11 New Directions in Metaphysics

Tony Roy and Matthew Davidson

This book is mostly a companion to topics in object-level metaphysics. Questions are raised about properties and possibilities, physical and spiritual objects, and the like. Philosophers propose various theories in reply. But such theorizing leads to abstract properties and possible worlds, and to concrete incars which exist while inside of the garage but not out. What is worse, there certainly seems to be significant disagreement between very capable philosophers about all sorts of issues in metaphysics. Some disputes can be traced all the way back to disagreements between Plato and Aristotle. Thus one might seek a new direction for metaphysics. In this chapter we examine two such approaches. The first, "deflationary" approach interprets apparently controversial cases so that they do no harm. According to this approach, there *really* isn't the disagreement between metaphysicians there appears to be. The second, "experimental metaphysics," attempts to investigate the sources of intuitions that undergird object-level metaphysical theorizing. Perhaps the reason why there is significant disagreement between metaphysicians is that the intuitions on which metaphysical views rest are faulty epistemically.

In this chapter, we begin with an account of the standard approach to metaphysical questions as crystallized in Quine (1980a). We then turn to an examination of the revisionary experimental and deflationary approaches. In so short a space we shall not be able to give anything like a complete account or evaluation of these strategies. However we do suggest that as new directions for metaphysics they miss the mark. The initial concern about disagreement over bizarre results is real, but is adequately addressed without disconnecting from the world or standard method.

Quine's Method for Metaphysics

Quine's method for metaphysics and his "criterion of ontological commitment" are part of the background against which contemporary metaphysics is conducted. But, perhaps for this reason, the method is often left unstated, and so

understood and either adopted or resisted in different versions. We character-ize the method, and apply it in some cases to illustrate contested results.

Though Quine himself may not have been content to start this way, let us suppose there is a world and that ordinary claims and theories are true and false by virtue of the way it is. Then we get at what there is by saying what in the world makes our claims and theories true—since, by hypothesis, if the claims and theories are true, something in the world makes them true.[1] Faced with some claim or theory, the conditions under which it is true may be less than obvious. But we may offer an account of that in the world which makes it true. So the ordinary claims and theories are data with metaphysical results. Quine imagines that we offer accounts of truth conditions in an "extensional" language along the lines of that from Frege and Russell. This language is char-acterized by quantifiers and variables in the usual way. Given this, his approach to ontological commitments is characterized by a pair of key theses.

Quine is notorious for having stated multiple, not entirely equivalent, for-mulations of his first thesis. However, for our purposes, it is clear enough what he has in mind. In his essay "On what there is" (1980a), he says in slogan form, "to be is to be the value of a variable" (p. 15) and more explicitly,

> Q1 A theory is committed to those and only those entities to which the bound variables of the theory must be capable of referring in order that the affirmations made in the theory be true. (pp. 13–14)

This thesis has both a positive and a negative side. In the same article (1980a), Quine begins by emphasizing the negative side. He thinks he is not automatically committed to objects of reference by the use of proper names (for they can be done away with via the Theory of Descriptions), and not committed to meanings, prop-erties or the like, by the use of predicates. We need not pause here, as there are problems enough from the positive part. We are positively committed to whatever things must be in the range of variables for our affirmations to be true. So, to take an example from Quine, perhaps we accept an ordinary claim or theory according to which "some zoölogical species are cross-fertile." If its truth condition is,

$\exists x \exists y (x$ is a zoölogical species $\land y$ is a zoölogical species $\land x \neq y \land x$ is cross-fertile with $y)$

then we are committed to zoölogical species as such. But if we are able to offer some other account which does not require species in the range of the variables, say,

$\exists x \exists y (x$ is an animal $\land y$ is an animal $\land x \neq y \land x$ is not of the same species as y $\land x$ is cross-fertile with $y)$

then so long as the account is adequate in other respects, we might be committed just to the animals required for its truth. Quine speaks of "paraphrasing the statement as to show that the seeming reference to species on the part of our bound variable was an avoidable manner of speaking" (p. 13). But, whatever "paraphrase" may come to, we have at least competing theories of the conditions under which the original claim is true, with divergent commitments. Observe that arguments are *valid* when there is no (possible) case that makes the premises true and conclusion not. So a test for this project of regimenting truth conditions is that it should preserve logical consequence—for if validity hinges on nothing more than truth conditions, and truth conditions are properly preserved, then logical consequence should be preserved as well.

We thus employ Quine's method when we move from data including theories or claims regarded as true, to accounts of the conditions under which they are true, and from such accounts to ontological commitments. We have suggested that Quine supposes accounts of truth are given in something like the extensional (canonical) notation of Frege and Russell. But this suggests a second thesis.

Q2 The truth condition for any expression (which has a truth value) may be expressed in some extensional language.

