

**Solitude without Souls:
Why Peter Unger hasn't established Substance Dualism¹**

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Abstract

Unger has recently argued that if you are the only thinking and experiencing subject in your chair, then you are not a material object. This leads Unger to endorse a version of Substance Dualism according to which we are immaterial souls. This paper argues that this is an overreaction. We argue that the specifically Dualist elements of Unger's view play no role in his response to the problem; only the view's structure is required, and that is available to Unger's opponents. We outline one such non-Dualist view, suggest how to resolve the dispute, respond to some objections, and argue that ours is but one of many views that survive Unger's challenge. All these views are incompatible with microphysicalism. So Unger's discussion does contain an insight: if you are the only conscious subject in your chair, then microphysicalism is false. Unger's mistake was to infer Substance Dualism from this; for microphysicalism is not the only alternative to Dualism.

0 *Introduction*

Let Materialism be the view that you are a material object, spatiotemporally located and causally efficacious.² Peter Unger has recently argued that if Materialism is true, then many thinking and experiencing subjects are seated in your chair. Since Unger finds this consequent untenable, he rejects Materialism. The only view compatible with your solitude, Unger claims, is a form of Substance Dualism on which you are a

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² On another usage, Materialism is the view that mental properties are, in some sense, non-fundamental. This is not our usage. Our usage contrasts with *Substance* Dualism, which concerns the *bearers* of mental properties. However, dualism about objects presumably implies dualism about properties; for how could an immaterial object's properties all be grounded in material properties?

simple immaterial soul (Unger 2004; 2006b, ch.7).³ We will argue that this is an overreaction. Careful scrutiny of Unger’s Dualism will reveal that its specifically Dualist components are inert in resolving the problem; only the view’s structural features do any work, and they can be adopted by Unger’s Materialist opponent. Unger’s hostility towards “scientiphicalism” – a form of microphysicalism, opposition to which provides the overarching theme of Unger’s (2006b) – has caused him to overlook an anti-scientiphical proposal much like his own, but which dispenses with immaterial substances.

Unger’s argument has received little discussion, and its import has not been widely appreciated. We suspect that this is because his presentation is both long⁴ and intricate. §1 seeks to rectify this with a concise and accurate presentation of Unger’s argument and Dualist solution. §2 shows that Unger’s argument does not establish Dualism, even granting all his assumptions. We present a non-standard version of Materialism compatible with your solitude, whose core theses and structure are analogous to those of Unger’s Dualism and are motivated by just the same concerns. Since only features common to both views play a role in resolving Unger’s problem, one is an adequate response iff the other is too. §2 also highlights some theoretical advantages of our proposal over Unger’s, suggests how to decide between the views, responds to some objections, and explains the connection with microphysicalism. §3 concludes by arguing that our proposal is but one anti-Dualist view amongst many.

1 *Unger’s puzzle and Dualist Solution*

We present Unger’s argument against Materialism in §1.1, his defence of its key premise in §1.2, and his Dualism in §1.3.

1.1 *Outline of Unger’s argument*

Unger argues that the following are incompatible:

Materialism: You are a material object.

³ Throughout, all page references without dates are to Unger (2006b).

⁴ Unger’s argument comprises more than one-hundred pages of his six-hundred-and-forty page (2006b).

Uniqueness: Exactly one subject is in your chair.

By a subject, we mean anything with a conscious mental life comparable to your own.

Here's Unger's argument:

(1) If *Materialism* is true, then many subjects are in your chair.

(2) *Uniqueness* is true.

(3) So *Materialism* is false.

The argument is clearly valid. So the Materialist must reject a premise: deny (1) or deny *Uniqueness*.⁵ We will simply grant *Uniqueness*; it is, after all, intuitively compelling. We will also ignore the kind of non-standard semantic techniques suggested by David Lewis (1993) and Theodore Sider (2003) in response to similar problems. Unger has persuaded us that such techniques only make it difficult to express the metaphysical problem that concerns him, rather than resolving it (pp394-6). We cannot, however, argue for this claim here; those who disagree should regard our conclusions as conditional on this conception of the problem. Our goal is a concessive Materialism that grants Unger's assumptions, but against which his arguments still fail. So let us examine Unger's argument for premise (1).

1.2 *Unger's argument for premise (1)*

Unger's argument begins with his (1980) Problem of the Many.

Let H be a typical human organism, or simply 'human' henceforth. Like any other human, it's unclear where H's boundaries lie: for many objects *x*, it's unclear whether *x* is part of H, and mysterious what could count as deciding the matter. Examples of these borderline parts include loose hairs, and partially absorbed nutrient molecules. So many candidates nearly coincident with H have equally good claim to be – or to

⁵ Strictly, the Substance Dualist also denies *Uniqueness*: you are not in your chair, but an immaterial soul without spatial location. Let us use locational vocabulary in an extended sense so that a soul counts as located wherever its body is located.

constitute, depending on one's metaphysical preferences – humans: for each borderline part x of H , two such human-candidates are (i) H taken as including x , and (ii) H taken as excluding x . Since these human-candidates have equally good claim to be (constitute) humans, and at least one of them is (constitutes) a human, it follows that each of them is (constitutes) a human. Since there are many candidates (and no two could constitute the same human), it follows that many humans are nearly coincident with H . Since this turned on no peculiarity of H , we can generalise: although there appears to be just one human seated in your chair, really there are very many, and likewise for every other human.

