

THE WHY OF CONSCIOUSNESS: A NON-ISSUE FOR MATERIALISTS

Valerie Gray Hardcastle, Department of Philosophy, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061–0126, USA.

Abstract: In this essay, I hope to make clearer what the points of division between the materialists and the sceptics are. I argue that the rifts are quite deep and turn on basic differences in understanding the scientific enterprise. In section I, I outline the disagreements between David Chalmers and me, arguing that consciousness is not a brute fact about the world. In section II, I point out the fundamental difference between the materialists and the sceptics, suggesting that this difference is not something that further discussion or argumentation can overcome. In the final section, I outline one view of scientific explanation and conclude that the source of conflict really turns on a difference in the rules each side has adopted in playing the game.

In my (albeit limited) experience of these matters, I have discovered that there are two sorts of people engaged in the study of consciousness. There are those who are committed naturalists; they believe that consciousness is part of the physical world, just as kings and queens and sealing wax are. It is completely nonmysterious (though it is poorly understood). They have total and absolute faith that science as it is construed today will someday explain this as it has explained the other so-called mysteries of our age.

Others are not as convinced. They might believe that consciousness is part of the natural world, but surely it is completely mysterious (and maybe not physical after all). Thus far, science has little to say about conscious experience because it has made absolutely no progress in explaining *why* we are conscious at all.

Different sceptics draw different morals from their observation. Some conclude that a scientific theory of consciousness is well-nigh impossible; others believe that it is possible, but do not expect anything of value to be immediately forthcoming; still others remain confused and are not sure what to think. (Perhaps unfairly, I put David Chalmers in the last category, as he remarks, ‘Why should physical processing give rise to a rich inner life at all? It seems objectively unreasonable that it should, and yet it does.’ (Chalmers, 1995, p. 201.) His intuition that consciousness is too bizarre to be real, yet still exists anyway illustrates the sentiments of the third category quite nicely. Further, as I discuss below, I think his tentative programme of redoing our basic scientific ontology reflects some basic confusions on his part.)

I have also noticed that these two camps have little to say to one another, for their differences are deep and deeply entrenched. I can’t say that I expect to change that fact here. I fall into the former camp. I am a committed materialist and believe absolutely and certainly that empirical investigation is the proper approach in explaining consciousness. I also recognize that I have little convincing to say to those opposed to me. There are few useful conversations; there are even fewer converts.

In this brief essay, I hope to make clearer where the points of division lay. In the first section, I highlight the disagreements between Chalmers and me, arguing that consciousness is not a brute fact about the world. In section II, I point out the fundamental difference between the materialists and the sceptics, suggesting that this difference is not something that further discussion or argumentation can overcome. In the final section, I outline one view of scientific explanation and conclude that the source of conflict really turns on a difference in the rules each side has adopted in playing the game.

I

In large part, these divergent reactions turn on antecedent views about what counts as explanatory. There are those who are sold on the programme of science. They believe that the way to explain something is to build a model of it that captures at least some of its etiologic history and some of its causal powers. Their approach to explaining consciousness is the same as mine: isolate the causal influences with respect to consciousness and model them (cf. Churchland, 1984; Flanagan, 1992; Hardcastle, 1995; Hardin, 1988).

In contrast, others (e.g. Block, 1995; Chalmers, 1995; McGinn, 1991; Nagel, 1974; Searle, 1992) do not believe that science and its commitment to modelling causal interactions are necessarily the end-all and be-all of explanation. They believe that some things — many things — are explained in terms of physical causes, but qualia may not be. Isolating the causal relations associated with conscious phenomena would simply miss the boat, for there is no way that doing that ever captures the qualitative aspects of awareness. What the naturalists might do is illustrate *when* we are conscious, but that won't explain the *why* of consciousness. The naturalists would not have explained why it is neuronal oscillations (cf. Crick and Koch, 1990), or the activation of episodic memory (cf. Hardcastle, 1995), or an executive processor (cf. Baars, 1988), or whatever, should have a qualitative aspect, and until they do that, they cannot claim to have done anything particularly interesting with consciousness.

To them, I have little to say in defence of naturalism, for I think nothing that I as an already committed naturalist could say would suffice, for we don't agree on the terms of the argument in the first place. Nevertheless, I shall try to say something, if for no other reason than to make the points of disagreement clearer so that informed buyers can choose all the more wisely. Let me sketch in particular the point of conflict between Chalmers and me.

