

Reply to Reviewers

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1. Hirsch

Eli Hirsch's attempt to reconstruct my "fundamental argument for the Denial" is a serious and careful piece of work. And yet it seems to me to get my views on ontology and language almost entirely wrong. How can this be? I think the explanation must in the end be philosophical: Hirsch and I have such different ideas about ontology and language that it is very hard for him to understand me. And, I would add, it is very hard for me to understand him. Let me assure any reader who detects a note of exasperation in what follows that this exasperation is directed at myself and my apparent inability to make my views clear to a philosopher I respect.

I want to consider the numbered propositions that make up Hirsch's attempt to reconstruct my argument—especially the first three. These misrepresent my views, and the misrepresentation is not a simple one: there is not just one thing to get straightened out.

There is a well-known joke whose punch line goes more or less as follows: "You have the story wrong. It isn't Moskovitz, it's Boskovitz; and it isn't timber, it's furs; and it isn't 20,000 rubles, it's 60,000 rubles; and he didn't make it, he lost it." In a similar vein, I want to say that Hirsch has the story wrong: it isn't existence, it's composition; and it isn't "concept of," it's "general theory about when it occurs"; and it isn't people engaged in the ordinary business of life, it's philosophers; and it isn't arbitrariness, it's inconsistency with the "ten constraints"—plus incapacity to withstand dialectical pressure. I will proceed to elaborate on these statements.

(i) I employ the same concept of existence as most analytical philosophers: Quine's. That is, I take '*F*s exist' to be equivalent to 'the number of *F*s is 1 or more'. And, like all Quineans, I believe this to be the ordinary concept of existence, the one employed in science and pure mathematics and everyday life; in short I believe this to be *the* concept of existence. In my view, those who say that tables and stars and apples exist and I, who deny the existence of these things, are employing exactly the same concept of existence—unless they happen to be Meinongians or something of that sort. We simply disagree about what exists. We disagree about what exists because

they think that composition is a much more common phenomenon than I do. For all that, they and I employ the same *concept* of composition: we mean the same thing by mereological terms like 'part', 'whole', 'sum', and 'compose'.

(ii) Most philosophers who think about material objects want a philosophical semantics according to which the material-object count-nouns of ordinary speech ('table', and so on) have non-empty extensions and these extensions contribute to the determination of the truth-values of the sentences in which the nouns occur in straightforward Tarskian fashion. People who have not been trained in philosophy do not want this—for more or less the same reason that people who have not been trained in physics "do not want" a theory of gravity that is consistent with quantum mechanics.

(iii) Philosophers who want such a semantics will, perforce, want an ontology of the material world that supplies objects to fall within the extensions of the material-object count-nouns of ordinary speech. Therefore, they will (if they believe that matter is ultimately particulate) want an ontology of composite material objects according to which the multigrade relation *composition*—the relation expressed by the open sentence 'the *xs* compose *y*'—has an extension consistent with the following statement: the ultimate constituents of the material world compose things that fall within the extensions of the material-object count-nouns of ordinary speech.

(iv) I believe that no *known* ontology of the material world that satisfies this requirement turns out, on examination, to be philosophically defensible. I believe this because I believe that the only known answer to SCQ that is consistent with my ten metaphysical constraints, and which can withstand much dialectical pressure, is the Proposed Answer. It does not, of course, follow that the Proposed Answer is the *right* answer to SCQ. Perhaps there is no answer to SCQ that human beings could know: perhaps the extension of the relation *composition* is so complex, involuted, and gerrymandered, that only God could write out a sentence containing no free variable but 'the *xs*' and no mereological terms, and which is yet necessarily extensionally equivalent to ' $\exists y$ the *xs* compose *y*'. If so, the best way to find this out would be to *try* to find such sentences and to put the "candidate sentences" (if any can be found) under such dialectical pressure as we can muster. I have proposed and examined a fairly large number of candidate sentences—'the *xs* are in contact', for example, and 'there is exactly one of the *xs*', and 'the activity of the *xs* constitutes a life'.