Two comments about the Problem of the Many.

Firstly, like David Lewis (1993), we appealed to unclarity or indeterminacy in H 's boundaries. However, it is doubtful whether vagueness lies at the heart of the problem. Unger argues (pp369-70, 394-96, 468-69) that the problem is independent of vagueness and indeterminacy: what matters is the abundance of human-candidates where there appeared to be just one human, and vagueness provides only one (particularly vivid) way of recognising this. The puzzles of vagueness, Unger suggests, are but a sideshow here, and not the heart of the problem.

Secondly, we will ignore higher-order vagueness, the putative phenomenon of borderline cases to the borderline cases. There are two reasons for this. (i) Higher-order vagueness is one of the most difficult and controversial aspects of a difficult and controversial phenomenon. It is highly controversial whether higher-order vagueness exists, whether it is coherent, and whether it could account for the phenomena it is supposed to explain, even if it is coherent.⁶ (ii) As just explained, Unger denies that he is addressing a problem arising from vagueness. In light of these difficulties, the most prudent course is to set higher-order vagueness aside and assume, for argument's sake and so that we can address Unger on his own terms, a well-defined and determinate collection of human-candidates in your chair. Even if higher-order vagueness is relevant to our discussion, one must engage with some of the deepest and most

⁶ Wright (2010) contains a powerful recent expression of scepticism about higher-order vagueness, and references to earlier debate. Fara (2004) argues that higher-order vagueness cannot exhaust the phenomenon of seamless transition it was introduced to explain.

controversial problems in logic and language – which Unger does not address –, before one can rest argumentative weight on it.

We now have an argument for: many humans are in your chair, if there are any. But this isn't Unger's premise (1). What has this got to do with Materialism? Well, the Materialist must identify you with a material object of some kind or other. A human is perhaps the most plausible candidate, though it matters little to Unger: the Problem of the Many afflicts every ordinary kind of thing. So we can henceforth assume that the Materialist identifies you with a human, without prejudicing the debate. So if Materialism is true, then many things of the same kind as you (i.e. human) are in your chair. And now we can ask: which of these humans is a subject? Unger presents three arguments to show that they all are, though he does not carefully distinguish them or give them the following names. If any of these arguments is sound, then he will have established his major premise (1).

First argument: *Choice*. “[A]ny good candidate for being the single conscious experiencing complex... [in your chair] isn't a better candidate than each of many others, all massively overlapping and extremely similar” (p425). The challenge is to provide a principled and non-*ad hoc* ground for the claim that only one of the humans in your chair is a subject. The principle must determine both *that* exactly one of the humans in your chair is a subject, and *which* (though it need not allow us to tell). Since those humans are so similar, and more similar to one another than any is to any other experiencing human, it appears that no such principle can exist. Without a *principled* basis to distinguish one from all others in mental respects, if any human in your chair is a subject, they all are. Since at least one (i.e. you) is a subject, we have premise (1).

Second argument: *Incredibility*. “Who can believe that, each of them so terribly like all the others, somehow there's just one... [human] that's really experiencing while all the others are experientially powerless? To me *that's* incredible” (p382). Unger's idea is that we are psychologically incapable of believing that just one human in your chair is a subject, given their similarity. But given *Uniqueness*, that's just what Materialism implies. So the Materialist should reject *Uniqueness*. So again we have premise (1). §2.2.3 discusses our reservations about this argument.

Third argument: *Redundancy*. The humans in your chair differ only minutely, typically by only a few molecules near their boundaries. The contribution of such molecules to your mental life is redundant; for your mental states are surely indifferent as to whether they exist. Now suppose that just one of the humans, H, in your chair is a subject. Unger claims that this amounts to supposing that the molecules that differentiate H from those other humans make a vital, non-redundant contribution to its mental life (p406). Since they don't make such a contribution, the Materialist should deny that only H is a subject. And likewise for every other human in your chair. So again, we have premise (1).

Unger's argument for premise (1) is now in place. We present Unger's Dualist response next and our Materialist alternative in §2.

1.3 *Unger's response: Substance Dualism*

This section presents Unger's Substance Dualism as a solution to his problem. §1.3.1 presents a theory-neutral characterisation of the mental-material relationship. §1.3.2 introduces Unger's Dualism as a development of this bare-bones description, and shows how it ensures *Uniqueness*. A Materialist analogue of Unger's strategy is developed in §2. Our presentation departs from Unger's in order to emphasise the features relevant to *Uniqueness*.

1.3.1 *Common ground*

Everyone should agree that (at least usually) a subject has a special relationship with a particular material object, presumably a human: the properties of the subject and material object systematically co-vary such that it's appropriate to say that the latter "is the body of" the former. Call this co-variation relation "embodiment". The properties of subjects turn in part upon the properties of the material objects that embody them, and the properties of those material objects turn in part upon those of the subjects they embody. For example, dropping a book on your toe results in your feeling pain, and deciding to make a cup of tea results in your body rising from its seat. Three questions now arise.