Let us assume a prior and fundamental commitment to materialism. I say that if we are materialists, then we have to believe that consciousness is something physical. Presumably it is something in the brain. If we believe this and we want to know what consciousness is exactly, then we need to isolate the components of the brain or of brain activity that are necessary and sufficient for consciousness. If I understand Chalmers' taxonomy of research programmes correctly, then I am advocating following option five: 'isolate the substrate of experience'. Indeed, it is my contention that pointing out the relevant brain activity conjoined with explaining the structure of experience (his option four) and some functional story about what being conscious buys us biologically (not one of Chalmers' options) would be a complete theory of consciousness. Let us pretend though that I have only completed the first step in this programme and have isolated the substrate of experience. Call this component of the brain C.

Chalmers would reply that though I might have been successful in isolating the causal etiology of consciousness, I have not explained why it is that C should be conscious. Why this? For that matter, why anything? Part of a good explanation, he maintains, is making the identity statement (or whatever) intelligible, plausible, reasonable. I have not done that. Hence, I have not explained the most basic, most puzzling, most difficult question of consciousness. I haven't removed the curiousness of the connection between mind and body. I haven't closed the explanatory gap.

How should I respond? He is, of course, exactly right: scientific theories of consciousness won't explain the weirdness of consciousness to those who find the identity weird. One possible move is to claim that consciousness just being C (or whatever theory you happen to believe) is just a brute fact about the world. That is just the way our universe works. At times, I am sure, it appears that this is what the naturalists are assuming, especially when they dismiss out of hand those overcome by the eeriness of conscious-

ness. This, too, is what Chalmers wants to do with his dual aspect theory: phenomenal qualities are just part and parcel of information. No further explanation needed.

However, this response is too facile. It is true that we accept brute facts about our universe. We believe in things like gravitational attraction and the electromagnetic forces without question. We waste little energy wondering why our universe contains gravity. It just does, and we reason from there. On the other hand, there are other facts about the world that we do not accept as brute. We feel perfectly comfortable expecting an answer to why water is wet. That is not a brute fact. We explain the liquidity of water by appeal to other facts about the world, the molecular structure of water and its concomitant microphysical properties, for example. And these facts are explained in turn by other facts, such as the quantum mechanical structure of the world. Now *these* might be brute facts, but so it goes. (At least this is one popular and rosy view of scientific unity. I shan't defend that here.)

Notice two things. First, the facts we accept as brute are few and basic. Essentially, we accept the most fundamental elements and relations of the universe as given. The rest then depend upon these key ingredients in some fashion. Second, and following from the first observation, it seems highly unlikely that some relatively chauvinistic *biological* fact should ever be brute. For those facts turn on the more fundamental items in the universe. Hence, if one is to claim that consciousness being C is simply a brute fact about the universe, then one is *prima facie* operating with a perverse metaphysics.

Chalmers tries to overcome the latter difficulty by denying that consciousness is biological. However, he has no reason to claim this except that it saves his theory. Considerations of structural coherence and organizational invariance aren't telling because they are generally taken to support material identity. That is, if you find structural isomorphisms between our perceptions and twitches in the brain, then that is taken to be good reason to think that the mind is nothing more than activity in the brain. (What other sort of evidence could you use?) And if you hypothesize that the same 'fine-grained' functional organization supports the same phenomenal experiences, then you are advocating some sort of materialistic functional theory; otherwise the perceptions can diverge even though the functional organization remains the same (cf. Shoemaker, 1975; 1981; see also Lycan, 1987).¹

The only consideration he brings to bear is the putative 'elegance' of a dual aspect theory. However, when we weigh a suggestion's simplicity and elegance against countervailing data, the data have to win. We already know that not all information has a phenomenal edge to it, insofar as we know quite a bit of our information processing is carried out *unconsciously*. Documenting subliminal effects, implicit priming, and repressed but effective memories are all cottage industries in psychology, and have been since Freud.² Chalmers is either going to have to deny some of the most robust psychological results we have and claim that no information processing is occurring in those cases, or do a 'bait-and-switch' and claim that, contrary to introspective verbal reports,

¹ I find it strange (though not inconsistent) that in the first portion of the paper, Chalmers uses the putative imaginability of inverted qualia as an argument against what he calls 'reductionism' (though to me it is simply a good old fashioned identity theory), yet in discussing constraints on possible theories he argues against the possibility of inverted qualia in support of his proto-theory. He should recognize that if the fine-grainedness of his functional organization is fine-grained enough, then we would be discussing the functional organization of neurons (or action potentials, IPSPs, EPSPs, or what have you), which is all one needs to muster a claim for mind-brain identity.