It is all very well to say that there exist tables and stars and apples "and so on." It is another thing to construct an answer to SCQ that "generates" all of the things on this very indefinite list and can withstand any dialectical pressure to speak of. *One* sort of dialectical pressure that could be brought against a proposed answer to SCQ would be that it was arbitrary, that it comprised a miscellaneous string of clauses whose only justification was that they were

needed to “get” composite objects of kinds to whose existence we were antecedently committed. But there are many other kinds of dialectical pressure. Here are some important ones: the charge that a proposed answer “gets” us objects to whose *nonexistence* we are antecedently committed; the charge that a proposed answer is inconsistent with various metaphysical principles to which we are attached; the charge that a proposed answer raises difficult philosophical problems that we should prefer to avoid. I have subjected the Proposed Answer and various of its more promising alternatives to dialectical pressures of all these sorts. This is one of the ways in which I have argued for the Proposed Answer. (And I have argued for the Denial only by arguing for the Proposed Answer, which entails the Denial. It is the Proposed Answer, and not the Denial, that is “the central thesis of van Inwagen’s book.”)

I said I should elaborate on my series of “it isn’t *x*, it’s *y*” statements. I have done this. I wish finally to consider Hirsch’s contention that he simply does not understand what I mean when I say that there are trees but no apples. I expect he does not want me to tell him that I mean that the number of trees is 1 or more and that the number of apples is 0. Nevertheless, this *is* what I mean. I am sure that he understands this statement. So how could he *not* understand what I mean?

I think that he will probably want to say something like this: “What I mean—and what everyone else means—by ‘There are apples’ is something that is made true by *this*.” [Imagine that as he is saying these words he displays an apple.] “But what you mean by ‘There are apples’ is not made true by *this*. So what you mean is not what I mean or what anyone else means, and, as a matter of fact, I can’t figure out what you mean.” In my view, however, there is no *one* thing that he, or anyone, means by ‘There are apples’. In my view, this sentence expresses different propositions in different contexts of utterance. Let us consider a sentence that—unlike ‘There are apples’—it is easy to imagine someone’s uttering in the ordinary business of life: ‘There are apples on the sideboard if you want one’. The propositions that would be expressed by ordinary utterances of this sentence can be, and normally are, made true by situations like *this one* (imagine that I have just gestured at the bowl of apples on the sideboard). When the sentence ‘There are apples’ is uttered in what David Lewis calls “the philosophy room,” however, it may well express a proposition whose falsity is consistent with the truth of the proposition that would be expressed by typical utterances of ‘There are apples on the sideboard if you want one’. Or so *I* say. My proposal about the extension of the multigrade relation *composition*, and the theses in the philosophy of language that I have put forward in conjunction with it, may be false or incredible. That’s as may be. But I don’t think that it is hard to grasp the content of this proposal and these theses.

Let me revert once more to my Copernican analogy. Someone who says, “I don’t understand what van Inwagen means when he says that trees exist but

apples don't" corresponds to someone who says, "I don't understand what Copernicus means when he says that clouds move but the sun doesn't." (Note that Copernicus does not employ a "strict" sense of 'motion' that is different from that of everyday life. For Copernicus, as for everyone else, to move is to change position.)

Perhaps I should also say something to dissociate my metaphysics from my philosophy of language. In *Material Beings*, which is a metaphysical essay, I have *endorsed* a metaphysic and *adopted* a philosophy of language. The salient point of this philosophy of language is that it is possible for utterances of sentences like 'Some of her chairs are very good nineteenth-century copies of Chippendales' to express truths even if there are no chairs—just as it is possible to utterances of 'It was cooler in the garden after the sun had moved behind the elms' to express truths even if the sun does not move. I have adopted this philosophy of language because the idea that most of what we say is false does not appeal to me. But other (to me much less appealing) philosophies of language could be conjoined with my metaphysic. All that can be reasonably demanded of a philosophy of language that is to be conjoined with my metaphysic is that it somehow, in some principled way, sort "good" sentences containing the material-object count-nouns of ordinary speech (sentences like the "Chippendale" sentence) from "bad" ones—like "Some of her chairs are made of cheese." In the Copernican analogy, the "elms" sentence is a "good" solar-movement sentence and 'The sun moved rapidly back and forth across the sky' is a "bad" solar-movement sentence. I prefer to think of the "good" sentences as ones whose typical ordinary utterances express truths and of the "bad" sentences as ones whose typical ordinary utterances express falsehoods. But there are philosophers who will want to say that, if the sun does not move, then what is expressed by utterances of the two solar-movement sentences will be simply false. Presumably they would take the corresponding position with respect to the Denial and utterances of the "Chippendale" sentence. But they will, quite independently of any considerations pertaining to the metaphysics of material objects, need some sort of distinction between "good" falsehoods and "bad" falsehoods. Whatever form this distinction may take, I am sure that I could conjoin a philosophy of language that embodied it to my metaphysic of material objects: in that case, I should no longer say that utterances of the "Chippendale" sentence could express truths even if there were no chairs; I should rather say that utterances of the "Chippendale" sentence, while they express *falsehoods* if there are no chairs, will nevertheless sometimes express "good" falsehoods. (I have discussed these matters at greater length than is possible here in Section 10 of *Material Beings*.)