First question: why does your body embody a subject at all? The interaction between most material objects and subjects is unlike that between you and your body. Tables, chairs, mountains and computers do not impinge upon, and are not themselves impinged upon by, conscious subjects in the peculiarly intimate manner in which your body is. Why? The answer is that embodiment is law-governed: for some condition *C* on material objects, all and only the *C*-satisfiers embody experiencers.⁷ Call *C* the ‘Embodiment Condition’. The upshot of Unger’s argument is this: if the *C*-satisfiers are the members of some ordinary kind, then there are many *C*-satisfiers wherever there’s any.

What kind of material objects embody subjects? Equivalently: what kind of object satisfies the Embodiment Condition? Obvious candidates include brains and humans. Since nothing in the Materialist-Dualist debate turns on this, we assume for the sake of argument and exposition, and without prejudicing the debate, that humans are what satisfy the Embodiment Condition: all and only the humans embody subjects.⁸

Second question: what grounds the co-variation between subjects and their human bodies? This co-variation is surely not a brute fact or mere quirk of nature. It is because of the nature of the mind-body relation that this co-variation obtains. What is this relation?

Third question: why are you embodied by the particular human body that you are? Could your body have embodied a different subject? If so, then why does it embody you, and not someone else? And if not, why not? Meeting the Embodiment Condition suffices for embodiment of some subject, but is silent about why it’s one rather than another.

The truth of *Uniqueness* is an adequacy condition on a system of answers to these questions. We assumed that the humans satisfy the Embodiment Condition. The Problem of the Many shows that many humans are in your chair. Since satisfaction of

⁷ We do not assume that *C* is non-disjunctive or intrinsic.

⁸ If human bodies exist before or after their embodied subjects, then this will need finessing.

the Embodiment Condition suffices for embodying a subject, it follows that the many humans in your chair all embody subjects. *Uniqueness* then requires:

Adequacy: No human in your chair embodies more than one subject, and no two of them embody distinct subjects.

A satisfactory account of the mental and its place in material reality must imply *Adequacy* in order to guarantee *Uniqueness*.

This much should be uncontroversial. Different theories will answer these questions in different ways, thereby filling out the details of the mental-material relationship. Let's see how Unger's Dualism does so.

1.3.2 *Unger's Dualism*

Unger first posits a new kind of entity distinct from any ordinary kind of material object: souls. Souls are simple, immaterial, and the fundamental bearers of mental properties. Unger offers no account of why souls, unlike material objects, can possess mental properties: he simply builds it into his view. Nonetheless, each soul's mental life is interdependent with the state of some human. In answer to our second question, this dependency is explained by causal interaction between souls and bodies: satisfying the Embodiment Condition suffices for causal interaction with a soul. Hence:

Causation: Each human in your chair causally interacts with a soul (because each satisfies the Embodiment Condition).

Crucially, Unger denies that this mental-material causal relation is one-one: many humans can causally promote the same soul. So *Causation* is compatible with:

Dualist Adequacy (DA): No human in your chair causally promotes more than one soul, and no two of them causally promote distinct souls.

Causation and *DA* together imply *Uniqueness*. However, Dualism and *Causation* are logically independent of *DA*, and hence also of *Uniqueness*. Unger recognises this, but claims the Dualist “may plausibly enough conjecture” that *DA* is true (p381). Thus Unger can – and given *Uniqueness* as an adequacy constraint, must – add to Dualism to ensure *DA*. Some principle governing the causal promotion of souls by humans is required, from which *DA* follows. Although Unger does not explicitly state any such principle, he clearly assumes something like:

Overlap_D: If some things satisfy the Embodiment Condition and almost materially coincide, then none causally promotes more than one soul, and no two of them causally promote distinct souls.

Overlap_D (‘D’ for ‘Dualist’) neither follows nor flows naturally from Unger’s core Dualist theses, i.e. that subjects are simple immaterial souls and that embodiment is a causal relation. The motivation for *Overlap_D* must therefore be extrinsic to Dualism. (This will be important later: extrinsic motivations for *Overlap_D* extend to the Materialist alternative, *Overlap_M*, we propose in §2.1.) *Overlap_D*’s primary motivation is, of course, to ensure the truth of *Uniqueness* by entailing *DA*. But *Overlap_D* remains a basic, and currently unexplained, postulate of Unger’s Dualism, motivated solely by factors extrinsic to the guiding idea. This isn’t to say that *Overlap_D* is false, but simply that there should be no illusions about its status.

Supplemented with *Overlap_D*, *Causation* guarantees *DA* and hence *Uniqueness*. But we have yet to answer our third question: why do the humans in your chair causally promote you, rather than some other soul? Unger answers by introducing “Individualistically-directed Propensities” (pp246-8, 456-60). The precise details needn’t concern us, but the basic idea is that each human in your chair possesses the power to causally promote your particular soul under certain circumstances. Since the circumstances obtain, the power is manifested and those humans embody you. Note the dissimilarity with more typical powers to affect a certain *kind* of thing under certain conditions. Rather than examining this unusual and novel theoretical machinery in more detail, we merely note that this complication is required to fix which soul a given human embodies.