Suppose this is false, that there are true expressions whose truth condition has no expression in an extensional language. Then the situation is as follows:

All expressions with a truth condition

Expressions with an extensional truth condition
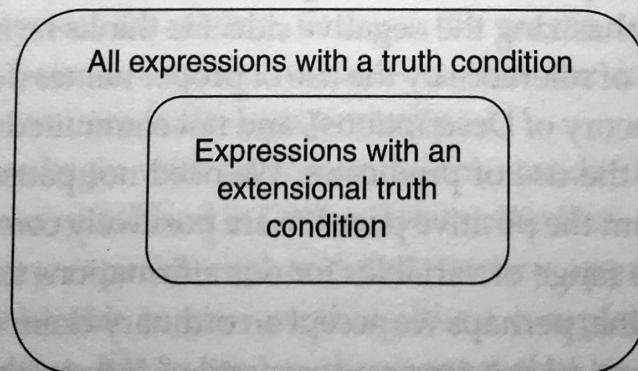
Expressions with extensional truth conditions are a subset of all expressions with a truth condition. But then Q1 itself would seem to be problematic insofar as there is room for true theories whose commitments are not those to which bound variables must be assigned. Faced with some recalcitrant or problematic bit of data, one might "opt out" of the method, on the ground that data fall into the range to which the method does not apply. But Q2 closes this gap. Given this, in Russell's apt phrase, opting out might seem to have "many advantages; [but] they are the same as the advantages of theft over honest toil" (1985, p. 71).

Q2 is particularly significant when data seems non-extensional. Extensional expressions are characterized by stability of truth value under certain substitutions. Let us say singular terms are *co-referential* when they pick out the same object, (possibly relational) predicates are *co-referential* when they apply to the same objects, and sentences are *co-referential* when they have the same truth value. Then,

> ES A sentence is *extensional* iff switching a singular term, predicate or sentential part for one with the same reference cannot alter the truth value of the whole sentence.

For a stock example, suppose "is a creature with a heart" and "is a creature with a kidney" apply to the same individuals—where Lois believes that Superman has a heart, but being unaware of Kryptonite biology, does not believe that he has a kidney. And compare "Lois believes Superman is a creature with a kidney" with "It is not the case that Superman is a creature with a kidney." Under our assumptions, both are false. But switching the co-referential "Superman" with "Clark" flips the first to true, and leaves the second unchanged; switching the co-referential "is a creature with a heart" for "is a creature with a kidney" again changes the first to true and leaves the second unchanged; and either switch has the effect of changing the sentential part, "Superman is a creature with a kidney," for one with the same truth value. So the first fails each of the conditions for extensionality, and the other none. Expressions from the canonical notation all satisfy ES. But other languages might do so as well. Certain fragments of ordinary language are extensional, as might be a language with infinitely long expressions.

Quine might justify Q2 as a theoretical or experimental result: as a matter of fact, when we set out to give truth conditions for the sentences of science or whatever, we find that expressions of the canonical notation or of some (maybe extended) extensional language suffice. But there may be other reasons to accept Q2. Quine begins (1980c) linking sameness of truth value on substitution of singular terms to the indiscernibility of identicals. By the indiscernibility of identicals, if $a = b$, the properties of a are the same as the properties of b. So, given a picture of language as picking out things and saying that they have whatever features they do, from $a = b$ and Fa we expect Fb. We have assumed that there is a world and that sentences are true or false by virtue of the way it is. Without prejudicing the question of what sorts of things there are, and of the nature of their properties or relations, one might think that this assumption amounts to saying that there are things with properties and relations, and that it is the things with their properties and relations that make sentences true and false. Say this is right. Then all we need to describe the world is the ability to pick out things and to say that they have whatever properties and relations they do. It

may be that the truth condition for some sentence is that things or the world satisfy some complex condition; but so long as we are able to state this condition, there is nothing more to be said about the world. This seems to be just the sort of thing extensional languages are fitted to do. And it motivates Q2.

Now consider what happens when extensionality seems to fail. Quine (1980c) opens with the point about the indiscernibility of identicals, and then moves to an example where substitution seems problematic. Based on the true identity, "Cicero = Tully," we might substitute into

"Cicero" contains six letters

to obtain, "'Tully' contains six letters." But the former is true and the latter is false. However, this is held not to be a failure of substitutivity, insofar as nothing in the displayed sentence names Cicero. Rather, what is named is a word that contains six letters. A proper substitution is based on,

"Cicero" = Tully's other name that begins with "C"

to get the perfectly true, "Tully's other name that begins with 'C' contains six letters." By requiring extensionality, we thus require clarity about what things are said to have what properties—in this case, it is the *name* with the property of having six letters, where substitution works as one would expect for designators of it. And this clarity is just right when we are concerned about questions of ontology.[2]