2. Horgan

It seems to me that I exist and that I am a material thing. If so, there exists at least one visible composite material thing. But anyone who believes in visible, composite, and individually identifiable material things faces the Problem of the Many. Take, for example, my belief in me. There are a vast number of sets of elementary particles that are equally good candidates for the office of the set of particles that compose me. Therefore, there can be no such thing as me; if there were, one of these set of particles would compose me, but there can be nothing that would select one and only one of all these sets to be the set that composes me.

Here is a rough description of my solution to the Problem of the Many: None of these sets of particles is the one that composes me (in fact none of them composes anything); rather, what composes me is a fuzzy set of particles, and one and only one fuzzy set of particles is qualified to compose me. A fuzzy set is simply a set that has three or more degrees of membership—as opposed to the two degrees of membership (Yes and No) that figure in the specification of a classical set.

And how does this work? I believe, as Terence Horgan does, that if there are visible composite objects, then the part-whole relation must come in degrees. That is, it must come in more degrees than two: there will be an x and a y such that x is neither determinately a part of y nor determinately not a part of y . If that was all we wanted to say, then three degrees of parthood would suffice; we could call them Definitely, Definitely Not, and Up To A Point. But no doubt there will be times when we want to make distinctions within the category “Up To A Point.” We may want to say that both x and y are neither determinately parts of z nor determinately *not* parts of z , but that, nevertheless, x is quite close to being determinately a part of z , and y is quite close to being determinately not a part of z . So we shall probably want more degrees of parthood than three. Suppose that the number we end up with is twenty-three, degree 1 corresponding to determinate parthood, and degree 23 corresponding to determinate non-parthood. Then it is easy to specify the fuzzy set of elementary particles that composes me (at, of course, a given time). Every particle in the universe will be a part of me to one of these degrees—the vast majority, of course, to degree 23. The fuzzy set of particles that composes me is just the unique fuzzy set such that a particle x belongs to this set to the degree n ($1 \leq n \leq 23$) iff x is a part of me to degree n —and all non-particles belong to it to the degree 23. So I solve the selection problem. Each of that vast number of classical sets of particles that are equally suitable to compose me is indeed just as suitable as all of the others: each is absolutely unsuitable and none does. Only a fuzzy set of particles could be suitable to compose me—since the part-whole relation is vague—and in fact only one, the one I have specified, is suitable.

But what are these “degrees” of parthood? How many are there, and how are they related to one another? Obviously, there are not really twenty-three; that was just a figure I picked out of a hat to make a formal point. In *Material Beings*, impressed by the continuity of material nature, I suggested identifying them with the real numbers between, and including, 0 and 1. Thus, 1 would represent full parthood, and 0 full non-parthood, and each of the real numbers in between would represent a distinct degree to which a pair of objects might enter into the part-whole relation. Then the fuzzy set of elementary particles that composes me is the unique fuzzy set with those degrees of membership such that an object that is not an elementary particle belongs to it to the degree 0, and a given elementary particle belongs to it to the degree to which it is a part of me.

Horgan suggests that it is quite implausible to suppose that (at any given instant) the facts about the ways elementary particles are arranged, the facts about me, and all of the facts about the nature of the part-whole relation, collectively carry enough information to assign to each elementary particle a unique real number, a real number that represents the degree to which that particle is then a part of me. Consider, for example, the number $\pi/7$. Consider another number that is like $\pi/7$ for the first billion decimal places and thereafter differs from it at one in every one hundred decimal places. What could make it the case that a given elementary particle is at a given instant a part of me to one of these two degrees and not to the other? To say the least, it's not very plausible to suppose anything could, is it?