In this way, Unger provides one possible reconciliation of *Uniqueness* with the Problem of the Many: there's one subject in your chair, despite the multitude of humans thereabouts, because there's only one immaterial soul with which those humans all causally interact.

2 *Materialism with Uniqueness*

Despite commitment to immaterial souls, inexplicable brute facts and individually-directed powers, Unger regards Dualism as preferable to rejecting *Uniqueness*. Since he thinks that any plausible version of Materialism will violate *Uniqueness*, he regards Dualism as preferable *tout court*. But Unger is wrong about this. Some versions of Materialism are compatible with *Uniqueness*.

Standard versions of Materialism explain embodiment by identifying subjects with whichever ordinary kind of object they take to satisfy the Embodiment Condition. So assuming that humans are what satisfy the Embodiment Condition, the human in your chair embodies you (rather than someone else) because it is you. The problem is that identity is one-one: if many humans are in your chair, then many subjects are too. Since the Problem of the Many afflicts every ordinary kind of material object, the difficulty is independent of which such kind satisfies the Embodiment Condition. But not all versions of Materialism succumb to this problem; for Materialists need not explain embodiment using identity (or any other one-one relation) between subjects and satisfiers of the Embodiment Condition.

2.1 *Embodiment as parthood*

We've seen two ways to accommodate the embodiment of subjects by humans. Unger appeals to causal interaction between souls and humans, whilst standard Materialism identifies subjects with humans. These are not the only candidates. We now present and defend a Materialist view that's compatible with *Uniqueness*. Our strategy is to mimic Unger's Dualism as closely as possible, consistently with Materialism, thereby revealing that the specifically Dualist elements of his proposal – the immateriality of souls and their purely causal relation to humans – are inert in resolving his puzzle; only the structural features shared with our proposal are important. Since our proposal

shares its structure and motivations with Unger's, they stand or fall together as responses to his argument.

Following Unger, we first posit a new kind of individual: Experiencers. Like Unger's souls, our Experiencers are a new theoretical posit; they do not belong to any familiar kind of object. Also like souls, our Experiencers are the fundamental bearers of mental properties: they, and nothing else, can have mental properties in a non-derivative sense. Unlike Unger's souls, however, our Experiencers are spatiotemporally located composite material objects.

What are Experiencers like? We assumed that humans are what satisfy the Embodiment Condition. So Experiencers are embodied by humans. Now recall our second question in §1.3.1: what grounds the interdependency of subjects and their human embodiments? Here we invoke the relation of parthood: satisfaction of the Embodiment Condition suffices for being part of an Experiencer.⁹ Hence:

Parthood: Each human in your chair is part of an Experiencer (because each satisfies the Embodiment Condition).

Parthood can play the necessary explanatory role. One thing's being part of another explains systematic co-variation in their properties. An example: your body's properties and those of your organs depend upon and affect one another *because* your organs are parts of your body. Furthermore, this explanation of embodiment in terms of parthood vindicates our claim that Experiencers are material objects: they are material because they are made out of material objects.¹⁰ Most importantly though, parthood has the formal properties we require; specifically, it isn't one-one. So *Parthood* is compatible with:

Materialist Adequacy (MA): No human in your chair is part of more than one Experiencer, and no two of them are parts of distinct Experiencers.

⁹ We mean the pre-philosophically understood notion of parthood, without commitment to any theory of parthood.

¹⁰ So far, our view permits Experiencers to have some immaterial parts; §2.1.1 rules this out.

Parthood and *MA* together imply *Uniqueness*. Just as Unger's Dualist conjectured that *DA* is true, so we endorse *MA*. But like Unger's *Causation*, our *Parthood* is logically independent of *MA* and *Uniqueness*. Since *Uniqueness* provides an adequacy constraint on theories of the mental-material relationship, we too must supplement our proposal to imply *MA*. We suggest:

Overlap_M: If some things all satisfy the Embodiment Condition and almost materially coincide, then none is part of more than one Experiencer, and no two of them are parts of distinct Experiencers.

Parthood and *Overlap_M* together entail *MA* and hence *Uniqueness*. Note that *Overlap_M*, like Unger's *Overlap_D*, does not follow from our core theses about Experiencers and embodiment. *Overlap_D* is a currently unexplained postulate of our Materialist theory, motivated solely by factors extrinsic to our guiding idea, chief amongst which is that we must ensure the truth of *Uniqueness*; here too we mirror Unger.

The sole Experiencer in your chair is a material object of which the many overlapping humans in your chair are all parts. You are not a human on this view, but you are intimately related to many of them.

Recall our third question: why does any particular human embody the Experiencer that it does? We do not know how to answer this question, but hope two comments will suffice. Firstly, this is an instance of a general problem: why are objects parts of the things they are parts of? The atoms that compose my body, for example, could have composed a different (duplicate) body. And yet they do not. Why? Since the problem is general, it should not count against us that we cannot answer it. Secondly, our proposal departs from Unger's here. The question of why a human body causally promotes one particular soul is peculiar to Dualism, leading Unger to introduce the apparatus of Individualistically-directed Propensities. Our proposal incurs no such novel commitment here.

