals require oxygen, water and some form of food to supply the raw materials for living; we also know much about the processes through which animals use these raw materials and excrete waste products. In addition, we possess elaborate cellular theories of the conception and development of these organisms.

“But none of that explains ‘life,’” I hear a critic say, “It just tells us the conditions for life.” The last part seems to me a true statement, and exactly why science has (or has begun to) “explain” life. We “understand” life in a “scientific” way because we know what physical conditions must hold for a thing to live, just as we understand ocean waves in a scientific way because we know what physical conditions must be satisfied in order for frothy waves to roll onto the beach. One could claim that these “explanations” really do not get at the “oceanness” or “waveness” of the ocean waves, or the “lifeness” of living things, but that would be to misunderstand the mission of science.

Nagel even seems to see the possibility for admitting qualia into the world of physics, but he cryptically rejects it:

Some may think there is nothing to prevent mental phenomena from eventually being recognized as physical in their own right. ... It seems to me more likely, however, that mental-physical relations will eventually be expressed in a theory whose fundamental terms cannot be placed clearly in either category (WLB, pp. 449–50).

And what would these new fundamental terms be? Scientific revolution after scientific revolution, we have not failed to call new concepts “physical”; why should mental phenomena be party to a different fate?

I do not have the space here for a detailed discussion of the philosophy of scientific explanation. Instead, I offer at least a plausible diagnosis of Nagel’s hesitancy when it comes to “physicalizing” qualia. We tend to fall into what I call the “roll, bump, thud” characterization of physics. According to this view, the identifying characteristic of the “physical” is that it is made of “stuff”—stuff that goes “roll, bump, thud” or is composed of components which fit this description. Tables, bricks, water, atoms and brains all fall neatly into this designation of “physical.”

But the problem is that “physics” seems to use a quite different conception of “the physical.” Instead of the above commonsense notion of a “category of composition” (according to which “physicalness” is a matter of what something is made of), physics seems to rely on a “category of predictability” when postulating or describing physical objects. Following the boundaries circumscribed by this category, physics admits entities into the category “physical” which best explain phenomena under observation. For example, X-Rays were posited as a physical entity before anyone knew “what they were made of” (better: “how to fit them into our present theoretical framework or how to change the framework to admit the new phenomena”).

In this way, it seems that we might indeed admit qualia like “redness” and “pain” into our physical worldview. All we would need would be ways of ordering or systematizing the phenomena which we give these labels. Although this would perhaps be a humbling task, we already possess the beginnings of this theory (for example, I can say with certainty that the quale “pain” will take place

in fellow humans with normal nervous systems if a lighted match is held next to their skin.⁶ Of course, what makes this an *intraspecies problem* is that we get the data of our new physical pain and redness theories by being members of a type of biological class the members of which possess similar physical structure. This similarity of physical structure allows us to generalize from our experience of "pain" to the quality of the experience of another member of the species.

At this point, it might prove helpful to step back and summarize the analysis so far. First I claimed that Nagel's problem with subjectivity on the intraspecies level has something to do with the apparent futility of describing qualia in physical terms. Next I showed how—even if we accept the commonsense notions of "pains" and "color qualities" as "real" instead of dismissing them as misguided or trivial—qualia can plausibly be "physicalized."⁷ But if qualia pose no threat to physicalism, what is left of the intraspecies subjectivity problem?

Something *does* seem to be left. After looking at my analysis of qualia, someone will say, "But surely my experience as a human is not composed *just* of qualia—these are too simple to describe the *richness* of my subjective experience. How could a physics—even one that admitted qualia—explain all that richness?"

I will attempt to shake the intuitive significance of this residual richness by introducing two further concerns linked to intraspecies subjectivity: the first deals with the nature of human subjective experience, and the second is another point about scientific explanation.

The first point begins with an explanation of a phenomenon I call the "intermodal fallacy."⁸ Although it may be surprising, the degree to which our sense experience seems subjective is related to which

⁶ I know this because even Nagel, who has doubts about the *completeness* of physicalism, can *contradict* physicalism only at the risk of absurdity. That is, he would not want to claim that structurally congruent physical entities subjected to identical stimuli could harbor significantly different reactions. To claim that they could would be to take stock in an intervening variable—and what would it be? "Mind stuff" is not an attractive answer for Nagel.

⁷ We might not want to take this route, of course—the demands might prove too taxing. I just want to point out the *possibility* for this avenue, which is more than Nagel will allow.

