David Chalmers’s book is impressive in many ways. I admire the great skill, incisiveness and breadth of vision with which he conducts his argument. Many of his controversial theses and intuitions I find congenial. Unfortunately I do not believe the book’s central thesis, namely, that facts about consciousness are not physical facts. Much of the book is devoted either to establishing this, or to considering how things stand in the light of it. Let me quote a passage in which Chalmers’s thesis is stated.

... the failure of logical supervenience directly implies that materialism is false: there are features of the world over and above the physical features. The basic argument for this goes as follows.

1. In our world, there are conscious experiences.
2. There is a logically possible world physically identical to ours, in which the positive facts about consciousness in our world do not hold.
3. Therefore, facts about consciousness are further facts about our world, over and above the physical facts.
4. So materialism is false. [The Conscious Mind, 123]

In Chapter 3, Chalmers argues for the conceivability, under ideal reflection, of a thing’s having all our physical properties without being conscious. And that is his ground for asserting step 2 above. Some philosophers if they see such a defense will think “fallacy”. For it has become more or less standard at least to entertain a distinction between conceivability and possibility: we cannot proceed unqualifiedly from conceivability to real possibility. But as an objection this is too fast, by several steps. First, by ‘logically possible worlds’ Chalmers means something conceptual or epistemic; they are conceptually possible worlds. If we can coherently conceive something (under ideal reflection), then, by definition, there is a logically possible world in which what we conceive holds.

Second, we must understand ‘what we conceive’ sensitively. We can coherently conceive that water is not H₂O. Does this imply on Chalmers’s usage that there is a logically possible world in which water is not H₂O? It
does not. But it does mean, according to Chalmers, that there is a logically possible world in which watery stuff is not H2O. What we grasp when we (in the relevant sense) conceive ‘water’ corresponds, not to water itself, but to those features via which our conception “fixes the reference” of water, the features summarized by ‘watery stuff’. Chalmers distinguishes the primary intension of ‘water’ (captured by ‘watery stuff’) and its secondary intension. “The primary intension of a concept is a function from logically possible worlds to extensions reflecting the way that actual-world reference is fixed.” (57) The secondary intension we may identify for present purposes with the reference of ‘water’, i.e. water or H2O.

As Chalmers uses these notions, then: if one can coherently conceive something (under ideal reflection), there is a logically possible world in which the primary intension of that conception is true. Suppose (as I think is true) that it is conceivable, under ideal reflection, that something has P, our physical properties, while lacking C, consciousness. Drawing a decent conclusion depends on the primary intension of ‘C’. Chalmers rightly accepts what Kripke says about ‘pain’ in Naming and Necessity: the primary intension, the reference-fixer, of ‘consciousness’ is consciousness itself. But given what we have seen (and given what Chalmers means by ‘logically possible world’), there is then a logically possible world in which something has all our physical properties without being conscious.

So we have got from what is conceivable to what is “logically possible”. But we have done this by giving an epistemic meaning to ‘logically possible’. If two concepts are conceptually independent they have different primary intensions (different functions from conceivable worlds to extensions), and so there is a logically possible world in which those primary intensions part company. In the epistemic or conceptual sense that Chalmers has given to the relevant terms, then, premise 2 seems to me correct.

Nevertheless, step 3 does not follow from premise 2 and, because of that, Chalmers’s argument as a whole fails. From what we have said, step 3 may appear to follow. If the concepts P and C are conceptually independent, their primary intensions are distinct. Here is the crucial point: Chalmers apparently takes this distinctness of primary intensions to mean that P and C express (by contrast with ‘refer to’, as we might say in philosophy of language terms) distinct properties.1 If that were so, the property of consciousness would indeed be distinct from any physical-functional property, and the resultant facts distinct.