Our key principles *Parthood* and *Overlap_M* are obviously analogues of Unger's *Causation* and *Overlap_D*. The former principles play the same role in our proposal as the latter do in Unger's and, furthermore, were motivated in just the same way: *Parthood* and *Causation* are corollaries of the central claims about embodiment; *Overlap_M* and *Overlap_D* ensure the truth of *Uniqueness*. So *Parthood* and *Overlap_M* are ill-motivated iff their Dualist analogues are.

This suggests a way to make progress in the Materialist/Dualist dispute. Suppose that our proposal and Unger's are the only solutions to his problem. Central to each view is its Overlap principle. These Overlap principles currently lack independent motivation. Whichever view provides the best explanation for its Overlap principle should therefore be preferred, other things being equal. By highlighting the Dualist reliance on *Overlap_D*, our proposal suggests a way to resolve the issue.

We examine objections to our proposal in §2.2, following some further elaboration in §2.1.1.

2.1.1 *Digression: A little more on Experiencers*

Our theory of Experiencers is currently incomplete. We have said enough to ensure that you are a material object,¹¹ that there's exactly one subject in your chair, and nothing more; nothing more is needed for the Materialist to ensure the truth of *Uniqueness* despite the Problem of the Many. In this respect, the presentation of our proposal resembles that of Unger's Dualism. There, we said enough about souls to ensure they are indeed immaterial, that there's exactly one 'in' your chair, and nothing more; nothing more is required for Unger's Dualist to ensure the truth of *Uniqueness* despite the Problem of the Many. Nevertheless, it may be helpful to say a little more about Experiencers. This section considers their mereological profiles; space prevents consideration of their modal profiles, and identity and existence conditions.

We continue mirroring Unger's Dualist, who will presumably endorse:

¹¹ Though see notes 9 and 12.

- Di* Non-overlapping humans do not causally promote the same soul.
- Dii* Something causally interacts with a soul only by virtue of either (a) satisfying the Embodiment Condition, or (b) causally interacting with something that satisfies the Embodiment Condition.

Why will Unger endorse these? Given the Dualist account of embodiment, *Di* ensures that, for example, your and my humans don't embody the same experiencer. And *Dii* ensures that the facts about causal interaction between souls and material reality all flow from facts about human-soul interaction. Likewise, our Materialist endorses:

- Mi* Non-overlapping humans are not parts of the same Experiencer.
- Mii* Something is part of an Experiencer only by virtue of either (a) satisfying the Embodiment Condition, or (b) being part of something that satisfies the Embodiment Condition.¹²

This yields an account of the mereological profiles of Experiencers that largely accords with our ordinary mereological judgements. For in the context of our proposal, *Mi* and *Mii* imply: whenever an Experiencer *x* exists, *x* fuses a maximally inclusive collection of nearly coincident humans.¹³ It follows that, for example, none of your parts is disjoint from every human in your chair, and that no Experiencer overlaps your and my humans. None of us is a human, but, from a mereological perspective, we come as close as is possible given the Problem of the Many.¹⁴

Unger rejected a similar view on which you fuse the “basic [material] constituents” of all the humans in your chair, on the grounds that it is an arbitrary, desperate attempt to preserve Materialism alongside *Uniqueness* (pp437-8). We can now see that this was

¹² One might worry that *Mii* rules out possibilities that should be left open, e.g.: our planet is a tiny cell in an unfathomably large thinker. If so, then we restrict our claims (including *Mii*) to subjects akin to ourselves.

¹³ *x* fuses the *ys* iff each of the *ys* is part of *x* and *x* has no parts disjoint from each of the *ys*. Note that appeal to mereological concepts like fusion does not imply any particular theory of parthood. We can, and do, remain neutral about the temporal and modal invariance of fusion, and about whether fusion is unrestricted or unique. As note 10 promised, our proposal now implies that Experiencers have only material parts.

¹⁴ Our proposal resembles the suggestion that humans constitute material persons which, unlike humans, have a conscious mental life (cf. Baker 2000). One difference, crucial to our strategy, is that parthood, unlike constitution, is usually regarded as one-many.

overly hasty. This Materialist view follows from principles analogous to those governing Unger's own Dualism. What feature of our proposal does Unger's Dualism lack, in virtue of which one, but not the other, counts as arbitrary? Unger presents none. Either both are unmotivated and arbitrary, or neither is.

We now address three objections to this elaboration of our proposal.

Firstly, given that our Experiencers fuse collections of humans, one might doubt that we have really posited a new kind of object. This objection fails, for two reasons. (i) We posited a new *kind* of object, and kind-membership concerns classification or category, not merely mereology. We do not claim that Experiencers have novel mereological profiles, only that they form a new category of material individual whose members are the fundamental bearers of mental properties. Although mereological profile and kind-membership are connected, the former does not exhaust the latter. (ii) Experiencers are distinct from all other ordinary kinds of individual; for unlike those other kinds, the mereology of Experiencers is governed by *Overlap_M*, and, we claim, only Experiencers have mental lives.