⁸ Recently I found that Dennett makes an observation along the same lines (*CE*, pp. 380–81); however, he makes the point in passing and seems not to give the phenomenon the credit I think it deserves.

sense modality we talk about; some sensory channels seem to give us more “objective” data than others do. For example, imagine visiting an art gallery with a friend. On the wall hangs a large oil painting by Salvador Dali. You talk with your friend about the symbolism of the wilted trees and fanciful human-like figures, and discuss everything from the role of shading in Dali’s presentation to the importance of the play of various types of angles in the work. But then your friend has an idea. “No one is around, so why don’t we see how the painting feels?” The ensuing conversation is markedly impoverished.

- “It feels ... well, it feels ‘rough’ here and ‘smooth’ here.”
- “No, it feels more ‘grainy’ than ‘rough.’”
- “Yes, well, how do you know what ‘rough’ feels like to me?”

Far from treating Dali’s “aesthetics of touch,” your conversation *never gets off the ground*. And, curiously, whereas your discussion about what you *see* runs only into problems of differences in artistic judgment, your discussion of *tactile* impressions turns into a full-blown metaphysical quagmire; in fact, it is the problem of qualia all over again. One sense modality seems more objective than another, but how is this possible? Are not all the senses on one ontological par? Why do they seem to admit different degrees of subjectivity?

Many explanations suggest themselves, but I will deal only with two of the most obvious. First, human vision has a finer “grain” than human touch. Each normal human retina is host to about 132 million photoreceptors linked in an elaborate network of connecting cells (Foley and Matlin, p. 59). However, the human hand has the benefit of only several thousand receptors for touch (Foley and Matlin, p. 370). Second—and this is probably a corollary to the physiology of vision and touch—the human visual vocabulary seems much larger than the human tactile vocabulary. These possibilities corroborate a larger point: perhaps our sense of subjectivity exhibits an inverse relationship with the richness of the sensory data to which we have access. If this is the case, the intraspecies subjectivity problem might have to do more with weak sensory vocabularies and apparatuses than with an ontological dilemma.

An analysis of the intermodal fallacy thus poses the following

interesting idea: if lack of a rich sensory vocabulary is much of the intraspecies subjectivity problem, we might be able to eliminate it altogether by admitting our sense qualia to the physical world and developing sophisticated new “vocabularies”—in the form of complex descriptions of the physical conditions for the phenomena. This program would indeed seem possible.

However, one still might object that this program of systematizing intraspecies qualia must in principle still miss much of the complexity of human perceptual experience. “Surely,” one might say, “the richness of my experience is not captured in my vocabulary—even in my relatively rich visual vocabulary.” This critic would of course be absolutely correct, but with no significant consequence for a physical theory of perceptual experience; explaining this point requires a discussion of another interesting observation about scientific explanation.

When it comes to talking about our perceptions, we seem to employ two senses of “experience,” E(1) and E(2):

E(1): A clear yet incomplete notion

E(2): A rich, complete, yet vague notion

When we look at a “red” car and see “redness,” when we see a clock and notice that it appears “round,” or when we hit our thumb with a hammer and feel “a throbbing pain,” we are employing the concept “experience” in the first sense. That is, what we notice and are able to say about the phenomenon is (relatively) clear, but does not exhaust the “wholeness” of the experience—we cannot seem to say enough to do justice to what we “experience” in the second sense of experience.

E(1) is the sense of experience that the preceding analysis of qualia proposes to physicalize through gradual physical vocabulary building. E(2) is the sense of experience not fully covered by even the best physical explanation of the phenomena of perception. We should be ready to admit that experience in the E(2) sense actually exists;⁹ however, does this spell the demise of the possibility of a physical explanation of our experience?

⁹But see Dennett (*CE*, *passim*) for plausible evidence that we are mistaken about the richness of our perceptual experience. Trying to concede as much as possible to the pretheoretical notion of experience, I do not argue Dennett’s hard line here.

No. Not all physical objects are the objects of physics. As mentioned above, physics does not propose to explain the “oceaness” of ocean waves, or the “lifeness” of living things. If this were the case, science would have on its hands quite a task: in order to prove itself “complete” to its critics, it would have to describe the uniqueness of every possible combination of physical phenomena in the world—everything from “a ruffle-feathered cardinal perched atop the oak writing desk in the second room on the left” to “the pitted plastic button on the shirt I wore when I visited the huge mansion on Fourth Street.” Modern physical explanations of these examples—posed in terms of arrangements of atoms and forces which hold between them—do not describe the phenomena’s richness, but this is something that we can live with. Physics attempts to explain phenomena in terms of their physical parts, not to describe them in their entirety. In fact, the simplicity of physical explanation seems to be one of its most powerful traits. Although rich, vague experience in the E(2) sense might exist, the fact that it is difficult for physicalist science to describe this experience takes nothing away from physicalism.