² I take it that these facts are well known. I summarize quite a bit of this research in Hardcastle (1995). Aside from Freud, other important players include Endel Tulving, George Mandler, Anthony Marcel and Daniel Schacter.

we are conscious of all of those things (we just don't realize it). Neither option is plausible. Chalmers gives us no counter-examples to the mass of psychological evidence, and denying that first person viewpoints can tell us whether we are conscious denies exactly what Chalmers wants to defend. Hence, we are left with the *prima facie* plausible claim that for all cases of consciousness of which we are aware, consciousness is biological.

In any event, I don't want to make the claim consciousness is brute. So what do I say if I think that consciousness is a biological phenomenon?³ How do I make my identification of consciousness with some neural activity intelligible to those who find it mysterious? My answer is that I don't. The 'solution' to this vexing difficulty, such as it is, is all a matter of attitude. That is, the problem itself depends on the spirit in which we approach an examination of consciousness.

II

Let us return to the example of water being wet. Consider the following exchange. A water-mysterian wonders why water has this peculiar property. She inquires and you give an explanation of the molecular composition of water and a brief story about the connection between micro-chemical properties and macro-phenomena. Ah, she says, I am a materialist, so I am convinced that you have properly correlated water with its underlying molecular composition. I also have no reason to doubt that your story about the macro-effects of chemical properties to be wrong. But I still am not satisfied, for you have left off in your explanation what I find most puzzling. Why *is* water H₂O? Why couldn't it be XYZ? Why couldn't it have some other radically different chemical story behind it? I can imagine a possible world in which water has all the macro-properties that it has now, but is not composed of H₂O.

Of course, people like Kripke have a ready response to the water-mysterians. 'Water = H₂O' is an identity statement. Hence, you can't really imagine possible worlds in which water is not H₂O because you aren't imagining *water* in those cases (or, you aren't *imagining* properly). As Chalmers would claim, it is a *conceptual truth* about water that it is H₂O. But, to the sceptical and unconvinced, to those who insist that they can imagine honest-to-goodness water not being H₂O, what *can* one say? I think nothing. Water-mysterians are antecedently convinced of the mysteriousness of water and no amount of scientific data is going to change that perspective. Either you already believe that science is going to give you a correct identity statement, or you don't and you think that there is always going to be something left over, the wateriness of water.

I doubt there are any such mysterians, so perhaps this is a silly example. Let us now turn to life-mysterians. Consider the following exchange. A life-mysterian wonders why living things have the peculiar property of being alive. She inquires and you give a just-so story about the origin of replicating molecules in primordial soup and wave your hands in the direction of increasing complexity. Ah, she says, I am an evolutionist, so I am convinced that you have properly correlated the history of living things with their underlying molecular composition. I also have no reason to doubt that your story about increasing complexity to be wrong. But I still am not satisfied, for you have left off in your explanation what I find most puzzling, the *aliveness* of life. Why couldn't that be a soul? Why couldn't it have some other radically different evolutionary story behind it, namely, one with God in it? I can imagine a possible world in which living things have all the macro-properties that they have now, but are not comprised of DNA or RNA.

³ Note that claiming that consciousness is biological does not mean that we could not create consciousness artificially. Life is a biological phenomenon too, but that doesn't rule out creating life in test-tubes.

Of course, as Chalmers indicates, we too have a ready response to the life-mysterians. We presume that there is some sort of identity statement for biological life. (Of course, we don't actually have one yet, but for those of us who are not life-mysterians, we feel certain that one is in the offing.) Hence, they can't really imagine possible worlds in which life is not whatever we ultimately discover it to be because they aren't imagining *life* in those cases (or, they aren't *imagining* properly). But, that aside, what *can* we say to those who insist that they can imagine life as requiring an animator? I think nothing. Just getting on with the biological enterprise is perhaps appropriate. Life-mysterians are antecedently convinced of the mysteriousness of life and no amount of scientific data is going to change that perspective. Either you already believe that science is going to give you a correct identity statement, or you don't and you think that there is always going to be something left over, the aliveness of living things.