More substantively, suppose we let a language have an operator $\langle F \rangle$ for "at some future time" and that, as it happens, "is Bob's brother" and "is Bob's sibling" are co-extensional, although Bob has a sister on the way. In this case, $\langle F \rangle \exists x(x$ is Bob's sibling $\wedge x$ is female) is true, while $\langle F \rangle \exists x(x$ is Bob's brother $\wedge x$ is female) is false. So extensionality fails. A response, like the one above, is that we have not gotten the objects and properties right. Thus, $\exists t \exists x(t$ is a time after now $\wedge x$ is Bob's sibling at $t \wedge x$ is female at $t)$ is true, while $\exists t \exists x(t$ is a time after now $\wedge x$ is Bob's brother at $t \wedge x$ is female at $t)$ is false. But there is no failure of extensionality insofar as there is a sister and time to which "x is Bob's sibling at t" applies but "x is Bob's brother at t" does not; so the relations are not co-extensional, even though they apply to the same persons now. Of course, among the objects over which the quantifiers range are times.

Little changes if we consider an operator $\Diamond$ for what is possibly the case, where $\Diamond \exists x(x$ is Bob's sibling $\wedge x$ is female) is true, while $\Diamond \exists x(x$ is Bob's brother $\wedge x$ is female) is false. Where "x is Bob's sibling" and "x is Bob's brother" actually apply to the same individuals, extensionality fails. One response is to let the quantifiers range over *worlds*. Thus $\exists w \exists x(w$ is a way the world could be $\wedge x$ is Bob's sibling at $w \wedge x$ is female at $w)$ is true, while $\exists w \exists x(w$ is a way the world

could be $\wedge x$ is Bob's brother at $w \wedge x$ is female at w) is false. But there is no failure of extensionality, insofar as there is a sister and world to which "x is Bob's sibling at w" applies but "x is Bob's brother at w" does not; so the relations are not co-extensional, even though they actually apply to the same persons. And we quantify over ways the world can be.

Of course, these are not the only responses. Quine is satisfied enough with the response for times, and with corresponding ontological commitments. But he is not at all happy with the appeal to worlds.[3] At any rate, within the method, one is pressed to (i) accept the commitments, (ii) reject the data, or (iii) offer an alternative account of the truth conditions. In the ordinary case original data is secure—more secure than philosophical theories proposed to account for it. So we are engaged in the project of offering theories to account for truth, and so to identify corresponding ontological commitments.

To see in a different way how such results may be troubling, consider a case from van Inwagen (2004), where he applies Quine's method, backed by entailment considerations, for the result that there are abstract properties. Van Inwagen takes as his example,

Spiders share some of the anatomical features of insects.

This has the apparent form, $\exists x(x$ is an anatomical feature $\wedge$ insects have $x \wedge$ spiders have $x)$, which is true only if something in the range of the variables is an anatomical feature. But features, qualities, characteristics, properties, and the like may seem to be just the same thing. (And if there are distinctions to be made between any of these, it is likely that one will be no more palatable than another to those of nominalist leanings.) So by Q1 there is an apparent commitment to properties—unless of course we are willing to reject the data, or there is an acceptable way to account for the data that avoids the consequence.

In this case, the data seems secure—there is no denying that spiders share some of the anatomical features of insects. It is impossible to survey all the attempts to account for the data. But the difficulty of providing alternatives is highlighted by the requirement that an account of truth conditions should preserve logical consequence. Consider a (reasonably traditional) response along the following lines: spiders share some of the anatomical features of insects just in case spiders are like insects in some anatomically relevant ways. We require a resemblance between spiders and insects. But van Inwagen observes that this seems to require quantification over "ways one thing can be like another," something like $\exists x(x$ is a way one thing can be like another $\wedge x$ is anatomically relevant $\wedge$ spiders are like insects in $x)$; thus there is commitment to ways one thing can be like another. But this may seem to be a perversion of the resemblance strategy. Perhaps the idea is merely to observe that there is an unstructured relation

between the class of spiders and the class of insects, so that spiders stand in the "share-some-of-the-anatomical-features-of" relation to insects, or to emphasize its primitive nature, say, the class of spiders *blaphs* the class of insects. So far, so good. But consider the argument,

1. If two female spiders are of the same species, then one is like the other in all anatomically relevant ways.
2. If *a* is like *b* in some anatomically relevant way, and *b* is like *c* in the same way, then *a* is like *c* in that way.

———————

3. An insect that is like a female spider in some anatomically relevant ways is like any female spider of the same species in some anatomically relevant ways.

The argument is valid. And if the premises and conclusion are given a structured account then the conclusion follows by the usual methods. (Challenge: try it!) But it is hardly clear how the conclusion results where the premise and conclusion are unstructured. Van Inwagen thinks that accounts which preserve consequence will have a quantificantional structure not much simpler than the apparent quantificational structure of the "original" (cf., van Inwagen, 2001).

