

Criteria of personal identity and the limits of conceptual analysis*

THEODORE SIDER

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It is easy to become battle-weary in metaphysics. In the face of seemingly unresolvable disputes and unanswerable questions, it is tempting to cast aside one's sword, proclaiming: "there is no fact of the matter who is right!"

Sometimes that is the right thing to do. As a case study, consider the search for the criterion of personal identity over time. I say there is no fact of the matter whether the correct criterion is bodily or psychological continuity.¹ There exist two candidate meanings for talk of persisting persons, one corresponding to each criterion, and there is simply no fact of the matter which candidate we mean.

An argument schema for this sort of "no fact of the matter" thesis will be constructed. An instance of the schema will be defended in the case of personal identity. But scrutiny of this instance will reveal limits of the schema. Questions not settled by conceptual analysis—in particular, some very difficult questions of fundamental ontology—have answers. So do certain questions that can be settled by conceptual analysis, namely those that would be answered definitively by ideal philosophical inquiry. Whether there is a fact of the matter is not easily ascertained merely by looking to see whether disputes seem unresolvable or questions unanswerable: sometimes the truth *is* out there, however hard (or even impossible) it may be to discover.

1. A schematic argument

Consider any metaphysical dispute involving a certain term, T. If the following argument is sound, there is no fact of the matter who is right about T:

1. There exist multiple candidate meanings for T, corresponding to the conflicting theories about T

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¹Psychological continuity theorists say that I go where my mental life goes; bodily continuity theorists say that I go where my body goes. Refinements of these crude formulations will not affect the present discussion.

2. None of these T-candidates fits *use* better than the rest
 3. None of these T-candidates is more *eligible* than the rest
 4. No other T-candidate combines eligibility and fit with use as well as these T-candidates
 5. Meaning is determined by use plus eligibility
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6. *Therefore*, T is indeterminate² in meaning among T-candidates corresponding to the conflicting theories of T, and so there is no fact of the matter which of these theories is correct.

Let us examine this argument, beginning with premise 5.

2. Meaning, use, and eligibility

One lesson from the aftermath of Hilary Putnam's (1981, chapter 2; 1980; 1978, Part IV) model-theoretic argument against realism is that meaning is not determined solely by our linguistic or convention-determining behavior. Facts about candidate meanings and our relation to them also play a role. Linguistic/conventional activity alone does not suffice for the semantic determinacy we take there to be, since even for words we take to have determinate meaning, multiple candidate meanings exist that equally fit our meaning-determining behavior.

Here is Putnam's argument. Viewed as a whole, our meaning-determining activity can be viewed as a theory we have: a certain set of sentences. If the theory is consistent it will have many models whose domains consist of objects in the world. Each of these models provides an assignment of semantic values to the predicates and names of the theory *relative* to which the theory turns out true. But surely the existence of these models is not sufficient to make the theory true *simpliciter*, since all that has been assumed about the theory is that it is consistent. One wants to say that many of these models are *unintended*, namely those that assign semantic values to predicates and names contrary to their intended meanings. The theory should turn out true only if it is true in its intended model. But Putnam argues that a "metaphysical realist" is not in a position to rule out some models as unintended. The metaphysical realist

²The "indeterminacy" here is not exactly vagueness or ambiguity. It is similar in some ways to Hartry Field's (1973; 1974) notion of partial denotation.

cannot rule out unintended models by adopting new conventions about what words are to mean, for this merely adds more sentences to the theory. The theory will still (if it remains consistent) have multiple models, and the problem of saying what makes one of them the intended model remains.

The best response to Putnam, I think, is to say that when multiple candidates equally fit our meaning-determining behavior, meaning may yet be determinate if one candidate is, somehow, more *eligible* to serve as a meaning. One version of this response appeals to a causal theory of meaning: the winning candidate is that one that is causally related (in the right way) to language users.³ Another version appeals instead to natural kinds—“joints in nature”. The winning candidate is the natural kind, or the most natural kind, that fits our meaning-determining behavior.⁴ Either way, the determination of meaning is not accomplished solely by us. Meaning is jointly determined by our meaning-determining behavior and facts external to us, whether causal relations between us and meanings or the intrinsic features of the meanings themselves. For short, *meaning is determined by use plus eligibility*.

I will assume the natural kinds response to Putnam (though much of what follows could be recast in terms of the causal response), and accordingly interpret ‘eligibility’ as naturalness. Moreover, following David Lewis (1983*a*, 1984), I will assume that both fit-with-use and eligibility come in degrees, and that the meaning of a term, T, is that candidate meaning that achieves the best combination of fit with use and eligibility.⁵ Let the slogan “meaning is determined by use plus eligibility” be thus understood.

I use the term ‘meaning’ for that which is jointly determined by use and eligibility. The exact nature of meaning is a task for philosophy of language; all I assume here is that meaning determines truth conditions, both in our world and in counterfactual worlds considered for the purpose of evaluating modal claims. (Meanings are therefore richer than Fregean referents.) A different way of thinking about “meaning” would associate it more closely with use, rather than the joint product of use and eligibility. For this other way of thinking about meaning I use the term ‘concept’ instead. Twin-Earthians have the same concept of water as do we, though their term ‘water’ has a different meaning. Thus meanings can differ when concepts do not. (Meanings are therefore not Fregean senses either.) Likewise, concepts can differ when meanings do not.

³Devitt (1984, section 12.4).

⁴Lewis (1983*a*, 1984).

⁵The exact nature of fit with use, eligibility, and the weighting of each that makes for the best combination, are important matters, but not ones I will discuss.

Compare our community, which is enlightened as to the difference between gold and fool's gold, with another community that is not. It is plausible that even though the *use* of the term 'gold' in the unenlightened community fits fool's gold, nevertheless their term 'gold' does not apply to fool's gold. For there is a highly eligible meaning—namely, *gold*—that fits *most* of their use very well, and which does not apply to fool's gold. (That their term 'gold' means *gold* rather than *gold-or-fool's-gold*, or *yellow metal*, is particularly plausible if they encounter fool's gold only very rarely.) Thus these communities share a meaning while differing over its concept.

3. Multiple candidates

This claim that meaning is determined by use plus eligibility is the fulcrum of the schematic argument of section 1. The meaning of a term, T, is the *candidate meaning* for T that achieves the best balance of eligibility and fit with use. This notion of a candidate meaning appears in premise 1 of the schematic argument: “there exist multiple *candidate meanings* for T, corresponding to the conflicting theories of T”. Just what are these “candidate meanings”, and what reasons could one have for thinking they exist?