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1 The inference from conceptual independence to expression of distinct properties is equivalent to what I have called the “semantic premise” of Kripke’s and Jackson’s anti-physicalist arguments. [“Phenomenal States”, in The Nature of Consciousness, ed. Block, Flanagan, Guzeldier, MIT Press, 1997.] Chalmers’s argument, as I see it, makes the same mistake then as the arguments I discuss in that paper. Only the terminology is different.
Chalmers’s argument clearly needs this correspondence of primary inten-
sions and expressed properties. As he says, “the dualism implied here is a
kind of property dualism.” Moreover, if the falsity of materialism follows we
must mean something non-epistemie by ‘property’. He accepts this as well:
“When God created the world, after ensuring that the physical facts held, he
had more work to do.” (p 124; Chalmers’s italics.) Again: “The falsity of
logical supervenience implies that experience is fundamentally different in
kind from any physical feature.” (124) So Chalmers leaves us in no doubt
that he intends a strong metaphysical result, that we are not going around in
conceptual circles. And the question is how we have managed to break out.
The question is central, for we must have got from a conceptual premise (the
two sorts of concept have different primary intensions) to a metaphysical
conclusion (they express different properties.)

I want now to argue that step 3 does not in fact follow from premise 2; it
does not follow that experience is fundamentally different in kind from any
physical feature. Indeed, it is quite compatible with everything I have agreed
to above not only that consciousness supervenes on the physical but that it is
identical with a physical feature. Let me put the problem with Chalmers’s
argument directly: it does not follow (without some further assumption) from
the fact that $C$ and $P$ have distinct primary intensions that they express differ-
ent properties. Their having distinct primary intensions follows by a set of
definitions from their being conceptually independent. But it does not follow
(without some further assumption) from their being conceptually independent
that they express distinct properties (or facts, or kinds), not, that is, in any
metaphysically interesting sense of ‘property’.

Let me sketch what I take to be the correct physicalist picture—or correct
for all that philosophical argument can demonstrate—and show that it is not
directly ruled out by Chalmers’s establishment of premise 2. Phenomenal
concepts and the concept of consciousness are certain recognitional concepts,
while “physical concepts” are theoretical concepts. The concept of conscious-
ness, and other phenomenal concepts, are (as the anti-physicalists maintain)
conceptually independent of all physical concepts. But, on the physicalist
picture I have in mind, phenomenal concepts express (and refer to) properties
that are identical with properties expressed by certain physical concepts. So
on this account conceptual independence is compatible with expressing the
same property.

Given that properties are constituted by the world and not by our concepts,
it is fair of the physicalist to request a justification of the assumption that
conceptually distinct concepts must express metaphysically distinct proper-
ties. Without such a justification, there is room to deny that if $C$ and $P$
have different primary intensions they express different properties. Chalmers of
course might add a premise to the above argument: “if all conceptually
We have various experiential ways of conceiving properties, for example ‘cramp’, which picks out a kind of muscle contraction by way of a cramp-feeling. These concepts are co-extensive with certain physical-theoretical concepts, e.g. some physical description of that kind of muscle contraction. In these cases, experiential concepts and the physical concepts with which they are co-extensive are conceptually independent. This independence coincides with two further differences between those concepts. 1) They are very different kinds of concept, viz. experiential and physical-theoretical. 2) They express different properties. They fit Chalmers’ picture perfectly: concepts with distinct primary intensions (i.e. by virtue of their conceptual independence) express different properties (the property of feeling cramp is not the property of having a muscle contraction.)

Phenomenal concepts are unique among experiential concepts in this respect: they express the very properties they pick out, as Kripke observed in the case of ‘pain’. On the face of it this point is neutral between physicalism and anti-physicalism. The physicalist says that it is merely an interesting fact about our cognitive structure that we are able to pick out certain of our own physical properties “directly”, i.e. not in the manner of other experiential concepts like ‘cramp’, which picks out a physical property by way of a distinct feeling-property.

So it is hardly cavalier to say that phenomenal concepts are an exception to Chalmers’s and Kripke’s thesis about conceptually distinct concepts, says the physicalist: on both physicalist’s and anti-physicalist’s account they are exceptional concepts in this very respect, that they are experiential property-concepts without a dual intensional structure. Why should this fact count against the physical constitution of phenomenal qualities or consciousness? Notice that pairs of co-extensive phenomenal concepts and physical concepts would then resemble other experiential concepts in one of the above respects, that they are very different kinds of concept, but not in the other, viz. that they express distinct properties.