So what about Chalmers and other consciousness-mysterians? They are no different. They are antecedently convinced of the mysteriousness of consciousness and no amount of scientific data is going to change that perspective. Either you already believe that science is going to give you a correct identity statement, or you don't and you think that there is always going to be something left over, the phenomenal aspects of conscious experience. 'Experience . . . is not *entailed* by the physical.' Chalmers wants to know: 'Why is the performance of these [cognitive] functions *accompanied* by experience?' (p. 203; emphasis mine). Though he does believe that 'experience *arises* one way or another from brain processes,' he thinks that it is a 'conceptual point' that consciousness is not identical to C.

In some sense, of course, I have a ready response to the consciousness-mysterians. Like the water-mysterian and the life-mysterian, consciousness-mysterians need to alter their concepts. To put it bluntly: their failure to appreciate the world as it really is cuts no ice with science. Their ideas are at fault, not the scientific method. Materialists presume that there is some sort of identity statement for consciousness. (Of course, we don't actually have one yet, but for those of us who are not consciousness-mysterians, we feel certain that one is in the offing.) Hence, the sceptics can't really imagine possible worlds in which consciousness is not whatever we ultimately discover it to be because they aren't imagining *consciousness* in those cases (or, they aren't *imagining* properly). But nevertheless, what *can* I say to those who insist that they can imagine consciousness as beyond science's current explanatory capacities? I think nothing, for they can claim that I am conceptually confused as well. Agreeing to disagree is perhaps appropriate.

I suppose we have reached a stand-off of sorts. I say materialism and mechanism entail an identity statement for consciousness, just as we get one for water and we expect one for life. Consciousness is no more mysterious to me than the wetness of water or the aliveness of life. That is to say, I find all of the phenomena interestingly weird, and the identity statements that science produces marvelously curious. But all are on a par. The sceptics do not share my intuitions. So be it. However, I feel no more inclined to try to convince them otherwise than I do trying to convince the religious that souls don't exist. I recognize hopeless projects. Our antecedent intuitions simply diverge too much to engage in a productive dialogue.

III

But perhaps again I am not being fair. The reason water-mysterianism seems implausible is that we are able to embed our understanding of water and H₂O in the sophisticated larger framework of molecular chemistry and sub-atomic physics. We just know an awful lot about how atoms and molecules interact with one another and the corresponding

micro- and macro-properties. Life-mysterianism seems implausible to those for whom it seems implausible for similar reasons. We don't know as much about biological history as we do about molecular chemistry, but we do know enough at least to gesture toward a suitable framework in which to embed a decomposition of life. But consciousness might be different. We have far, far to go before we can claim to understand either cognitive or brain processes with any surety. Perhaps there just isn't a suitable larger framework in which to embed an understanding of consciousness; hence, any scientific model we try to construct will appear strained and stilted at best. And perhaps this is what really drives the explanatory gap — we don't yet know what we are talking about when we claim that consciousness is a natural phenomenon.

Suppose this argument is correct (though I am not sure that it is, for reasons I explain below). What follows from it? It can't be that a theory of consciousness is not possible, nor even that consciousness is fundamentally odd. Rather, all we can say is that we have to wait and see what else we learn about the mind and brain before a decomposition and localization of consciousness can be intuitively satisfying. Consciousness might very well be C, but our informed intuitions lag behind.

(An aside: Can we *really* say what would happen if my neural circuits are replaced by silicon isomorphs? Maybe it is reasonable to think that your experiences would not be affected. But, in the same vein, it is reasonable to believe that the world is Euclidean — though it isn't, of course — and it used to be reasonable to burn witches at the stake — though it is no longer. What seems reasonable at first blush often isn't once the parameters of the problem are made sufficiently clear; moreover, our intuitions change as our perspective on the world changes. At present, we simply don't know enough about the explanatory currency of the brain to hypothesize *intelligently* about what will happen if we push on it in various ways. Intuition pumps only work if we have robust and well-founded intuitions in the first place.)

All we can say at this point is that an antecedent commitment to materialism means that an understanding of consciousness will someday be embedded in some larger mind–brain framework. We are just going to have to wait until that time before our intuitions concerning what counts as a satisfactory identification for phenomenal experience will be useful (or even usable).

Nevertheless, though there is a great deal we don't know about the mind and the brain, there is still a lot that we do. Indeed, within the broader framework of currently accepted psychological and neurophysiological theories, we have found striking parallels between our phenomenal experiences and activities in the brain. Chalmers points to some in his paper; others are more basic. E.g. removing area MT is correlated with phenomenal blindness; ablations in various regions of cortex are correlated with inability to perceive shapes, colours, motion, objects; lesions surrounding the hippocampus are correlated with the loss of episodic memory.⁴ Or, for less invasive results, consider what happens when various chemicals are added to our brains. We decrease pain, increase sensitivity, induce hallucinations, alter moods, and so on. Data such as these should (someday) allow us to locate conscious experiences both within our information processing stream and within the head.