For the sake of concreteness let us focus on our case study: criteria of personal identity. Whether multiple candidate meanings for talk of personal identity exist, and what they are like, depend on what the correct ontology of persistence turns out to be.⁶ In what follows I will examine the bearing of several ontologies of persistence on the status of these multiple candidate meanings.

Consider, first, the *worm theory*. Worm theorists identify continuants with aggregates of temporal parts: “space-time worms”, which persist through time by “perduring”, that is, having temporal parts at different moments. Worm theorists tend to agree with Quine (1976, 497) that any filled region of space-time is occupied by some physical object.⁷ Thus, for nearly any criterion of personal identity you like, there exist space-time worms that obey that criterion. There are aggregates of person-stages that are psychologically continuous but

⁶The nature of candidate meanings also depends on the grammatical category of T and on one's semantic theory, but I will suppress these complications.

⁷A defender of temporal parts need not believe in arbitrary spacetime worms, for she may reject the doctrine of arbitrary mereological fusions. However, there is a powerful form of argument that can be used to support both temporal parts and arbitrary mereological fusions. See Sider (1997, 2001, chapter 4, §9).

not necessarily bodily continuous—the “psychological-persons”. But there are also “body-persons”: aggregates of bodily continuous but not necessarily psychologically continuous stages. For that matter, there are aggregates of just those stages that are bodily continuous if in North America but psychologically continuous if in some other continent. The debate over criteria of personal identity, for a worm theorist, concerns which of these aggregates we refer to in our talk of persons.

If the worm theory is true, the schematic argument of section 1 for the no-fact-of-the-matter thesis, as applied to the case of personal identity, can be summarized as follows. The disputed term in this debate is the predicate ‘person’; the candidate meanings are the properties **being a perduring body-person** and **being a perduring psychological-person**. Since psychological-persons and body-persons both exist, the only question is which of these candidates we mean by ‘person’. The winning candidate, in turn, is determined by fit with use and eligibility. So if psychological-persons and body-persons are equally eligible and fit use equally well, then there is no fact of the matter whether our talk of persisting persons is talk about psychological-persons or body-persons, and thus there is no fact of the matter whether the criterion of personal identity is psychological or bodily continuity. The claim that psychological-persons and body-persons are indeed equally eligible and fit use equally well will be argued below; all that is being defended here is that these multiple candidate meanings exist, if the worm theory is true.

There are ontologies of persistence other than the worm theory that support multiple candidates and thus premise 1 of the no-fact-of-the-matter argument. The worm theory is one version of the more general doctrine of temporal parts. I myself defend a different version, according to which persons (and other continuants) are instantaneous stages, not space-time worms (1996; 2001, chapter 5). I and the worm theorists accept the same basic ontology—temporal parts and their aggregates—but differ over whether we typically refer to and quantify over temporal parts or aggregates of temporal parts. If typical references to persons are to instantaneous stages, a tensed assertion about what a person did in the past or will do in the future cannot be taken to concern the doings of that person herself in the past or future; otherwise all ordinary statements about our pasts and futures would turn out false. Accordingly, I offer a *temporal counterpart theory* of tensed assertions. To say that I *was* once four feet tall is to say that I have a temporal counterpart in the past that is four feet tall; to say that I *will* have grey hair is to say that I have a grey-haired temporal counterpart in the future. Compare: according to David Lewis’s (1968) *modal* counterpart theory,

to say that Humphrey *might have* won the election is to say that Humphrey has a (modal) counterpart in another possible world who wins the election.

A temporal counterpart of a person (stage) is another person (stage) to which she is appropriately related. The question of the nature of this counterpart relation is precisely the question of the correct criterion of personal identity. Someone who believes the psychological continuity theory will say that the counterparts of a person stage, *S*, are those stages with which *S* is psychologically continuous; the bodily continuity theorist will say instead that *S*'s counterparts are stages with which *S* is bodily-continuous. The question of who is right is the question of which temporal counterpart relation takes part in the correct truth conditions for the claims about persisting persons we make in ordinary speech.

These counterpart relations are the multiple candidates for the meaning of talk of persisting persons required by the no-fact-of-the-matter argument. One counterpart relation stresses psychological continuity, another bodily continuity; other relations mix these and other factors in countless ways. Just as the worm theorist is a pluralist about spacetime worms, I am a pluralist about counterpart relations between person stages. (Note that for counterpart theory, the multiple candidates are candidate semantic values of tense operators when applied to sentences involving persons, whereas for the worm theorist the candidates are candidate semantic values of the predicate 'person'.)

These first two ontologies of persistence that support multiple candidates have presupposed temporal parts; others do not. Those who reject temporal parts say that continuants "endure", or are "wholly present" whenever they exist. Many friends of endurance think that there are often two things in the same place at the same time—statues and lumps of clay, for example. A clay statue and the lump of clay from which it is made are said to be numerically distinct because they have different persistence conditions: the lump but not the statue is capable of surviving being squashed. The statue and lump can "fit" into a single location in space because they are, at the time, made up of the same matter. The statue and the lump are often said to be "coincident" entities. Now imagine taking this view to an extreme, and postulating in the vicinity of every person a plurality of coincident entities, which share the same momentary properties but differ in their persistence conditions. In my vicinity there is a psychological-person, a body-person, and perhaps other entities corresponding to other criteria of personal identity. Given this "promiscuous" endurance theory, we have multiple candidate meanings for the predicate 'person', much as we did in the case of the worm theory. Whether the bodily continuity theory

or the psychological continuity theory is true depends on which candidate is the meaning of the predicate ‘person’: **being an enduring psychological-person** or **being an enduring body-person**.⁸

Yet another ontology of persistence consistent with the multiple candidates picture is the view that the world consists exclusively of enduring mereological simples—i.e., things with no temporal or spatial parts. Following Peter van Inwagen (1990, chapter 8), call this view *nihilism* (van Inwagen himself does not accept nihilism). According to nihilism, there are, strictly speaking, no composite objects at all, and therefore no persons. Ordinary talk of persons must be interpreted as plural talk of microscopic objects. Though it is strictly speaking false that a person walks, this at least loosely speaking correct, for it is strictly true that a number of microscopic particles stand in a certain multigrade relation we might call the person-walking relation (van Inwagen, 1990, chapters 10–11). Though the nihilist dispenses with macroscopic objects, many of the traditional questions about macroscopic objects survive, albeit transformed. The question of the criterion of personal identity becomes the question of what multigrade relations particles must stand in, over time, in order for it to be loosely speaking correct to speak of a persisting person. But here again we have multiple candidates, only now they are candidates for being meant by talk of persisting persons understood loosely, not strictly. Two of these candidates are a multigrade relation involving psychological continuity and a multigrade relation involving bodily continuity.