Sense two: Interspecies Subjectivity

We have investigated a plausible route for the solution of the intraspecies subjectivity problem. Strangely, although Nagel seems at times apprehensive about such a physical, objective account of human mental states, at times he seems amenable to the idea. In fact, he even claims that

There is a sense in which phenomenological facts are perfectly objective: one person can know or say of another what the quality of the other’s experience is [But], They are subjective ... in the sense that even this objective ascription of experience is possible only for someone sufficiently similar to the object of ascription to be able to adopt his point of view ... (WLB, p. 442).

Remember that the above solution for the intraspecies problem hinges on the fact that we can know about other members of our species’ experience in virtue of our structural (physical) similarities.

It seems that Nagel, despite his caveats about the problematic nature of intraspecies subjectivity, has been ready all along to admit the possibility for physicalizing human experience in this way. Nagel's stronger case rests on the problem of *interspecies subjectivity*.

Without similar physiological structures, it is impossible for one organism to know "what it is like to be" the other organism, in Nagel's terms. In perhaps his most famous article, "What is it Like to Be a Bat?" Nagel argues that because humans and other creatures—bats, for example—have wildly different types of perceptual apparatus, humans cannot in principle know "what it is like to be a bat." From this observation, the philosopher goes on to argue that

This bears directly on the mind-body problem. For if the facts of experience—facts about what it is like for the experiencing organism—are accessible only from one point of view, then it is a mystery how the true character of experiences could be revealed in the physical operation of that organism (WLB, p. 442).

An explanation of bat experience seems to be all that stands in the way of a full-blown physicalism.

We can approach the interspecies problem in several ways. Perhaps the most plausible answer to Nagel's concern that physics cannot describe "what it is like to be a bat" is to say that physics actually *does* describe bat experience in a rough way. This approach is stressed by Dennett:

[Physiological and behavioral] investigations would show us a great deal about what a bat could and could not be conscious of under various conditions, by showing us what provisions there were in their nervous systems for representing this and that, and by checking experimentally to make sure the bat actually put the information to use in the modulation of its behavior (CE, p. 444).

Of course, one could read this approach¹⁰ as building directly on

¹⁰ Although Dennett would not—remember, he is not a "realist" about our pretheoretical notions of experience.

the framework for dealing with intraspecies subjectivity that we erected in the last section: because humans know what “sensing” is like—even if humans do not possess a sonar sensory modality—humans can at least understand the rudiments of bat experience. In this way, humans can use the structural descriptions of bats provided by the sciences of biology and physics to extrapolate from human experience to bat experience.

But, surely, we still do not know exactly what it is “like” to be a bat—even if we have a rough sense of what it might be like. But is this a problem for physicalism? Is there something in the bat point of view which physics—as we now understand it—is unable to explain? The answer is both yes and no.

At first glance, there is nothing about physicalism that blocks it from including bat experience. In fact, descriptions of bat physiology, as Dennett points out, are pretty good rough descriptions of what it is like to be a bat. However, there is still a difficulty, but the problem is nothing more (or less!) than this: A human cannot be a bat.

In the end, Nagel’s argument against physicalism seems to turn on this one statement. Indeed, if one has *to be* a bat in order to know what it is *like* to be a bat, and there is no way for a human to be a bat, we are stuck. But this seems strangely tautological. *Of course* a human cannot be a bat! Can a square be a circle? Can a mountain be a lake? Can a car be a train? In short, Nagel’s observation that we cannot directly know “what bat experience is like” is presupposed by the very physicalism he thinks problematic. It is a commonly known axiom of physics (or of logic), after all, that one type of thing cannot *be* another at the same time; this is just obvious.

Thus, when we stop to take a good look at Nagel’s seemingly startling observation that in trying to imagine bat consciousness “I am restricted to the resources of my own mind, and those resources are inadequate to the task” (WLB, p. 439), we see both that this statement is tautological and that *the best way to explain why our human minds are inadequate is to use a physical, structural explanation.*

Conclusion: A Toast to Physicalism

Through a careful analysis of Nagel’s arguments for the inadequacy of physicalism, we find that the “problem of subjectivity” involves not one but several problems, involving various assump-

tions about the character of perceptual phenomena, the claims of physicalism and the nature of physical explanation. We see that once our intuitions about the problem of intraspecies subjectivity are assuaged, the interspecies subjectivity problem seems either diminished or completely misguided.

Thinking of our universe—all of it—in physical terms seems to hold the most promise for explaining even the most mysterious phenomena. I hope that this paper serves to help point the way for physicalism to surmount the difficulties posed by Nagel's analysis of subjectivity. Here's to the continued success of physicalist explanations of the world.¹¹

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¹¹ My thanks go to professors Jack Furlong, Rick O'Neil and Nancy Slonneger for generous use of their private libraries.

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