Well, no it isn't. Of course not. But let's proceed cautiously here. What is the source of the problem? Part of the source is the use of real numbers to talk about the physical world. The mathematics that physicists use presupposes that each physical constant is represented by a real number. Here is one that is independent of units of measurement: the ratio of the absolute strength of gravity to the absolute strength of electromagnetism. The mathematics that physicists use presupposes that this ratio is a certain real number between 0 and 1. And that's wholly implausible for reasons analogous to the ones I've just mentioned in connection with parthood. But I think that the source of the problem is more fundamental than this. I think it lies in the very idea of certain objects satisfying a condition in various degrees.

Let's look at a case of this that we understand as well as we understand anything in this area. Consider the term 'tall'. By a 'man' let's understand a currently living American adult male. It is obvious that some men are just *tall*. For example, we can apply the word 'tall' to a 7'2"-tall man without hesitation, apology, qualification, or fear of contradiction. And it is equally obvious that some men are just *not tall*—a man who is 4'10" tall, for example. But not everyone falls into these two categories. A frontier of some sort separates them. A moment's thought will show that the frontier cannot itself have precise boundaries. If it did, then there would be some height that

marked the greatest lower bound of the category “just tall: tall without qualification.” But there is no such height. It is not 6'1¹/₁₆" and it is not any other particular height, either. That is to say, it does not exist.

There is, therefore, a second frontier, separating “just tall” from the frontier that separates “just tall” from “just not tall.” It is easy to see that there can be nothing pertaining to tallness that is, like space, the *final* frontier. The final frontier would have sharp boundaries, and there would be what we have seen there is not: a height that marks the greatest lower bound of the category “just tall.” Might we then want to think of tallness as a matter of *continuous* degree? Might we want to think of the possible degrees of tallness as forming a continuum, as being structured like the real numbers? If this suggestion is right, some men, such as the ones who are 7'2" tall are tall to degree 1 and others, such as the ones who are 4'10" tall, are tall to degree 0. And in between these two boundary points, there will lie a continuous spectrum of degrees of tallness. (A man who was 5'11¹/₂" tall would presumably be tall to one of these intermediate degrees.)

If you think about it, however, this suggestion is pretty mysterious, and for reasons exactly parallel to those Horgan mentions in connection with my suggestion about degrees of parthood. Can there be anything in the physical world—which I take to include not only human beings and their dimensions, but also the dispositions of English-speakers to apply the word ‘tall’ in various circumstances—that can attach a particular man (as he is at a particular moment) and the English word ‘tall’ to a particular real number—say to $\pi/7$ rather than to some real number that differs from $\pi/7$ only after the billionth decimal place? Even if we suppose that there are a finite number of degrees of tallness (and it’s not easy to do this in any explicit and well-motivated way: what number would this finite number be, and why was it chosen rather than its successor?), the idea can seem mysterious. If there are twenty-three degrees of tallness, what is it that attaches degree 3 (or whatever) to the height 6'1¹/₁₆"?

Some readers may already have noticed that there is something more than a mystery here. There is a real paradox. This paradox was pointed out to me by Mark Heller,¹ and has no doubt been noted somewhere by Roy Sorensen. Suppose that we think of something—parthood or tallness or whatever—as coming in degrees, one of which corresponds to full possession of the property or full participation in the relation. If tallness comes in degrees, then, surely, “1” is one of the degrees, for a 7'2" tall man has to be thought of as tall to the degree 1. But then what is the *least* height such that a man of that height is tall to degree 1? (Or, if “heights” compose a continuum, what is the

¹ It later appeared in his book *The Ontology of Physical Objects: Four-Dimensional Hunks of Matter* (Cambridge: Cambridge University Press, 1990). See Chapter 3, sections 8 and 9.

greatest lower bound of the set of heights such that a man who is of one of the heights in that set is tall to degree 1?) It seems absurd to suppose that there is such a height. What would it be, and how would the components of the physical world operate to fix it? Could it have been different? Is it possible that a different such “least height” is associated with the German word ‘lang’ from the one that is associated with the English word ‘tall’?