A final ontology of persistence supplying the requisite candidates is mereological essentialism.⁹ The mereological essentialist holds that nothing ever gains or loses a part; continuants are mereologically constant over time. Like the nihilist, the mereological essentialist defends an ontology very different from that of ordinary speech and thought. Therefore it is natural for the mereological essentialist to follow the nihilist in paraphrasing ordinary talk about persistence in some way that allows ordinary talk of survival through mereological change to be at least loosely speaking true.¹⁰ The mereological essentialist might say, for example, that a person, P_1 , loosely-speaking survives a change of parts iff some person P_2 after the change (not necessarily P_1) bears

⁸Stephen Yablo (1987) holds a modal view somewhat analogous to promiscuous endurance. Note that if one generalizes promiscuous endurance (not Yablo’s view) by admitting the existence of objects (not just persons) for absolutely every possible method of trans-temporal tracing, the view turns into the doctrine of temporal parts. See Sider (2001, chapter 5, §3).

⁹Chisholm (1973, 1975, 1976, appendix B); van Cleve (1986); Zimmerman (1995).

¹⁰Chisholm’s theory of entity successiva (1976, chapter 3) is an example.

a suitable relation to P_1 . But there are many candidates for what this suitable relation might be; it might involve bodily continuity, psychological continuity, or something else.¹¹

Each of these views admits the existence of many “candidates” for being the meaning of talk of persisting persons. Each admits a candidate corresponding to the psychological criterion and a candidate corresponding to the bodily criterion. What sort of theory of persistence would *not* allow multiple candidates? Call the following conjunction of theses “chaste endurantism”: i) persons exist, ii) persons have no temporal parts, iii) in uncontroversial cases the (strict and literal) persistence conditions for persons are basically what we ordinarily take them to be, and iv) *distinct entities never coincide* (“one thing to a place at a time”). If chaste endurantism is correct, there seems to be one and only one candidate meaning for talk of persisting persons: a meaning that concerns, with respect to any person, the one and only one enduring object in the vicinity of that person.¹² The ability of the chaste endurantist to reject the “no fact of the matter” view will be discussed below.

I have argued that the truth of premise 1—the claim that there exist multiple candidates—depends on what the true ontology of persistence turns out to be. But it may be objected that candidate meanings are abstract objects whose existence does not depend on the nature of persisting objects. For example, even if there are no such *things* as perduring body-persons and perduring psychological-persons, it may be held that there nevertheless exist such *properties* as **being a perduring body-person** and **being a perduring psychological-person**. Perhaps so; but if there are no perduring body-persons or psychological-persons then these properties will be extremely weak candidates to be meant by talk of persisting persons, for they will have a very poor fit with use. Interpreted in terms of these candidates, nearly all ordinary talk about persons would turn out false. Thus, let the quantifier over “candidates” in premise 1 be restricted to those whose candidacy is reasonably strong—those that have some reasonably high degree of eligibility and fit with use.

¹¹Another multiple-candidate view seems to have no adherents. *Presentists* say that only present objects are real, and go on to paraphrase talk apparently about merely past and future entities using irreducible tense operators (see Sider (2001, chapter 2)). Imagine a presentist who thinks there is only one thing in any given place at a time, but postulates multiple primitive tense operators corresponding to various criteria of personal identity.

¹²I ignore issues raised by “the problem of the many” (Unger, 1980) which cut across the present issues.

4. Inconstant talk of persisting persons

The schematic argument of §1, applied to the case of personal identity, is this:

1. There exist candidate meanings for talk of persisting persons, corresponding to the psychological and bodily continuity theories
 2. Neither candidate fits *use* better than the other
 3. Neither candidate is more *eligible* than the other
 4. No other candidate to be meant by talk of persisting persons combines eligibility and fit with use as well as these candidates
 5. Meaning is determined by use plus eligibility
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6. *Therefore*, talk of persisting persons is indeterminate in meaning between candidates corresponding to the psychological and bodily continuity theories, and so there is no fact of the matter which of these theories is correct.

The theory of meaning-determination underlying premise 5 was explained in section 2, and a number of metaphysical theories of persistence (including the theory I myself accept) that vindicate premise 1 were introduced in section 3. I turn now to the defense of premise 2. I claim, or at any rate conjecture, that neither bodily continuity nor psychological continuity fits our talk of persons better than the other.¹³

Our use of persistence-talk concerns both actual and counterfactual circumstances. In most actual circumstances the bodily and psychological criteria do not come apart. How we speak in these core circumstances does not favor one candidate over the other. The criteria do come apart in certain extraordinary actual circumstances, but here our talk of persistence is equivocal. When someone dies, we say things like “Grandpa is gone”; but we also say “There’s Grandpa, there in the casket”.¹⁴ The first corresponds to the psychological criterion

¹³Even if use favors one candidate *slightly* better than the other, this may not be enough to defang the argument. The word-world meaning relation could plausibly be held to be a matter of degree; we might then want to say that if one candidate wins a very narrow victory over the other, the disputed term is partially indeterminate.

¹⁴See Feldman (1992, chapter 6) for an extensive discussion (note that Feldman does not uphold the no-fact-of-the-matter thesis).

of personal identity, the latter to the bodily criterion. Phenomenologically, I detect something like a shift in my thinking when I talk these two ways. When pressed to say which way of speaking is literally correct, non-philosophers typically resist making a choice. They tend to say that in a sense it is Grandpa in the casket, and in a sense it isn't.

Something like the same shift occurs in our talk about cases of amnesia, and perhaps even in cases of extreme personal transformation due to mental illness or radical religious conversion. We say things like: "Jack just isn't the same person he used to be, now that he's been brainwashed by that cult." The less severe the transformation, the more inclined one is to give the standard philosopher's line about these sayings, namely that 'same' here expresses similarity and not numerical identity. One can get undergraduates to retract the sayings by bullying them: "you mean, Jack *never* was a young unbrainwashed boy?" But perhaps the effect of the bullying is just to get the undergraduates to shift to a bodily conception of persons. A strong assertion by a conversational partner, especially one in a position of power, creates pressure for the hearer to shift to a conversational context in which that assertion is true; shifting to an alternate meaning of a semantically indeterminate expression is one way to shift conversational context.¹⁵ There may not be a sharp dividing line between literal talk of personal identity and talk of similarity, but in the more severe cases of psychological transformation a case can be made that it does little violence to ordinary usage to speak of a numerically new person. But neither does it do violence to speak of a person persisting in these cases.