When it comes to saying what these things are like, van Inwagen offers a theory which, he says, is "nearly vacuous" (2004, p. 131). If we set out to describe the intrinsic nature of a pen or the like, we will have a great many things to say—about the nature of the ink, the working of the ball, or whatever. But not so for abstract objects in general, and properties in particular. Van Inwagen does, however, lay out a certain *role* which is at least inconsistent with some things others have had to say about properties. His idea is to identify the property role with the role, "thing that can be said of something." This lets him reach some interesting results about properties. Even so, he remains concerned about the lack of content about their intrinsic nature: "the fact that this theory is inconsistent with various interesting and important theses about properties shows that, although it may be very close to being vacuous, it does not manage to be entirely vacuous" (p. 138). So his application of the method leaves us with the result that there is a role to be played, and that something plays the role, but not much to say about the role players.[4] And similarly in other cases.[5]
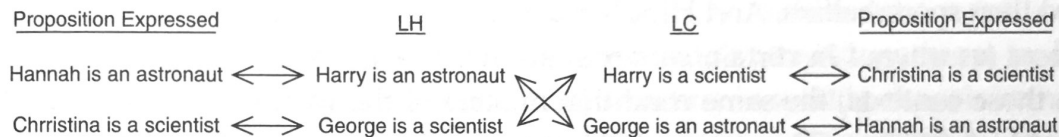
But this may seem to be a crucial failure. Against all Quine intended, the result of his method may seem to be shadowy realms that are a "bloated universe" with a "rank luxuriance" that "offend the aesthetic sense of us who have a taste for desert landscapes" (compare Quine, 1980a, pp. 3–4). Perhaps, then, if there are problems about the things, there are problems about the method according to which there are the things. And this may lead us to seek alternatives to the standard approach.

Deflationary Metaphysics

While fights about ontology rage, as Thomasson observes, "there's long been a suspicion . . . that some of the fights aren't real" (2009, p. 444). Many of these suspicions have a source in Carnap (1950).[6] We discuss a couple of recent versions as developed by Amie Thomasson and Eli Hirsch.

Verbal disputes

Suppose, as children will do, Hannah and Christina adopt new names, Hannah calling herself "Harry" and Christina "George," and Christina calling herself "Harry" and Hannah "George." Hannah declares that Harry is an astronaut and George a scientist, Christina that Harry is a scientist and George an astronaut. When the dispute finally boils over into recriminations and tears, it is easily mediated, for it is *merely verbal*.

Proposition Expressed	LH	LC	Proposition Expressed
Hannah is an astronaut ⟷	Harry is an astronaut	Harry is a scientist ⟷	Chrristina is a scientist
Chrristina is a scientist ⟷	George is a scientist	George is an astronaut ⟷	Hannah is an astronaut

In Hannah's language (LH), "Harry is an astronaut" is true just in case "George is an astronaut" is true in Christina's language (LC); both sentences express the proposition that Hannah is an astronaut. And "George is a scientist" is true in LH just in case "Harry is a scientist" is true in LC; these sentences express the proposition that Christina is a scientist. So Hannah and Christina express the same propositions in their own languages—which is to say (on an account Hirsch accepts) that their sentences hold true in the same possible worlds.

Hirsch argues that something similar applies to typical debates about rocks, trees, tables, and the like—about "moderate-sized dry goods." Consider an argument between a mereological essentialist (RC, Roderick Chisholm) and a four-dimensionalist (DL, David Lewis). According to the mereological essentialist, objects cannot gain or lose parts. But the four-dimensionalist allows that things may have different parts at different places and times. Suppose that before us are a pencil and a soccer ball (Hirsch, 2005, p. 75ff). Members of the DL community allow that some one thing is first pencilish and then soccerballish, having the pencil as a part at the one time, and the ball as a part at the other; members of the RC community deny that there is any thing of the sort. All the same, restricting quantifiers (and simplifying a bit), members of the DL community allow that nothing composed by a single mass is first pencilish and then soccerballish; where this, according to the mereological essentialist, is necessarily

equivalent to the claim that nothing is first pencilish and then soccerballish. And members of the RC community allow that there is at the earlier time a pencil and at the later a ball; and this, according to the four-dimensionalist, is necessarily equivalent to the claim that there is the pencilish and soccerballish thing. So the situation is as follows.