Have we accounted for the fact that phenomenal concepts and physical concepts are conceptually independent merely by saying that they are “very different kinds of concept”? The anti-physicalist may see things as follows. If C and P expressed the same property, the thinker would simply see that C is identical with P, for there is no contingent property to get in the way, and so no further empirical investigation would be required. Moreover, are expressed properties not what we grasp when we grasp a concept? (If we think this, we are in the grip of a more or less Fregean picture of concept-individuation.) In any event, there are two demands here. i) How can we explain conceptual

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2 I assume that physical-theoretical concepts express and pick out the same property.
independence if not by difference in expressed property? ii) Does having a concept not imply knowing the essence of its expressed property, its mode of presentation, so that if that essence is physical one knows its, as it were, scientific analysis? I return to question (ii) on the final page. In answer to i) the physicalist ought to say this: The conceptual independence of phenomenal concepts and physical-theoretical concepts has a deep psychological explanation that does not depend on distinctness of expressed properties. Suppose (per impossibile if you prefer) that phenomenal concepts refer to physical properties and have the very properties they refer to as their own modes of presentation. Those concepts will themselves be very different psychological entities from the theoretical physical-functional concepts that also express those very properties. The latter concepts are realized, it is convenient to suppose, in a verbal-theoretical part of the brain while phenomenal concepts are realized in a nonverbal-experiential part of the brain. That explains their cognitive separation—until they meet by way of empirical discovery. Why should this not be a complete explanation of the a posteriori status of true psychophysical identity judgments? Why should the two-dimensional semantic structure also be required? It is there in other cases of experiential concepts because in them the expressed experiential property is, in fact, only contingently related to the reference. It is common ground that that contingent relation is not present here. One can hardly fault psychophysical identity statements for not making room for an explanation that is not required.

So my reply to Chalmers has been three-fold. First, difference in primary extension (as defined by him) does not on its own entail difference in expressed properties. Second, the physicalist can motivate the exceptional status of phenomenal concepts among experiential concepts in their relations to certain physical concepts. Third, the physicalist can explain the distinctness of phenomenal and physical-theoretical concepts.

With all that said, I want now to comment on some remarks of Chalmers’s regarding my view as formulated in an earlier paper.3 “Loar’s position requires that a conditional from physical facts to phenomenal facts be metaphysically necessary despite being logically contingent, where this gap cannot be explained by a difference in primary intensions. . . . Loar’s position requires a brute and arbitrary restriction on possible worlds. Loar offers no argument for this restriction. . . .” [p. 143] My basic distinction is between concepts and properties, and I used the notion of possible world accordingly: something may be conceivable (given ideal reflection) without there being a possible world in which it—or the property-individuated-proposition it expresses as its mode of presentation—obtains. Chalmers construal of this as an “arbitrary” restriction on possible worlds does not seem apt. Keep in mind

that he uses ‘logically possible world’ to mean something epistemic or con­ceptual. But if ‘possible world’ means simply a possible world on the stan­
dard Kripkean conception, then we take for granted that if a property identity
is true in the actual world it is true in all possible worlds. But we cannot take
this for granted on an epistemic understanding of ‘possible world’.

The only condition we must place on ‘possible world’ for present pur­
poses is the necessity of property-identity. That is, the possible worlds are
such that if $F=G$ in the actual world then $F=G$ in all of them. One can hardly
just assume both that ‘logically possible world’ means something epistemic
and that it stands for worlds that satisfy the necessity of property-identity. For
that would be to assume a relation between concept and expressed-property
that, as I have argued, cannot just be taken for granted. Nothing in my argu­
ment here or in that earlier paper requires a restriction on the class of possible
worlds if that notion saves the necessity of property-identity. If $C = P$ there is
no possible world in which they are distinct even though such a world is
ideally conceivable.