Thus, usage in actual cases of death, amnesia and radical psychological transformation does not support either candidate over the other. Counterfactual cases in which the criteria diverge, for example Locke's (1975, p. 44) cobbler who gets the memories of a prince, are familiar. Philosophers typically appeal to these cases to argue for one or the other criterion. I do not advance any *general* objection to using imaginary cases to investigate meaning, for our dispositions to react to imaginary cases form an important part of what I have been calling "use"—the meaning-determining portion of our linguistic behavior. However, I think our reactions to these cases in the case of criteria of personal identity do not favor either the bodily theory or the psychological theory. Like our descriptions of dead people and amnesiacs, our reactions to imaginary cases are equivocal.

¹⁵See Lewis (1979).

Nowhere is this clearer than in Bernard Williams's classic paper "The Self and the Future". Williams describes an example in which persons A and B take part in an experiment in which A's memories are transferred to B's body, and then A's body is tortured. Williams notes that we have powerful intuitions that appear to favor the psychological view. We imagine waking up in B's body, looking at A's body, and thinking "how lucky I was to be swapped to this body!". But Williams also points out that there is a powerful opposing intuition (1970, 167–168):

Someone in whose power I am tells me that I am going to be tortured tomorrow. I am frightened, and look forward to tomorrow in great apprehension. He adds that when the time comes, I shall not remember being told that this was going to happen to me, since shortly before the torture something else will be done to me which will make me forget the announcement. This certainly will not cheer me up...He then adds that...when the moment of torture comes, I shall not remember any of the things I am now in a position to remember. This does not cheer me up either...He now further adds that at the moment of torture I shall not only not remember the things I am now in a position to remember, but will have a different set of impressions of my past, quite different from the memories I have now. I do not think that this would cheer me up either...Nor do I see why I should be put into any better frame of mind by the person in charge adding lastly that the impressions of my past with which I shall be equipped on the eve of torture will exactly fit the past of another person now living...Fear, surely, would still be the proper reaction: and not because one did not know what was going to happen, but because in one vital respect at least one did know what was going to happen—torture, which one can indeed expect to happen to oneself, and to be preceded by certain mental derangements as well.

It appears that we are capable of having either of two intuitions about the case, one predicted by the psychological theory, the other by the bodily continuity theory. A natural explanation is that ordinary thought contains two concepts of persisting persons, each responsible for a separate set of intuitions, neither of which is *our* canonical conception to the exclusion of the other.¹⁶

The nature of our equivocation here is worth exploring a little more. First of all, we have inconstant intuitions about *personal identity*. Secondly, we have inconstant intuitions about certain *rational and psychological attitudes*. Imagine

¹⁶For an alternate explanation see Gendler (1998).

being in the shoes of A before the experiment. One can imagine feeling *relief*, and not *fear*, when contemplating the upcoming torture of A's body, since one knows that one's psychology will be transferred to a new body before the torture occurs. On the other hand, Williams convincingly argues that A might well fear the upcoming pain to his body, and *not* be comforted at all by the knowledge of the mental transfer that will precede the torture. Which of these apparently incompatible attitudes one has seems to depend on the way the case is described; there seems to be a shift in our thought about fear corresponding to the shift in our thought about personal identity. Insofar as fear of future pain is intimately connected with personal identity, this is further support that use does not favor either candidate over the other.¹⁷

I should say that although I claim that use does not favor either the psychological or the bodily continuity theory, I make this claim only tentatively. Perhaps new thought experiments will be devised that tell decisively in favor of one theory or the other. Or perhaps new theoretical distinctions will be made that will make clear that one or the other competing sets of intuitions were confused, or mislabeled. (Recall the effect of Saul Kripke's (1972) distinction between epistemic and metaphysical possibility on intuitions about the necessity of identity.) I doubt these things will occur, but it is impossible to know in advance what future philosophical investigation will reveal (more on this below).

5. Eligibility of psychological and bodily continuity

I have argued that, assuming any one of a number of metaphysical theories of persistence, there exist candidate meanings for talk of personal identity based on bodily and psychological continuity (premise 1); and I have argued that neither candidate fits our use of personal identity talk better than the other (premise 2). The argument for the no-fact-of-the-matter thesis requires, in addition, the truth of its premise 3: neither candidate is more *eligible* than the other. Eligibility I understand as naturalness: a candidate meaning is eligible insofar as it "carves nature at the joints".

¹⁷The connection between personal identity and attitudes like fear of future pain is challenged by Parfit's argument that identity is "not what matters" (Parfit (1971, 1984, 254–266)). Many have replied to Parfit; for my own response see Sider (1996, 2001, chapter 5). But even those convinced by Parfit will surely hold that personal identity and the various attitudes march in step in cases that do not involve fission or fusion or the kinds of complications raised by Parfit's "everlasting bodies" (1971, 23–25).

Given that bodily and psychological candidates both exist, what reason could there be for thinking one to be more natural than the other? We may distinguish two potential reasons, one more radical than the other. The radical reason would be given by someone willing to claim that one candidate is a *perfectly* natural kind, whose naturalness is not explicable in microphysical terms. On this view, seeking the correct criterion of personal identity is a bit like seeking the correct physical theory. Metaphorically, the reason we can expect the question of personal identity to have a determinate answer is that the truth is “out there” in the same sense that it is in physics. This goes against a kind of physicalism: that there are no perfectly natural classifications of objects beyond those studied in physics (in the actual world, at any rate). This physicalism is justified by the past success of physics in accounting for everything else. It is hard to give a definition of just what counts as physics, but on no legitimate definition would high-level kinds corresponding to psychological or bodily continuity count as part of physics.

Might both of the candidates be less than perfectly natural, and yet one be more natural than the other? I would argue that relative naturalness results from one property or relation having a more “complicated” or “disjunctive” basis in the perfectly natural physical properties.¹⁸ Think of the relative naturalness of **blue** and **grue**, for example. Given this measure of relative naturalness, surely bodily-continuity and psychological-continuity candidates are on the “same level” of naturalness. Denying this would be like saying that Victorian houses comprise a more natural kind than Tudors.

But perhaps the candidates only appear to have equally complicated bases in the perfectly natural properties because of our inadequate understanding of their nature. Perhaps future philosophical inquiry into the bodily and psychological continuity theories will reveal one to be plagued with internal difficulty. Or perhaps new imaginary cases will be discovered, our reactions to which may be seamlessly incorporated into one theory but which require complicated adjustments to the other. Perhaps a new distinction will show that what we thought were intuitions about a single relatively natural kind were actually intuitions about multiple kinds, the disjunction of which is quite unnatural. In any of these cases, one of the theories would turn out to have a more complicated basis in the natural properties than the other. This is the less radical reason one might give for thinking one candidate more natural than the other.