I think that the lesson is that vagueness is like self-reference: we have a partial understanding of the philosophical problems that these concepts raise, but we lack full understanding. I am inclined to think that the very real problem with which Horgan confronts my solution to the problem of the many may arise from our imperfect philosophical understanding of concepts like *vagueness* and *degree*. And yet these concepts seem indispensable for thinking about the material world. I can’t prove this, but I think that if I knew what to say about *tall*, I’d know how to reply to Horgan’s criticism of my solution to the problem of the many.

3. Rosenberg

Jay Rosenberg’s remarks are very rich in content and detail. I must be selective.

According to Rosenberg, SCQ does not have “a single, univocal answer.” At one point, Rosenberg characterizes my view of the problem of the Ship of Theseus—that it needs no solution, since there are no ships—as embodying a “counsel of despair.” Well, that’s just how I’d characterize the thesis that SCQ has no single, univocal answer. That may turn out to be true, but—I would propose—let’s let a couple of philosophers take a crack at answering it before we go round telling everyone that it hasn’t got an answer.

Rosenberg says that he was initially surprised to discover that he *apparently* accepted all of my “ten constraints” on an acceptable answer to SCQ. Later reflection, however, has led him to reject one of them: the “internalist” constraint, the thesis that whether the *x*s compose anything depends on nothing other than the intrinsic properties of the individual *x*s and the causal and spatiotemporal relations they bear to one another. That is, quite independently of his opinions about the philosophical project of looking for an answer to SCQ, he dissents from a certain proposition that I have adopted as a constraint on the answer to this question. I am very happy with that upshot of his having studied the book. Insofar as one can have a genuinely philosophical purpose in publishing (as opposed to writing) a philosophical book or essay, that purpose should not be to get people to agree with everything one says. It’s nice when *someone* agrees with everything one says in a book or essay—and this happens with some frequency—but if one makes it one’s main purpose in publishing a piece of philosophy to get everyone to agree with all of one’s conclusions, one is going to be disappointed. Here is a more

realistic goal: to bring it about that for every p one asserts, all of one's readers either accept p or agree with one about the consequences of rejecting p . Perhaps I have at least partly achieved this end in respect of Rosenberg: he sees that he will have to reject the internalist constraint if he is going to believe in artifacts; and I see that I am going to have to suppose that there are no artifacts if I want to keep the internalist constraint. He and I disagree, I would say, simply about which of these alternatives is the more appealing—or appalling. To me the internalist constraint seems to possess what Locke called “luminous evidence,” and I don't find the proposition that there are artifacts all that appealing, given that its rejection does not entail that any of our ordinary beliefs is false. Rosenberg, I think, agrees with the general principle I'm following when I say this, but stoutly maintains that the metaphysical rejection of artifacts *does* entail that many of our ordinary beliefs are false. And that is something we can argue about—and so it goes.

Now as to matters of detail, I pick two points out of twenty or so that I'd really like to say something about.

The first point has to do with the entailments of sentences of ordinary language. Here is a quotation from Rosenberg's paper:

...there is no reason to deny that, as it is ordinarily used, the sentence

“The cat moved behind the elms”

does imply that the cat moves. But then it will follow from straightforward combinatorial considerations that the sentence “The sun moved behind the elms,” as it is ordinarily used, implies that the sun moves. (p. 703)

I wonder whether the engineer is not hoist with his own petard. Recall Rosenberg's example of a “nominal object”: “My paradigm of a nominal object...is a warm, welcoming smile. For a person to wear a warm, welcoming smile is not for him to stand in a quasi-sartorial relation to an independent entity...” (p. 701) That seems exactly the right thing to say. But if Rosenberg's argument about implications of “The sun moved behind the elms” is cogent, why is the following argument not cogent?

There is no reason to deny that, as it is ordinarily used, the sentence

Delia wore a warm, billowing smock

does imply that Delia stands in a sartorial relation to an independent entity. But then it will follow from straightforward combinatorial considerations that the sentence “Delia wore a warm, welcoming smile” as it is ordinarily used, implies that she stands in a sartorial relation to an independent entity.