The second and third objections concern mereological change in Experiencers. Suppose some of your atoms are annihilated so that you come to coincide with a human H that used to be part of you.¹⁵ Both you and H presumably survive this process. You are also distinct from H: you but not H used to be (and still are) a subject. But since you now coincide with H, and you fuse all the humans in your chair, it follows that H does too.

The second objection is that this situation is incompatible with *Uniqueness*: doesn't our claim that Experiencers fuse maximal collections of nearly coincident humans, imply that H is also an Experiencer? If so, then *Uniqueness* fails because H is a second subject in your chair. Luckily for us, this implication does not hold.

The objection mistakenly assumes that we offered a mereological analysis of membership in the kind *Experiencer*: *x* is an Experiencer iff *x* fuses a maximal

¹⁵ Maybe H becomes the only human in your chair. Or maybe the humans previously in your chair all now coincide with H. It doesn't matter for our purposes.

collection of nearly coincident humans. We offered an account of the mereological profiles of Experiencers. This account implies only the left-right reading of the relevant biconditional – if x is an Experiencer, then x fuses a maximal collection of nearly coincident humans –, while the objection requires the right-left reading. We do not claim that Experiencers have novel mereological profiles, or that examining an object's mereological profile can reveal whether it's an Experiencer. We claim only that Experiencers form a new category of material individual whose members (a) fuse maximal collections of nearly coincident humans, and (b) are the fundamental bearers of mental and experiential properties. As emphasised above, kind-membership concerns classification or category, nor merely mereology.

The third objection is that we're committed to the existence of distinct coincident objects, namely you and the human H. Two responses are available. Firstly, we could adopt one of the strategies for avoiding coincident objects already present in the literature, notably perdurance theory and stage theory. Secondly, like many philosophers, we do not find coincidence problematic.¹⁶ Coincidence does bring commitments that Unger's view does not, but there are three reasons why this is no objection. (i) Coincidence can be independently motivated by considering temporal, modal (and other) differences between, e.g., cats and their constituent matter. (ii) Although the explanatory primacy of microphysics renders coincidence unattractive – what microphysical facts could explain differences between coincidents? –, Materialism doesn't imply microphysicalism, which Unger also rejects. (iii) Unger incurs many commitments that we do not, e.g.: immaterial souls, material-immaterial causation, and Individually-directed Propensities (§1.3). So this third objection fails.

2.2 *Objections and responses*

This section considers some objections to our proposal. In doing so, we'll justify our claim (§0) that Unger's argument refutes microphysicalism, whilst leaving Materialism intact.

¹⁶ Notable examples include: Wiggins (1968; 2001), Fine (2003).

2.2.1 *The Problem of the Many*

Like Unger, we posited a new kind of object: Experiencers. Unlike Unger's souls, our Experiencers are material objects. Does the Problem of the Many afflict Experiencers? If so, then many Experiencers are in your chair and *Uniqueness* fails. This section shows that our solution is not undermined by the Problem of the Many.

Let E be the Experiencer in your chair. The Problem of the Many afflicts humans because their boundaries are indeterminate. So in order for the Problem of the Many to afflict Experiencers, their boundaries must also be indeterminate. Since the Experiencer in your chair fuses all the humans in your chair, there are two ways its boundary could be indeterminate:

- (a) There is a borderline human in your chair.
- (b) There is a borderline case of: x is part of some human in your chair.

We address these in turn.

Consider case (a). Recall the reasoning behind the Problem of the Many. It's uncontroversial that a human H is in your chair. The boundaries of H are indeterminate. Many human-candidates are obtained by including/excluding H's borderline parts. The argument concludes that many humans are in your chair. These many humans are exactly the human-candidates obtained by inclusion/exclusion of H's borderline parts. By parity of reasoning, a borderline human would be obtained from H by inclusion/exclusion of borderline cases of borderline parts of H. So case (a) requires higher-order vagueness in the boundaries of humans.

However, §1.2 gave two reasons to ignore higher-order vagueness and assume a well-defined unique collection of human-candidates in your chair. Firstly, the coherence and existence of higher-order vagueness are too controversial to bear argumentative weight here. Secondly, Unger (pp369-70, 394-96, 468-69) denies that he is addressing a problem of vagueness, claiming that his puzzle involves an overabundance of candidates, not vagueness about the range of candidates (even if vagueness provides one argument for this abundance); so higher-order vagueness is irrelevant when

assessing *Unger's* argument for Dualism. At the very least, one must address more substantial logical and linguistic issues than any Unger considers, before one can use case (a) to undermine our view. We are therefore justified in setting it aside.

Similar problems afflict case (b). The many humans in your chair differ from H by inclusion/exclusion of its borderline parts. How could it be borderline whether x was part of any of these many humans? Well, x would have to be a borderline case of a borderline part of H. For only then can it be borderline whether any of the candidates is obtained from H by inclusion/exclusion of x . So case (b) also requires higher-order vagueness in the boundaries of humans. We may therefore set it aside.