In essence, the challenge is that philosophical reflection in the ideal limit

¹⁸See Lewis (1986, 61).

might favor one of the candidates. For the very theoretical grounds philosophers use to *decide* which theory to believe—simplicity, comprehensiveness and the like—are *constitutive* of which theory provides a candidate that has a more natural basis in the perfectly natural properties and relations. Thus, whether the less radical challenge to premise 3 succeeds depends on the outcome of the debate over criteria of personal identity. I am (tentatively) inclined to doubt that futuristic philosophy will definitely resolve this debate. The fundamental puzzle cases and the supporting intuitions for the competing sides have not changed in hundreds of years. While there has been *refinement* of the competing criteria, there seems to have been no major change in how they are to be understood. We seem to have a genuine impasse.

I do not say that *all* debates involving personal identity are at an impasse. Whether persons have temporal parts, for example, seems an open question. Debate over what to say about cases of fission, fusion, and the like rages on. And the past twenty years has seen much discussion of the role of causation in criteria of personal identity. But both psychological and bodily continuity theories may incorporate a causal element, may be stated with or without temporal parts, and may be augmented with the same bells and whistles to handle fission and fusion. It is only the debate over whether the criterion of personal identity is psychological or bodily continuity that I claim is at an impasse. Even this may be overstating the case, given the important recent work on the subject, even in the past five years.¹⁹ Still, it is interesting to follow out the consequences of the hypothesis that philosophical debate in the ideal limit remains indecisive.

6. A third candidate?

Even if candidates corresponding to bodily continuity and psychological continuity are equally eligible and fit use equally well, there would be no indeterminacy in talk of personal identity if some third candidate better combined eligibility and fit with use. Premise 4 denies the existence of such a third candidate. What might such a candidate look like?

One possibility would be a candidate according to which persons are identical iff they are *either* psychologically *or* bodily continuous. But this candidate is slightly less eligible than either pure criterion, given its disjunctive nature. Moreover, it seems to fit use less well than the pure criteria. Granted, any

¹⁹See, for example, Olson (1997); Rovane (1998); Schechtman (1996).

“positive” intuition, to the effect that personal identity *does* hold in a certain case, that is predicted by either the psychological or the bodily continuity theory is predicted by the disjunctive theory. But there are certain “negative” intuitions we have as well. After reading the quotation from Williams, my intuitions say not only that A is the A-body person afterwards, but also that A is *not* the B-body person afterwards. In another frame of mind, the negative predictions of the psychological theory also match intuitions. These negative intuitions clash with the disjunctive candidate. It seems that our intuitions alternate between the psychological and bodily criteria rather than resting in a state in which their disjunction seems correct.

Another possibility for a third candidate would be some criterion entirely unrelated to psychological or bodily continuity. But surely any such criterion matches use significantly worse than either bodily continuity or psychological continuity. If there were a perfectly natural kind corresponding to some such criterion, that would be another story; but the same physicalism that ruled out perfectly natural candidates corresponding to psychological and bodily continuity rules out a perfectly natural kind here as well.

7. The scope of the argument and the scope of conceptual analysis

We have examined a schematic argument purporting to show that there is no fact of the matter which theory of a given term, T, is correct. The argument has been defended in the case of personal identity, assuming that one of the ontologies of persistence that support multiple candidates is correct (section 3). The search for *the* correct criterion of personal identity is ultimately in vain, since talk of persisting persons is semantically indeterminate between candidates corresponding to the competing criteria. There simply is no fact of the matter whether the persistence of persons is governed by psychological or bodily continuity. This is not merely a reflection of our linguistic practice, for part of what was argued is that there is no one extremely eligible candidate to be meant by talk of persisting persons.

What is the scope of this sort of argument? Will all philosophical disputes dissolve in this way? Philosophers are notorious for disagreeing, and notorious for their ingenuity in controverting the seemingly uncontroversial. Isn't the kind of dialectical breakdown to which I appealed in section 4 ubiquitous? If so, wouldn't it follow that there are no genuine philosophical disagreements at all?

It is a familiar undergraduate trick to postulate multiple meanings whenever philosophical disagreement arises. Give the fanatical ambiguity-monger her way, and disagreement in any area of philosophy vanishes: disagreement in normative ethics, for instance, turns into conceptual confusion between “utilitarian-obligation”, “deontological obligation”, “egoistic obligation”, and so on. The philosophical community would become a Babel of speakers of different languages who mistakenly think they disagree about a common subject matter.

There may be other areas of philosophy that are like personal identity in this respect, however much we would like this not to be the case. Fortunately, however, there are cases in which the argument does not succeed. These fall into different categories.

There are certainly *scientific* cases in which the argument fails. Dialectical impasse in cosmology would not convince us that there is no fact of the matter as to whether, say, there will eventually be a big crunch; dialectical impasse in particle physics would not lead us to say there is no fact of the matter as to the behavior of electrons. The argument fails in these cases because premise 3 is false—candidates corresponding to rival scientific theories are not in general equally natural. Physics is one place where most of us *do* believe nature has joints.

There are also philosophical cases where the argument fails. First, there are cases in which ongoing philosophical investigation would eventually establish a superior theory. Imagine there are indeed multiple candidates for being meant by a certain term, T, but that there exist vivid and compelling thought experiments waiting to be discovered by future philosophers, in which intuition would tell decisively in favor of one candidate. In that case, premise 2 would be false—one of the candidates would fit use better than the other. Alternatively, imagine there exist new distinctions to be made, which would show one candidate to be far more natural than the other. Then premise 3 would be false.

Perhaps normative ethics is an example. My sense is that the dialectical breakdown in ethics is nowhere near as severe as in the debate over criteria of personal identity. Normative ethics seems richer; there is too much room for unforeseen developments to conclude that competing candidates fit use equally well. Even when a particular actual or counterfactual situation in ethics stumps us, or invokes very different reactions in different people, this does not signal the end of argumentation. New cases are often constructed which have more pull on the intellect, and on the basis of those new cases the old ones may be

decided. (Deciding the old cases on this basis is justified by the naturalness requirement on meaning: highly natural candidate meanings for T will count T as applying in cases that are natural generalizations of other cases where T applies.) New distinctions cause us to reevaluate our judgments about which theories, and hence which candidate meanings, are more natural than others. I do not claim to be sure that normative ethics is indeed like this, only that there is no compelling reason to suppose it is not.

One cannot say with any certainty in advance where further investigation will lead. Thus, even in cases where the no-fact-of-the-matter argument is sound, there are no shortcuts to hard philosophical work. Even if there is no fact of the matter in a given case, establishing this requires just as much philosophy as establishing one of the competing theories.