In any case, the whole idea of supposing we are going to be able to find out what a speaker is and is not asserting the movement of by applying “straightforward combinatorial considerations” to his sentences seems very doubtful. Consider the sentence, ‘As the afternoon wore on, the edge of the vast forest drew nearer and nearer’. This sentence might be the work of a travel writer, describing an afternoon’s drive across the savannas of Africa. It might also be the work of a science-fiction writer describing the perambulations of some futuristic Birnam wood.

Finally, I want to say something about Rosenberg’s comparison of my paraphrase project with that of the reductive phenomenalist. Rosenberg says:

Reductive phenomenism, too, was supposed to be consistent with the truth of the statement that there are two very valuable chairs in the next room but nowadays it is generally conceded that the necessary paraphrases cannot be carried out. I submit that van Inwagen has given us no good reason to believe that the paraphrases needed to render the Denial consistent with the truth of the same statement are any better off. (p. 702)

Well, there are some differences between my case and the case of the reductive phenomenalist.

For one thing, some of *my* paraphrases have actually been carried out—at least in the sense that I’ve actually written down some sentences that I *claim* are paraphrases of sentences that appear to assert the existence of visible composite objects. But no reductive phenomenalist ever so much as *claimed* to have written down a sentence that was a paraphrase of ‘Here is a red, ripe tomato’ in purely phenomenal language. For another, it is clear that if there had been any phenomenistic paraphrases, they would have involved quantification over “*sensa*,” and there are very good reasons indeed to believe that there are no such things as *sensa*. Furthermore, they would have involved quantification not only over *actual* *sensa* but over *merely possible* *sensa*.

I am in no such position. The ontological commitments of my paraphrases are ones that we all share. Consider, for example, my paraphrase of ‘Some chairs are heavier than some tables’:

There are *xs* arranged chairwise and there are *ys* arranged tablewise and the *xs* are heavier than the *ys*.

The ontological commitments of this sentence are easy to extract: It carries ontological commitment to and only to things that can be arranged in space and can be weighed collectively. (Note that it does not, despite what Rosenberg says about the objects to which my paraphrases commit me, carry commitment to regions of space.) And this is a commitment that I am pretty sure we all share. To this Rosenberg will perhaps reply that my paraphrase carries commitment not only to objects that can be arranged just any old way in space, but to things that can be—and are—arranged “chairwise.” But what

exactly is objectionable about this? After all, Rosenberg himself believes that there are objects that are arranged chairwise, as must anyone who believes that there are chairs and that they have proper parts.

"But you couldn't understand 'chairwise' unless you first understood 'chair'." I think that this statement is false, for reasons that I give in the footnote that Rosenberg mentions. But suppose it is true. What are its untoward consequences for my metaphysical position? It obviously does not entail that I couldn't understand 'chairwise' unless there were, in the strict and philosophical sense, chairs, and I don't see how it can have untoward consequences for my metaphysical position if it does not have that entailment. (Rosenberg, who as I said, understands 'chairwise', presumably also understands 'golden-mountain-wise'; grant for the sake of argument that he could not understand this ungainly adverb unless he understood 'golden mountain'; it obviously does not follow that he could not understand 'golden-mountain-wise' if there were no golden mountains.) It is easy to see how to define 'chairwise' in terms of 'chair' without supposing that there are any chairs. Let a "chair" be defined as an object that has the properties C_1, C_2, \dots, C_n . (I am sure that Rosenberg and I could agree on a property-list definition of 'chair'. He believes that, in the strict and philosophical sense, there are objects that have all of the properties on the list we should come up with, and I believe that, in the strict and philosophical sense, there are none; nevertheless, we could agree on a list, just as we could agree on a property-list definition of 'unicorn'.) Then we may say that the x s are arranged chairwise just in the case that, given their intrinsic properties and the causal and spatiotemporal relations in which they stand to one another and a correct and complete list of "principles of composition" (*Material Beings*, Section 4), it is deducible that whatever they compose has C_1, C_2, \dots, C_n . (In giving this definition, I have made the perhaps questionable assumption that whether something is a chair is entirely a matter of what intrinsic properties it has. But this assumption could be eliminated at the cost of a little elaboration.)