DL	RC
Something is pencilish and then soccerballish	Nothing is pencilish and then soccerballish
No mass is pencilish and then soccerballish	There is at the earlier time a pencil and then a soccer ball
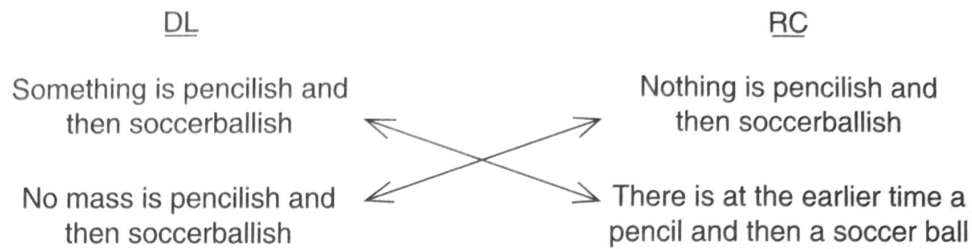
According to the DL community necessarily, something is pencilish and then soccerballish if and only if there is at the earlier time a pencil and then a soccer ball; and according to the RC community necessarily, nothing is pencilish and then soccerballish if and only if nothing composed by a single mass is pencilish and then soccerballish. And Hirsch accepts a view according to which, if "sentences (as uttered in certain contexts) are necessarily equivalent, they express (in those contexts) the same condition or state of the world, the same way the world is" (1993, p. 20; compare 2011, p. xi)—with the result that the necessarily equivalent sentences express the same propositions. So each community expresses in its own way what is agreed upon by the other, and our dispute is, again, merely verbal.

But this is not obviously right.[7] Consider again sentences accepted by the DL community—including the claim that nothing composed by a single mass is pencilish and then soccerballish. Their claims are true on a class of worlds populated by four-dimensional objects. So what is allowed by the DL community is that nothing in such a world composed by a single mass is pencilish and then soccerballish. But sentences accepted by the RC community are true on worlds where objects do not change parts; so for the result that nothing in one of their worlds is pencilish and then soccerballish, they require that nothing composed by a single mass in one of *those* worlds is pencilish and then soccerballish. But this is not what is given by the DL community. Similarly sentences accepted by the RC community, including the claim that there is at the earlier time a ball and then a pencil, are true on worlds that respect mereological essentialism. So what is allowed by the RC community is that the pencil and ball are included in such worlds. But sentences of the DL community are true on a different class of worlds; so for the result that something is pencilish and then soccerballish, they require that there is a pencil and a ball in one of *those* worlds. So we have the same sentences, but different worlds and so different propositions (compare Hawthorne, 2009; McGrath, 2008).

The situation is complicated since (as Hirsch assumes) the different views are supposed to be *necessarily* true. So there are not *possible* worlds of the different sorts. Still, in the spirit of Hirsch (2009, p. 237, note 24) let us suppose "vaguely and ignorantly" that in the manner of relevance logics not all worlds are possible worlds. Then there is room to distinguish the different views on the class of worlds.

Hirsch has a reply that structured propositions, which are fine-grained enough to distinguish four-dimensional from mereological objects, do the serious ontologist no good. A single possible world may be sufficient to make different but equivalent structured propositions true in its own way. Similarly, on his view, it does no good to jump to structured worlds, with objects that match up to one metaphysical view or another. On a charitable interpretation, sentences from any camp may come out true at worlds of the one sort. He agrees it is "doubtful" that each side can express the structured facts it interprets the other side to be expressing. However, Hirsch thinks a requirement of this sort is implausible. "Each side has sufficiently adequate grasp of what the other side's assertions amount to as long as it understands what [unstructured] facts are being asserted by the other side" (2008, p. 512). However the point is not that each side does not *grasp* what the other side's admissions come to, but rather that given the assumed necessity of structure in worlds, there is no neutral ground for the expression of supposed unstructured facts. Again, Hirsch allows there is a problem if there are *different* structured worlds corresponding to different sentences. Then he is inclined to agree that, once we accept a view which allows for his "quantifier variance,"

There is no point in trying to hold onto language-shaped facts that are in the world independent of language. However, we can retain the notion of an unstructured fact. I think this is indeed our most basic notion of "reality," "the world," "the way it is," and this notion can remain invariant through any changes in our concept of "the things that exist." (2002b, p. 59)

But this is question-begging against the point from above according to which sentences from the different camps are true at *different worlds*. His unstructured facts build in that there can be no differences among views that differ about certain necessary facts. If we start with the view that there can be nothing to disagree about, it is no surprise that debates are merely verbal (compare Hirsch, 2011, p. xii). Observe also that even Hirsch apparently starts out with a sort of serious metaphysical perspective: a view which competes with ones on which worlds are necessarily structured.

In his essay "Ontological realism" (2009), Theodore Sider suggests that reality has an objective nature, where EXISTENCE is a property expressed by the existential quantifier which tracks that nature. EXISTENCE is a property of properties

had by property *P* if and only if something has *P*. "Serious metaphysicians" who argue about the ball and pencil (or whatever) thus argue about the extension of EXISTENCE. We need not take a stand on this now. At least what we seem to have are different theories which describe the world in different ways. Certain of these theories are incompatible insofar as they are true on different ranges of worlds. And perhaps certain languages apply across objects in different ranges of worlds. In this case, as Hirsch suggests, there is no reason to deny that claims from the different languages may be true at the same time (see below for discussion of ordinary language). Debate is more than merely verbal when, in some sense, the languages are true on incompatible classes of worlds.