Finally I should mention what is perhaps Chalmers’s, and many others’,
most deeply felt objection to physicalism about consciousness and qualia,
namely, the explanatory gap. If we ask why a certain state feels like this, we
will not get an explanation if we characterize that state’s physical-functional
properties, not even if we have unlimited intelligence and knowledge of the
brain. We might gain a partial understanding of qualia, in particular their rela­
tions to each other in quality space. Chalmers is clear in granting this point.
But, as he also points out, we will not thereby have explained why the state
feels like anything at all. I quite agree with this. But he refers to this as the
failure of “reductive explanation” for consciousness and qualia. This is not the
way I would put things; for it suggests that property reduction—and hence
property identity—fails if there is an explanatory gap, which I deny.
Chalmers characterizes reductive explanations as “mystery removing” expla­
nations. That is tendentious in the current connection. I do not agree that the
explanatory gap leaves a real mystery in place; for there is more than one way
to remove a mystery.

When we explain liquidity, say, in physical-functional terms, the explana­
tion is in crucial part a priori. Some find this surprising, for we think of sci­
entific explanation as empirical. But, as Chalmers also argues, what we in
effect do is analyze liquidity—more precisely those aspects of liquidity that
are to be explained—in terms of a functional description, and then show that
the physical theory of liquids implies, a priori, that the functional description
is realized. There are certain things about liquids that we want explained; and
these will include the usual liquidity-behavior by virtue of which we count
something as a liquid, as well as perhaps other more recondite aspects of the
behavior of liquids that have been noticed by specialists. These properties of
liquids, it seems fair to say, are in a broad sense functional properties. This is
Chalmers’s view as well. We have explained why a particular thing has those liquidity-properties when we can deduce them from the basic physical description of the thing. Since those properties are functional properties, it should not be surprising that we can deduce them.

But, given that phenomenal concepts are not functional concepts and are, more generally, conceptually independent of physical-functional concepts, we cannot have a similar a priori explanation of phenomenal qualities in physical-functional terms. We want to explain how they feel, and that is not entailed a priori by any physical description.

The question is whether this creates a problem for physicalism, and I do not think it does. Let us review key points. The “mystery” is at one level dispelled simply by the observation that there are perfectly unsurprising psychological reasons why phenomenal concepts are not implied a priori by physical-functional concepts. Moreover, it is not mysterious how phenomenal concepts might pick out states of the brain: they do so in the manner of all recognitional concepts, viz. by discriminating them. Still, something odd seems to remain. Phenomenal concepts pick out certain physical properties directly. They do not pick out those properties via a contingent mode of presentation, in the manner say of visual recognitional concepts, which connect one to some external kind by way of a visual experience. It could then seem, I suppose, that phenomenal concepts conceive their references as they are in themselves. So if a physical-functional concept did pick out the same property as a phenomenal concept, one might expect to be in a position to know this just by virtue of having those concepts. The point to be emphasized is that this expectation is an illusion. The radically different cognitive roles of the two sorts of concepts keep them unconnected a priori, despite the fact that each in its way (quite different in fact) conceives the property it picks out “directly”. Is there a residual mystery? There is a strong temptation still to be puzzled. But if we understand that our phenomenal concepts are recognitional

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4 For more on this, see Loar 1997.

5 In this respect there is a parallel with liquidity: a phenomenal concept and the concept ‘liquid’ have in common that each picks out a property directly i.e. not via contingent modes of presentation. At the same time any physical-functional description of a fundamental theoretical sort will in its way capture the essence of the property it both picks out and expresses. Since both a phenomenal concept and any suitable physical-functional concept conceive their references directly, there might be a strong tendency to expect their picking out the same property to be evident just from the concepts we thereby exercise. That is after all what happens with ‘liquidity’. But ‘liquidity’—or rather our conception of the liquidity properties to be explained—is a functional concept, while our conception of a quale or of consciousness is not purely functional. And that leads to the difference in how the conceptual roles of ‘consciousness’ and ‘liquidity’ are related to those of the physical-functional concepts that characterize their essence, i.e. in the latter case a priori and in the former a posteriori.
concepts that pick out brain states without remainder for all we know, it is not easy to say what genuine explanatory mystery survives.⁶

⁶ I am obliged to David Chalmers for a very helpful conversation about these matters, and for a recent letter, in which he kindly pointed out that I had, in an earlier draft of this paper, misinterpreted his use of 'logically possible world'.

I am also grateful to Ned Block for very good advice about how to make the exposition clearer.