For any term, T, say that which theory of T is true is *a matter of conceptual analysis* iff there exist multiple candidates c_1, \dots, c_n for being meant by T such that i) all other candidates for being meant by T are far worse candidates than c_1, \dots, c_n , and ii) none of c_1, \dots, c_n is a perfectly natural kind (and thus, insofar as one of c_1, \dots, c_n is a stronger candidate than the rest, this is due either to superior fit with use, or to superior eligibility as a result of having a simpler basis in the perfectly natural properties and relations). What I have been pointing out is that the schematic argument can fail in some cases where which theory is true is a matter of conceptual analysis, namely those in which ideal philosophical inquiry would vindicate one of the competing theories.

But there is a very different way the schematic argument can fail. The argument will fail when multiple legitimate candidates simply do not exist. Recall the theory of chaste endurance mentioned at the end of section 3. On this view, persons exist, have no temporal parts, and persist in basically the way we ordinarily take them to, but distinct entities never coincide. No one accepting this theory will accept anything like premise 1 in the schematic argument. In my immediate vicinity, there is exactly one person-shaped thing. The strict and literal persistence of this sort of thing over time is what is ordinarily meant by talk of persisting persons. We can point to *it*, and meaningfully ask: how long will it continue to exist? Would it be possible for it to continue to exist even after losing all its memories? These questions may well have determinate answers. (Of course, the defender of chaste endurance might for independent reasons claim these questions have no answers; the point is just that the no-fact-of-the-matter argument leaves open the possibility of determinate answers.) Given chaste endurantism, there will be a single correct criterion of personal identity, namely that criterion that gives the correct account of the persistence

conditions for things like *the* object I singled out. Moreover, given chaste endurantism, the correctness of the true criterion of personal identity will not be a matter of conceptual analysis. It will be due to the nature of the one and only one candidate meaning we could possibly mean by our talk of persisting persons.

Many of the same remarks apply if substance dualism is true. If every conscious human body is associated with a single simple enduring non-physical soul, the persistence conditions of souls might well be the only live candidate for talk of persisting persons. One criterion of personal identity would be correct (presumably different from both the bodily continuity and the psychological continuity criteria), and its correctness would not be a matter of conceptual analysis.

Thus, the no-fact-of-the-matter thesis is only *conditionally* established: it holds *if* the worm theory or promiscuous endurantism or one of the other ontologies supporting “multiple-candidates” that were discussed in section 4 is correct, but not if chaste endurantism or substance dualism is correct. Whether there is a unique criterion of personal identity depends on which ontology of persistence is correct. Likewise, whether the question of criteria is a matter of conceptual analysis also depends on which ontology of persistence is correct.

Doesn't this just push the question one level back? Might there be no fact of the matter what is the correct ontology of persistence? If so, then the no-fact-of-the-matter thesis for criteria of personal identity would be unconditionally established, and the realm of significant metaphysical questions would shrink further. But as I will argue in the next section, the debate over the fundamental ontology of persistence is special. Given a certain plausible conception about the nature of existence, debates in fundamental ontology—debates about what there is—are intrinsically immune to the no-fact-of-the-matter argument.

8. The nature of existence

I say there exist temporal parts; the chaste endurantist disagrees. And each of us disagrees with the nihilist in thinking there exist composites. These disagreements are not merely over how the world should be described; we disagree about what there is. These disagreements cannot, I think, be dissolved. There must be a fact of the matter who is right.

Given any of the “multiple candidates” ontologies discussed in section 3, both psychological continuity theorists and bodily continuity theorists are

happy to admit the existence of the multiple candidate meanings for talk of persisting persons. Given the worm theory, for example, both psychological continuity theorists and bodily continuity theorists admit the existence of *both* body-persons and psychological-persons. To establish the no-fact-of-the-matter thesis it was crucial that the existence of the multiple candidates was unproblematic *from the point of view of both sides of the debate*. Otherwise premise 1 of the no-fact-of-the-matter argument would tacitly presuppose the *falsity* of one of the views in question, and so could not establish there was no fact of the matter as to whether that view was correct.

But now consider the debate between the defender of temporal parts, the nihilist and the chaste endurantist. Pretend that nothing exists other than two persisting electrons, which have no proper spatial parts. Then the nihilist, the chaste endurantist and I disagree over which of the following sentences are true, where the quantifiers are intended to range unrestrictedly over absolutely all (concrete) things:

$\exists x \exists y x \neq y$ (“there are at least two things”)

$\exists x \exists y \exists z (x \neq y \& x \neq z \& y \neq z)$ (“there are at least three things”)

$\exists x \exists y \exists z \exists w (x \neq y \& x \neq z \& x \neq w \& y \neq z \& y \neq w \& z \neq w)$ (“there are at least four things”)

The nihilist thinks only the first sentence is true. The chaste endurantist admits the second sentence in addition to the first (provided she is willing to admit the existence of arbitrary fusions). The defender of temporal parts admits all three sentences: assuming she thinks time is dense, she thinks every electron has infinitely many temporal parts. Thus, the defender of temporal parts, the nihilist and the chaste endurantist disagree over sentences stated just with quantifiers, variables, and the identity sign. Given this it is difficult to see how the schematic argument could be made in this case. Since the disagreement between these theorists extends to the logical vocabulary, there is no neutral language in which the existence of multiple candidates could be asserted that would be acceptable *from the point of view of everyone in the debate*. What multiple candidate meanings could there be for unrestricted quantifiers, boolean operators and the identity sign?²⁰

Granted, restricted quantifiers can have multiple candidate meanings, corresponding to different possible restrictions. But the quantifiers above were

²⁰Compare van Inwagen (2002).

stipulated to range unrestrictedly over absolutely everything, except perhaps non-“concrete” things. Might multiple candidate meanings for these quantifiers creep in via candidate meanings for ‘concrete’? No. ‘Concrete’ is intended to rule out sets, properties, and the like. Any vagueness in this restriction is irrelevant: on any way of fixing on a reasonable candidate meaning for ‘concrete’, the nihilist, chaste endurantist and temporal parts theorist will still disagree over the truth values of the sentences thus understood.