To conclude, the Problem of the Many does not undermine our view. That problem only afflicts Experiencers if their boundaries can be indeterminate, which in turn requires higher-order vagueness in the boundaries of humans. Given the controversies surrounding the coherence of higher order vagueness and its relevance to the Problem of the Many, we are justified in setting it aside, and variants of the Problem of the Many for Experiencers along with it. However, the humans and Experiencer in your chair are very similar. How could those humans not have conscious mental lives, or something very similar, given that you do? Do Unger's arguments from *Choice*, *Incredibility* and *Redundancy* show that those humans are also subjects? We now show that they do not.

2.2.2 *Choice*

The argument from *Choice* challenges the Materialist to provide a principled and non-*ad hoc* basis on which to privilege exactly one object in your chair as a subject. On our view, this is the one and only Experiencer E in your chair. We've seen that there can be only one Experiencer in your chair. And we proposed that only Experiencers possess mental properties, just as Unger proposed that only immaterial souls do. So our view delivers the principled selection that *Choice* requires.

Three slightly different objections might now be raised, depending on exactly what one takes *Choice* to require. We address them in turn.

First objection: what explains why E, rather than some human-candidate H, belongs to the kind *Experiencer*? Given that they are composed of almost the same matter, we might seem unable to explain why E and H belong to different kinds, and have quite different mental profiles (since H lacks a mental life).

The Materialist can, and in our view should, deny that differences in kind must be explained by differences in constituent matter. To take a familiar example: a statue differs in kind from its constituent piece of clay, even though they materially coincide; this difference cannot be explained by differences between their constituent matter.¹⁷ Similarly, the difference in kind between E and H needn't be explained by differences at the level of constituent matter. But what does explain this difference? Following David Wiggins (2001, esp. chs.1-4), we might deny that kind-membership is explicable in other terms. Or following Kit Fine (2008), we might appeal to the way in which E and H are composed from their matter. Or maybe an alternative view is preferable. We needn't settle this here; the important point is that the tools we require are not novel.

Second objection: why are Experiencers the only kind of material object capable of having a mental life akin to our own? What explains this difference between Experiencers and humans? Although this difference is a basic component of our proposal, nothing we have yet said speaks to this explanatory issue.

Note that Unger faces a similar difficulty: why can only souls possess mental properties, and not also humans? The immateriality of souls can't help because numbers don't think. The simplicity of souls can't help because fundamental particles and the empty set don't think. So we could simply appropriate Unger's response for our own ends. Unfortunately however, Unger never addresses this issue. So we're going to have to do some work for ourselves.

Our suggestion is this: the Experiencer in your chair, unlike its nearby humans, has a mental life because it, unlike them, is an Experiencer; but no deeper explanation of the connection between these kinds and the possession of mental properties is possible

¹⁷ A full-blown defence of coincidence is beyond the scope of this paper. (Though see §2.1.1.) However, the key point here is that the explanatory tools we require are not novel.

– here we reach explanatory bedrock. This kind of suggestion is not novel. Differences in kind are quite naturally taken to explain temporal and modal differences (Wiggins (2001)). Fine (2003, esp. §3) extends this strategy to aesthetic, functional and teleological differences, including differences in the meaningfulness of attributions of such properties. But nowhere does Fine suggest, and it is quite unnatural to think, that these features of various kinds must themselves be explained. An example: why do sets but not properties satisfy Extensionality? There’s nothing discursive to be said here; that’s just part of what it is to be a set/property. Our proposal simply extends this strategy to the possession of mental properties. This is not without precedent. Consider (i) the portion of matter that now constitutes you, and (ii) the mereological difference between you and your right leg. Both entities resemble subjects very closely – an actual subject in case (i), and a merely possible subject in (ii) –, and yet neither of them is a subject. The natural explanation is that these duplicates differ from subjects in a crucial respect: portions of matter and mere aggregates are the wrong kind of thing to possess mental properties. This doesn’t seem to require any further explanation for why members of those kinds cannot think. So there’s no obstacle to our employing this strategy in response to *Choice*.

We can now see the true import of Unger’s argument. The primary goal of his (2006b) was to attack “scientiphicalism”: roughly, the explanatory primacy of the microphysical. In this, we think he was right. In response to the first objection, we denied that kind-membership reduces to microphysical facts. And in response to the second, we invoked features of kinds that cannot be explained by the microphysical constitution of their members. Indeed, it’s hard to see how any plausible response to Unger could avoid invoking explanatory resources beyond the microphysical; for there really is no microphysical basis for distinguishing any human-candidate in your chair from a material subject. Unger’s mistake was to think that this refutes Materialism. He neglected the fact that microphysicalism is but one (particularly impoverished) conception of material reality. Recognising this clears logical space for a plausible anti-microphysical Materialist proposal like ours.

Finally, the third objection: why does the Experiencer E in your chair have the particular mereological profile that it does? Our answer is that, given the mereological profiles of the humans in your chair, *Overlap_M*, *Mi* and *Mii* jointly imply what E’s

mereological profile will be (§2.1.1). Nothing remains to be explained. One might doubt whether the mereological differences between the Experiencer and humans in your chair are substantial enough to ground a significant difference in mental properties. This doubt should be partly alleviated by the discussion above, and partly by our responses to *Incredibility* and *Redundancy* below.

In sum, then, the argument from *Choice* does not undermine our proposal.