Ordinary ontology

Amie Thomasson suggests that, while demonstrating intertranslability of disputant's claims would be sufficient to demonstrate that a debate is merely apparent, it is not necessary (2007, p. 197). She does not argue that claims in typical metaphysical debates are intertranslatable. Still, her idea is that apparently controversial metaphysical questions either are not interestingly controversial—or else do not have answers at all. Either way, supposed controversies are a chimera. Thomasson begins with an account of reference and quantification. From this she derives her consequences for ontology, modality, and then metaphysical method.[8]

Thomasson's View
The account of reference is developed against the background of debates in philosophy of language. It may seem natural to associate certain *contents* with both descriptions and ordinary names. On Russell's familiar account, "The present king of France is bald" is true just in case there is a present king of France, there is at most one present king of France, and whatever is a present king of France is bald; just in case, $\exists x(\text{PKF}x \wedge \forall y(\text{PKF}y \rightarrow x = y) \wedge \text{B}x)$. Since there is no present king of France, the first conjunct fails, and this sentence is false. Similarly, "Aristotle was a philosopher" might come to "The student of Plato and teacher of Alexander was a philosopher" and be given an analysis along the same lines.

But such accounts of the semantics of names have been subject to sustained criticism from Kripke (1980) and others. Thus, for example, many of us have, at best, only the vaguest idea of Empedocles. Perhaps you have never heard of him. Perhaps you think of him only vaguely as "an ancient Greek" or "an ancient Greek philosopher." Of course, you may be an authority on Empedocles and his philosophy. Plausibly, however, even those of us who do not know much about Empedocles can sensibly refer to him and ask, say, how many elements he thought

there were. But if we are not sure how many elements he thought there were, it is unlikely that our idea of him is sufficient to distinguish him from various other Greek philosophers including, say, Anaximenes. So our idea of him is not sufficient for reference to him on a Russell-style account.[9] Thus *causal* and *direct reference* theories postulate causal chains which reach from the use of ordinary names, to "baptisms" at which the names are attached to objects, and so from uses to objects named, with the result that ordinary names contribute objects, not contents, to propositions; so a use of "Empedocles" contributes Empedocles, not some shadowy content which may be insufficient to identify him.

Thomasson thinks neither of these views is correct. Grant that Empedocles is not uniquely identified by a content associated with "Empedocles." So there is space for causal chains. But neither is causation sufficient. Consider a certain statue, together with the lump of clay, and atoms of which it is composed. Suppose you point and say, "Let this object be called 'Wazam'." With others, Thomasson holds that some content is required to disambiguate the *kind* of thing you mean to name—whether the statue, lump, or atoms.[10] Perhaps it makes a difference if your ceremony occurs in a museum, a pottery class, or chem lab. But her point remains: explicitly or implicitly, a kind or category is required to identify the object named. Then the contents with the causal chains are sufficient to identify the objects. Thus names are associated with the kind or category as content. One reply is that, even though categories are part of the semantic story by which names contribute objects to propositions, names do not retain an association with those categories as contents (see Schaffer, 2009, pp. 144–5). But there may be reasons to resist this suggestion. To borrow a story from Roy (2000, p. 73), suppose someone overhears in a market, "Quine is very good" and takes it as an evaluation of some Australian wine; upon remarking to his wife at a later time that he would "try to pick up some Quine" he will surely not have succeeded in referring to Quine—despite his intention to use the word the way it was used by those from whom he heard it. The case is hardly decisive, but suggests at least constraints on contents associated with use of the term for successful reference (see also Thomasson, 2007, pp. 42–3).

According to Thomasson, these categorical concepts establish "frame-level" application and coapplication conditions for terms (2007, pp. 38–44). So, for example, application conditions may fail in an attempt to designate a statue or lump in the presence of a hologram or mirage just insofar as there is no lump or statue to be named. And coapplication conditions under which terms are reapplied to a thing may diverge, say for the statue and the lump—as when the statue is smashed into a ball, and the lump continues to exist but the statue does not. In the ordinary case, application and coapplication conditions are fulfilled when things and their parts have the right properties. However, at some fundamental level, such conditions need not depend on *things*, but may be fulfilled just by the *way the world is*; so a condition F may be fulfilled when "it

is *F*(ing)"—as "it is raining" is true without any object as the referent of "it" (Thomasson, 2007, p. 41; 2008, pp. 69–70; compare O'Leary-Hawthorne and Cortens, 1993).