The only way to defend the no-fact-of-the-matter thesis would be to claim that unrestricted quantificational expressions can indeed have multiple candidate meanings. The best-known version of this appeals to Carnap’s (1950) idea that metaphysical questions only have answers within “linguistic frameworks”.²¹ Quantificational expressions, Carnap might claim, get their meanings from the rules of language adopted by those that use them. The nihilist uses different rules for the quantifiers than do the chaste endurantist or the defender of temporal parts. In the nihilist’s linguistic framework, there is no rule allowing one to infer $\lceil \exists x \ x \text{ is made up of } a \text{ and } b \rceil$ from the assumption that a and b denote objects. This rule is included in the frameworks of the chaste endurantist and the defender of temporal parts, but only the latter includes as well a rule allowing one to infer $\lceil \exists x(x \text{ is a temporal part of } a \text{ at } t) \rceil$ from the assumption that a denotes a continuant and t denotes a time. If the meanings of quantificational expressions are exhausted by rules of this sort, it might then be argued that our meaning-determining behavior does not determinately settle which rules govern quantification. There would be no fact of the matter whether the defender of temporal parts, the chaste endurantist or the nihilist is correct.

The trouble is that the Carnapian view is hard to believe. It is hard to see why the different rules of inference should be regarded as alternate meanings for the quantifier, rather than alternate *beliefs* about what exists. Intuitively, there is nothing the opponents of the nihilist can stipulate about the existential quantifier that will insure that $\lceil \exists x \ x \text{ is made up of } a \text{ and } b \rceil$ is true, *provided they use ‘ \exists ’ as a quantifier*, for there simply may not *be* a third object other than those denoted by a and b .²² Of course, a group of people could agree to use the sentence $\lceil \exists x \phi(x) \rceil$ to mean that Nelson Goodman says that some object satisfies $\phi(x)$. Since Goodman accepts the existence of mereological sums, $\lceil \exists x(x \text{ is made up of } a \text{ and } b) \rceil$ will then be true. But in this idiolect ‘ \exists ’ no

²¹See also Putnam (1987a,b).

²²Compare van Inwagen (1990, 6–12).

longer has anything to do with *existence*.

There is a fundamental asymmetry between expressions for unrestricted quantification, on the one hand, and other expressions (like predicates and names) on the other. The existence of multiple candidate semantic values for the latter are relatively uncontroversial, whereas there seems to be only one notion of existence. Think of how the nihilist and the chaste endurantist would regard each other's use of '∃' to describe the world containing only two electrons. The chaste endurantist thinks there exist three things in this world, whereas the nihilist thinks there are only two. Neither will admit the existence of any candidate meaning for '∃' on which the other's assertion is correct. The chaste endurantist does admit the existence of the meaning of the *restricted* quantifier 'is a thing without proper parts', under which the nihilist's claim that there are only two things turns out true. But the nihilist explicitly (and vociferously!) claims not to be using '∃' as a restricted quantifier. And the nihilist does not admit any sort of quantificational meaning on which the chaste endurantist's claim that there exist three things turns out true. This sort of inability of either disputant to accept the other's meaning does not carry over to disputes involving predicates, for example. Consider the debate over whether right action is maximization of utility or conformity to the categorical imperative. Both utilitarians and Kantians are happy to admit the existence of the properties of **conformity to the categorical imperative** and **maximizing utility**; what they disagree over is which property is the property of **being morally right**. Multiple predicate meanings are available to all, whereas multiple quantificational meanings—except for restricted quantificational meanings, which are in the present context irrelevant—simply do not exist.

I claim, then, that if '∃' is to be understood as an unrestricted quantifier, there is just a single meaning for this expression to have: the one and only notion of existence. Relative to this meaning, there are univocal answers to questions of ontology. The temporal parts theorist, nihilist and chaste endurantist share the same notion of existence and make different claims about it; only one of them can be right.

If the "rules of existence" accepted by these theorists are merely different beliefs *about* existence and do not determine the meaning of 'exists', then just what *does* determine its meaning? I would appeal to the existence of *logical joints in reality*. Just as the world comes "ready-made" with natural properties and relations, it also comes ready-made with a domain of objects. This domain is extremely eligible to be meant by quantificational expressions. Provided one's core use of '∃' is reasonably standard, provided one accepts the standard

patterns of inference involving ‘ \exists ’, and provided one does not introduce bizarre stipulations on ‘ \exists ’ (for example that ‘ $\exists x\phi(x)$ ’ is to be true whenever Nelson Goodman says that some object satisfies $\phi(x)$), ‘ \exists ’ means this extremely eligible candidate no matter what else one believes about existence. This will not convince a determined defender of Carnapian linguistic relativity; it rather shows that the univocality of ‘ \exists ’ is a coherent position.

I discuss this conception of existence and its contrast with the Carnapian picture in somewhat greater detail elsewhere.²³ I only note here that anyone who wants to deny that there is a fact of the matter about these fundamental questions about ontology is committed to a fairly radical conception of the nature of existence. Without a view of existence like Carnap’s, questions of fundamental ontology look special. They are not susceptible to the no-fact-of-the-matter argument since there are no multiple candidates for ‘exists’ to mean. Just as the meaning of ‘electron’ holds constant through radical changes in scientific belief and hence radical changes in the “concept” of an electron, so the meaning of ‘exists’ holds constant despite radical differences in opinion about what there is. Just as there is only one thing for ‘electron’ to mean (provided one wants to mean something remotely in the neighborhood of **electronhood**), there is only one thing for ‘exists’ to mean.

It is ironic that the questions I claim cannot be dissolved are precisely those some think are most worthy of dissolution. For many, dispute over the existence of composites is a case of metaphysics at its worst. It is certainly a dispute where it is very hard to know who is right. Here, if anywhere, one might think, the dispute results from different conventional decisions about how to use language. It is not surprising that Putnam uses this very debate to motivate his internal “realism” (1987*b*; 1987*a*, Lectures I and II). But even Jaegwon Kim takes a similar line about certain questions of ontology:²⁴

Concerning such questions as whether there “really are” events (over and beyond substances and their properties), whether substances are “ontologically prior to” events or vice versa, what the “metaphysical nature” of events is, along with many other similar questions about facts, properties, continuants, time-slices, and so forth, it just seems wrong-headed to think that there are “true” answers, answers that are true because they correctly depict some pre-existing metaphysical order of the world...the primary

²³See the introduction to *Four-Dimensionalism*.

²⁴Kim (1993, ix-x). Kim goes on in the next sentence to say: “I should add, though, that I do not hold this view about metaphysics in general, or even about all ontological issues.”

job of ontology should be to work out and purvey ontological options, alternative schemes that will suit our varied activities and aims in science and philosophy. Carnap may have been exactly right with his distinction between “external” and “internal” questions.

But I say that here, where metaphysical questions are as metaphysical as can be, is precisely where those questions have answers.