Perhaps more data, better constructed scientific models, and more agreement among the scientists themselves about the details, would alter the intuitions of the sceptics, but

⁴ I note that in each of these cases, there is evidence that such patients still process at least some of the information unconsciously. For example, prosopagnosics claim that they can no longer recognize faces upon visual inspection. However, their galvanic skin response changes in the presence of caretakers or loved ones in a manner consistent with their in fact knowing and recognizing the people. For a review of this literature, see Hardcastle (1995).

I doubt it. For the difference between someone like Chalmers and me is not in the details; it is in how we understand the project of explaining consciousness itself. It is a difference in how we think of scientific inquiry and what we think explanations of consciousness are supposed to do.

Explanations are social creatures. They are designed for particular audiences asking particular questions within a particular historically determined framework. (See van Fraassen, 1980, for more discussion of this point.) Materialists are trying to explain to each other what consciousness is within current scientific frameworks. Their explanations are designed for them. If you don't antecedently buy into this project, including its biases, history, context, central questions, possible answers, and relevant actors, then a naturalist's explanation probably won't satisfy you. It shouldn't. But that is not the fault of the explanation, nor is it the fault of the materialists. If you don't accept the rules, the game won't make any sense. If you do accept the rules, then the explanations will follow because they are designed for you as a member of the relevant community. (This is not to say that you will *agree* with explanations, just that they will seem to be of the right sort of thing required for an answer.) Who's in and who's out is a matter of antecedent self-selection. I opt in; the sceptics opt out. Because we don't agree on the rules, my explanations don't make sense to them, and their explanations don't make sense to me.

Explanation for the cognitive and biological sciences just *is* a matter of uncovering the appropriate parallels between the phenomena and the physical system. Huntington's chorea is explained by a disruption in the GABA-ergic loop. Equilibrium in neurons is explained in terms of the influx and efflux of ions across the cell membrane. Perceptual binding is explained (maybe) in terms of 40 Hz neuronal oscillations. The withdrawal reflex in *Aplysia* is explained in terms of patterns of activation across the motor system. Echolocation is explained in terms of deformed tensor networks. So: find the parallels between brain activity and phenomenal experience and you will have found a naturalistic account of consciousness.

Denying the project and devising different criteria for explanation is a perfectly legitimate move to make, of course. There is always room for more. Winning converts though is something else. I wish Chalmers well in that enterprise, for how to do that truly is the gap that remains.

References

- Baars, B.J. (1988), *A Cognitive Theory of Consciousness* (Cambridge: Cambridge University Press).
- Block, N. (1995), 'On a confusion about a function of consciousness', *Behavioral and Brain Sciences*, **18** (2), pp. 227–47.
- Chalmers, D.J. (1995), 'Facing up to the problem of consciousness', *Journal of Consciousness Studies*, **2** (3), pp. 200–19.
- Churchland, P.M. (1984), *Matter and Consciousness* (Cambridge, MA: The MIT Press).
- Crick, F. and Koch, C. (1990), 'Toward a Neurobiological Theory of Consciousness', *Seminars in the Neurosciences*, **2**, pp. 263–75.
- Flanagan, O. (1992), *Consciousness Reconsidered* (Cambridge, MA: The MIT Press).
- Hardcastle, V.G. (1995), *Locating Consciousness* (Amsterdam and Philadelphia: John Benjamins).
- Hardin, C.L. (1988), *Color for Philosophers: Unweaving the Rainbow* (New York: Hackett).
- Lycan, W.G. (1987), *Consciousness* (Cambridge, MA: The MIT Press).
- McGinn, C. (1991), *The Problem of Consciousness* (Oxford: Blackwell).
- Nagel, T. (1974), 'What is It Like to be a Bat?' *Philosophical Review*, **83**, pp. 435–50.
- Searle, J. (1992), *The Rediscovery of Mind* (Cambridge, MA: The MIT Press).
- Shoemaker, S. (1975), 'Functionalism and Qualia', *Philosophical Studies*, **27**, pp. 291–315.
- Shoemaker, S. (1981), 'Absent qualia are not possible — A reply to Block', *Philosophical Review*, **90**, pp. 581–99.
- van Fraassen, B. (1980), *The Scientific Image* (Cambridge, MA: The MIT Press).