2.2.3 *Incredibility*

Recall the argument from *Incredibility*: given the close resemblance between you and the humans in your chair, it's not credible that you have a mental life and they don't. Insofar as this disregards the explanatory potential of kind-membership, our discussion of *Choice* provides a response. But another worry might be driving the objection: it's implausible that such minute mereological differences could correlate with significant mental differences.

Now, we *should* believe that small differences in one respect might correlate with large differences in another. Uranium-235 provides an (idealised) example of this mousetrap effect: minutely increasing the mass of a piece of uranium-235 beyond critical mass correlates with a highly significant difference.¹⁸ This correlation clearly isn't beyond belief. The reason is that the laws of nature naturally necessitate: (A) that some minute difference in mass between balls of uranium correlates with a significant difference in another respect; (B) the nature of this significant difference; (C) the precise location of the minute difference, i.e. the value of critical mass. Our proposal shares these three features. (A) Our proposal implies that some minute mereological difference between objects in your chair correlates with a significant difference in another respect: by *Overlap_M*, only one such object, E, is an Experiencer. (B) Our proposal specifies the nature of this significant difference: since only Experiencers have mental properties, only E is a subject. (C) Our proposal determines the precise location of the mereological difference correlated with this significant difference: *Overlap_M*, *Mi* and *Mii*, imply that E fuses all the humans in your chair (§2.1.1). The

¹⁸ Two more examples. Minute increases in global temperature ground significant differences in global climate. Slightly too much complaining causes your patience to snap.

(hypothesized) metaphysical laws governing Experiencers thus play the same role in our proposal as the natural laws do in the case of critical mass. The correlations that follow from our Materialist theory are therefore no more objectionable than those involving critical mass.

Consider the following alternative Materialist proposal: exactly one human in your chair has a mental life. Although this is incredible, it's crucially different from our proposal. There is no prospect for an analogue of (C) above, no prospect of explicitly stating a principle from which the mereological profile of this unique human subject follows. The argument from *Incredibility* therefore refutes this alternative whilst, as we've seen, leaving our proposal untouched.

2.2.4 *Redundancy*

Finally, the argument from *Redundancy*. Consider an atom *a* that's part of E but not of E's human part H. Doesn't our proposal falsely imply that *a* makes a vital, non-redundant contribution to your mental state, despite having no direct bearing on your neural processes? No. Our proposal concerns which object has mental properties, and its mereological profile, not what its mental life would be like, were its composition different from its actual composition. We make no claims about the redundancy or otherwise of any of your parts to your experiencing, and see no argument from the claims we do make to those the argument from *Redundancy* finds objectionable.¹⁹

3 *Conclusion*

Unger has presented a powerful challenge to Materialism, but he is wrong to suppose that it cannot be met. His own Dualist solution contains the seed of a Materialist view that's compatible with *Uniqueness*. We did, however, locate an insight buried within Unger's discussion: the Problem of the Many renders *Uniqueness* incompatible with microphysicalism. Unger's argument for Substance Dualism fails because it rejects Materialism on that basis alone; for Materialism does not imply microphysicalism.

¹⁹ Compare: the laws governing statues determine that atoms embedded within a statue are parts of it, and hence that anything that doesn't include them isn't a statue. It doesn't follow that such atoms make any contribution to the statue's aesthetic properties.

In fact, Unger missed a whole class of (anti-microphysicalist) Materialist proposals that his argument does not refute. Since we cannot properly examine these views here, we present only the bare outline of one (quite radical) candidate, leaving the construction and assessment of further variants as an exercise for the reader.

Some properties P are collectively plural: some things can possess P without any one (or sub-collection of) of them doing so. Two examples: Russell and Whitehead wrote *Principia Mathematica*, but Russell didn't write *Principia* and Whitehead didn't write *Principia*; the chairs are arranged in a circle, but no one chair is arranged in a circle. Hypothesis: mental properties are collective plural properties of all the humans in your chair. On this view, mind-body dependence is secured by *plural inclusion*, the relation that holds between the x s and y iff y is one of the x s. Hence:

Inclusion: Each human in your chair is included amongst some collective subjects (because they satisfy the Embodiment Condition).

Since *plural inclusion* is many-one, this is compatible with:

Plural Adequacy (PA): No human in your chair is amongst more than one plurality of collective subjects, and no two of those humans are amongst distinct pluralities of collective subjects.

Inclusion and *PA* together entail *Uniqueness*. But *Inclusion* is also compatible with the falsity of *PA* and *Uniqueness*. So the following must be added to secure *PA*:

Overlap: If some things satisfy the Embodiment Condition and almost materially coincide, then each is included amongst exactly one plurality of collective subjects, and no two of them are included amongst distinct such pluralities.

Overlap and *Inclusion* together entail *Uniqueness*. Collective possession of mental properties raises too many issues to discuss here.²⁰ Our point is simply that many Materialist views can secure *Uniqueness* without relying on principles any more suspicious or ad-hoc than those governing Unger's Dualism. Unger may well have refuted microphysicalism, but that's quite different from establishing Substance Dualism.

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²⁰ van Inwagen (1990, ch.12) claims that this is impossible. It is, however, unclear whether van Inwagen argues for this claim, or simply assumes it.

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