An important corollary of my conception of existence is that questions of fundamental ontology are in an important sense about the world, not about our concepts. Whether things have temporal parts, whether only mereological simples exist or whether composite objects exist as well, are as much non-conceptual matters as whether electrons exist. This makes fundamental ontology a far more compelling enterprise than mere exercises in conceptual analysis. It also makes its epistemology more difficult. No wonder Putnam and Kim “lose their metaphysical nerve”.²⁵ If ontological beliefs are not based on conceptual analyses of ‘there exists’, on what are they based?

Syracuse University

References

- Carnap, Rudolf (1950). “Empiricism, Semantics and Ontology.” *Revue Internationale de Philosophie* 4: 20–40. Reprinted in *Meaning and Necessity: A Study in Semantics and Modal Logic*. 2nd edn. Chicago: University of Chicago Press, 1956.
- Chisholm, Roderick (1973). “Parts as Essential to Their Wholes.” *Review of Metaphysics* 26: 581–603.
- (1975). “Mereological Essentialism: Further Considerations.” *Review of Metaphysics* 28: 477–84.
- (1976). *Person and Object: A Metaphysical Study*. La Salle, Illinois: Open Court Publishing Co.
- Devitt, Michael (1984). *Realism and Truth*. Oxford: Basil Blackwell.
- Feldman, Fred (1992). *Confrontations with the Reaper*. New York: Oxford University Press.

²⁵The phrase is Alex Oliver’s (1996, §7).

- Field, Hartry (1973). "Theory Change and the Indeterminacy of Reference." *Journal of Philosophy* 70: 462–81.
- (1974). "Quine and the Correspondence Theory." *Philosophical Review* 83: 200–228.
- Gendler, Tamar Szabó (1998). "Exceptional Persons: On the Limits of Imaginary Cases." *Journal of Consciousness Studies* 5: 592–610.
- Haslanger, Sally and Roxanne Marie Kurtz (eds.) (2006). *Persistence: Contemporary Readings*. Cambridge, MA: MIT Press.
- Kim, Jaegwon (1993). *Supervenience and Mind*. Cambridge: Cambridge University Press.
- Kripke, Saul (1972). "Naming and Necessity." In Donald Davidson and Gilbert Harman (eds.), *Semantics of Natural Language*, 253–355, 763–9. Dordrecht: D. Reidel. Revised edition published in 1980 as *Naming and Necessity* (Cambridge, MA: Harvard University Press).
- Lewis, David (1968). "Counterpart Theory and Quantified Modal Logic." *Journal of Philosophy* 65: 113–26. Reprinted in Lewis 1983b: 26–46.
- (1979). "Scorekeeping in a Language Game." *Journal of Philosophical Logic* 8: 339–59. Reprinted in Lewis 1983b: 233–49.
- (1983a). "New Work for a Theory of Universals." *Australasian Journal of Philosophy* 61: 343–77. Reprinted in Lewis 1999: 8–55.
- (1983b). *Philosophical Papers, Volume 1*. Oxford: Oxford University Press.
- (1984). "Putnam's Paradox." *Australasian Journal of Philosophy* 62: 221–36. Reprinted in Lewis 1999: 56–77.
- (1986). *On the Plurality of Worlds*. Oxford: Basil Blackwell.
- (1999). *Papers in Metaphysics and Epistemology*. Cambridge: Cambridge University Press.
- Locke, John (1975). "On Identity and Diversity." In Perry (1975), 33–52. Chapter 27 of his *Essay Concerning Human Understanding* (1690).

- Oliver, Alex (1996). "The Metaphysics of Properties." *Mind* 105: 1–80.
- Olson, Eric (1997). *The Human Animal: Personal Identity without Psychology*. Oxford: Oxford University Press.
- Parfit, Derek (1971). "Personal Identity." *Philosophical Review* 80: 3–27. Reprinted in Perry 1975: 199–223.
- (1984). *Reasons and Persons*. Oxford: Clarendon.
- Perry, John (ed.) (1975). *Personal Identity*. Berkeley: University of California Press.
- Putnam, Hilary (1978). *Meaning and the Moral Sciences*. Boston: Routledge and Kegan Paul.
- (1980). "Models and Reality." *Journal of Symbolic Logic* 45: 464–82. Reprinted in Putnam 1983: 1–25.
- (1981). *Reason, Truth and History*. Cambridge: Cambridge University Press.
- (1983). *Realism and Reason: Philosophical Papers, volume 3*. Cambridge: Cambridge University Press.
- (1987a). *The Many Faces of Realism*. La Salle, IL: Open Court.
- (1987b). "Truth and Convention: On Davidson's Refutation of Conceptual Relativism." *Dialectica* 41: 41–67.
- Quine, W. V. O. (1976). "Whither Physical Objects." In R.S. Cohen, P.K. Feyerabend and M.W. Wartofsky (eds.), *Essays in Memory of Imre Lakatos*, 497–504. Dordrecht: D. Reidel Publishing Company.
- Rovane, Carol (1998). *The Bounds of Agency: An Essay in Revisionary Metaphysics*. Princeton: Princeton University Press.
- Schechtman, Marya (1996). *The Constitution of Selves*. Ithaca: Cornell University Press.
- Sider, Theodore (1996). "All the World's a Stage." *Australasian Journal of Philosophy* 74: 433–53. Reprinted in Haslanger and Kurtz 2006: 91–117.

- (1997). “Four-Dimensionalism.” *Philosophical Review* 106: 197–231.
Reprinted in Haslanger and Kurtz 2006: 55–87.
- (2001). *Four-Dimensionalism*. Oxford: Clarendon.
- Unger, Peter (1980). “The Problem of the Many.” In Peter French, Theodore E. Uehling, Jr. and Howard K. Wettstein (eds.), *Midwest Studies in Philosophy V: Studies in Epistemology*, 411–67. Minneapolis, MN: University of Minnesota Press.
- van Cleve, James (1986). “Mereological Essentialism, Mereological Conjunctivism and Identity Through Time.” In Peter French, Theodore E. Uehling, Jr. and Howard K. Wettstein (eds.), *Midwest Studies in Philosophy XI: Studies in Essentialism*. Minneapolis, MN: University of Minnesota Press.
- van Inwagen, Peter (1990). *Material Beings*. Ithaca, NY: Cornell University Press.
- (2002). “The Number of Things.” In Ernest Sosa (ed.), *Philosophical Issues, volume 12: Realism and Relativism*. Oxford: Blackwell.
- Williams, Bernard (1970). “The Self and the Future.” *Philosophical Review* 79: 161–80. Reprinted in Perry 1975: 179–98.
- Yablo, Stephen (1987). “Identity, Essence, and Indiscernibility.” *Journal of Philosophy* 84: 293–314.
- Zimmerman, Dean W. (1995). “Theories of Masses and Problems of Constitution.” *Philosophical Review* 104: 53–110.