In Thomasson's hands, these considerations have far-reaching consequences. Consider negative existence claims. A direct reference theory faces a standard difficulty with "Sherlock Holmes" in "Sherlock Holmes does not exist" insofar as there is no Holmes to contribute to the proposition that he does not exist. A natural proposal is that "Sherlock Holmes does not exist" is true when the causal chain reaching from "Sherlock Holmes" ends in a "block" (e.g., Donnellan, 1974). But Thomasson observes that this notion of a "block" is not entirely clear. One can imagine encouraging a child, who wonders if Holmes still exists after going over the Reichenbach falls in "The final problem," not to despair, as he is not gone and returns in the next story. On Thomasson's view, we properly say an object does not exist when a chain does not terminate in an object *of the appropriate kind*. So there is no *person* Holmes but there is the fictional character. And we are left with a corresponding condition for things there are: if application and coapplication conditions for terms are satisfied, then there are the corresponding objects, whether Holmes, the Eiffel Tower, or Quine. And the existential quantifier has a natural substitutional interpretation: $\exists x(\Phi)$ is true just in case Φ is true in some substitution instance given application and coapplication conditions for some (possible) term (2007, pp. 45–8, 110–25). Thomasson is especially concerned to distance this view from an antirealism on which objects exist only given our language, conventions, or concepts. There are objects corresponding to satisfied application and coapplication conditions—but such conditions might be satisfied (to the extent that they are not conditions on humans) even where there are no humans at all.

There are also modal consequences. Thomasson argues, against Quine (1980c), for analytic entailment. So, for a simple case, anything that is a house is a building. And, more importantly, there may be analytic entailment from and to contents associated with application and coapplication conditions. So, van Inwagen (1990) notoriously argues that there may be "simples arranged table-wise" without tables (for discussion, see Blatti in this volume). But Thomasson holds that satisfaction of application and coapplication conditions for simples arranged tablewise analytically entails satisfaction of application and coapplication conditions for tables. So necessarily, if there are simples are arranged tablewise, there is a table.[11,12] Thus the analytic entailments have modal consequences. Perhaps, then, it follows from coapplication conditions that a certain statue is not possibly smashed into a ball. On this account then, the modal property of the statue has no "substantive" truth-maker in the world—it is rather an artifact of the conditions under which the object is identified and reidentified. Thus Thomasson has an easy answer to the "grounding" problem. The worry is that the statue and lump, say, are composed of all the same atoms yet

differ in modal properties—where the lump is possibly smashed into a ball, but the statue not. But the problem goes away, if it is not the world but rather differing conditions of application and reapplication that are the source of the properties.

Given this much background, consider a metaphysical debate about whether there is some object, say, a table. Your friend (a commonsensical chap) says it exists, and you (a mereological nihilist) say that there are simples arranged tablewise but no table. If "table" is used in different senses, there is no disagreement. So suppose you both use the term under the same application conditions. But, says Thomasson, given application conditions for "table," if there are simples arranged tablewise, it is immediate that there is a table. So your nihilist position is unstable. Your natural reply is that there may be simples arranged tablewise without a unified *thing* or *object* they compose. But Thomasson does not think this generic claim about "things" can revive the question; and explores three attempts to make sense of the generic "thing" or "object." First, "thing" and "object" may be used against the background of implied sorts or categories. In this case, questions about things or objects are answerable, but return us to a situation like the one before. If tables are among the sorts that are things, it is immediate that simples arranged tablewise are things. But if there are (as Dr. Seuss would say) things1 and things2 associated with different sorts and so different application conditions—where you say there are no things1 and your friend that there are things2—there is nothing about which you disagree. Second, "thing" and "object" have a covering use. In this case, "object" or "thing" is used as a placeholder for a sortal term, and apply in case some sortal term does (this has an effect like the substitutional quantification described above). But this leaves no room to deny that there is a table on the ground that nothing is composed by the simples—for, again, if simples are arranged tablewise then there is a table and therefore a thing. So far, then, you have not denied that there is a table.

Thomasson thinks hope for metaphysical debate depends on a third, purely neutral use of "thing" or "object." This use should not collapse into a covering or sortal usage; rather, it is to be sortally neutral. But this, she thinks, is a dead end.

> The method [we have seen] for understanding the truth-conditions for existence claims gives us reason to think that existence questions stated using such a "neutral" use of "thing" or "object" are defective and unanswerable questions. For on that view, existence claims of the form "there is a P" or "P(s) exist" are true just in case the frame-level application conditions for the term "P" are fulfilled in the grounding situation(s). But "thing" and "object" on the neutral use are not supposed to have application conditions . . . If "thing" and "object" do not have application conditions, we cannot evaluate

the truth of simple existence claims stated using these terms (such as "there is an object" or "some thing exists") by considering whether or not these application conditions are fulfilled. (2009, p. 461)

The problem is not merely epistemological, but apparently rather that things themselves answer to application and coapplication conditions—so that an attempt to identify or quantify over objects apart from such conditions is essentially incomplete.

Thus we are left with the "easy" answer to metaphysical questions: as long as the application conditions for "table" are met (and they are, at least in many cases) there are tables! And the nihilist position does not even get off the ground—its apparently controversial questions either fail to be controversial or remain unanswerable because they are ill formed.

Sider Again

Return to Sider's (2009) view that EXISTENCE is a property that tracks the structure of the world. "Serious metaphysicians" who argue about tables and simples arranged tablewise thus argue about the extension of EXISTENCE. But this debate may rush to the answer before the question.

Suppose we require as a necessary condition on EXISTENCE,

> EX Things contribute to EXISTENCE only if they, together with other relevant aspects of the world, are truth makers for Thomasson-style application and coapplication conditions (including modal conditions) for terms that designate them.

From the above discussion of Hirsch, something like this seems to match what many serious metaphysicians have in mind. Suppose *being a table* has EXISTENCE; then some object satisfies application and coapplication conditions, including modal conditions, for "table"; so $\exists x(x$ is a table) on a sortal or substitutional account of the quantifier uncontested by Thomasson. But according to Thomasson, tables are not truth-makers for modal properties; so on her view it is not the case that *being a table* has EXISTENCE; so according to Thomasson, $\sim\exists x(x$ is a table). Thomasson thus combines a "serious nihilism" on which no things are truth-makers for modal properties, with "ordinary" (or "lightweight") universalism on which there are things to meet arbitrary satisfied application and coapplication conditions, and modal features are an artifact of those conditions. Suppose $\exists xs$(the xs are simples arranged tablewise). Then, conditions for the ordinary claim that there are simples arranged tablewise are satisfied; and (let us agree) it follows that there is a table. But it does not follow that $\exists x(x$ is a table). On Thomasson's account, analysis of ordinary claims does not extend to quantified ones, insofar as such analyses do not extend to the required truth-makers

for EXISTENCE. And modal features of the simples do not imply modal features of the table—for this is just a version of the grounding problem. So there is room for a philosopher to accept one of ∃xs(the xs are simples arranged table-wise) or ∃x(x is a table) but not the other.

We come neither to praise some serious ontological view nor to bury it. Rather, the point is that one may have such views and disagree about them. Indeed in doing metaphysics, as for Hirsch and Thomasson, it is difficult to avoid staking out serious metaphysical positions. Roughly, for the views we have considered in this section, deflationism is motivated when differences about necessary features of the world get "washed out" by language. To the extent that such disagreements are recovered, disagreement about serious ontological claims arises in just the way one might expect. So, if Thomasson is right, we may take it as data that there are simples arranged tablewise and tables in the ordinary sense, but need a theory about whether to accept ∃x(x is a table). At this stage, we are thrown back on considerations of the sort Quine and Sider raise about the nature of the world. (Observe also that we have so far been able to make sense of metaphysical debate on the basis of Thomasson-style sortally based quantification. But, on the face of it, it seems natural for us to think that the serious metaphysician is equipped to understand a neutral sort as well, insofar as objects have their properties apart from application and coapplication conditions.)

Experimental Metaphysics

If metaphysicians can't reach an agreement on many of the most important issues in metaphysics, perhaps there is something wrong with the intuitions that under-gird our belief in those things. In the last decade or so, a number of philosophers have attempted to test experimentally philosophical intuitions, mainly those of laypeople (see in particular the papers in DePaul and Ramsey, 1999; Knobe and Nichols, 2008; along with Appiah, 2008). The methods used by these philosophers are most commonly associated with those of empirical disciplines like psychology and sociology. Many of these experiments have been in epistemology and ethics, though some have come in the realm of metaphysics. This movement has come to be known as "experimental philosophy," and we'll call the application of its methods to metaphysical topics "experimental metaphysics."

Experimental results

Experimental metaphysics has yielded a number of interesting findings. Here are four.

There are framing effects in subjects' intuitions concerning compatibilism and incompatibilism (Knobe and Nichols, 2007)

In an experiment run by Knobe and Nichols, subjects are given a description of a universe in which determinism holds. This is designated "Universe A" in the experiment. The subjects then are presented with one of the following two questions:

(1) In Universe A, a man named Bill has become attracted to his secretary, and he decides that the only way to be with her is to kill his wife and 3 children. He knows that it is impossible to escape from his house in the event of a fire. Before he leaves on a business trip, he sets up a device in his basement that burns down the house and kills his family. Is Bill fully morally responsible for killing his wife and children?

(2) In Universe A, is it possible for a person to be fully morally responsible for their actions?

The first question involves much more in the way of concrete detail designed to elicit an emotional response than the second question does. In response to the first question, 72% of subjects said Bill was responsible for killing his family. In response to the second question, 86% of people answered "no." Knobe and Nichols give further experimental evidence that indicates the different responses are caused by different cognitive processes associated with each question: the first question gives rise to emotions that the second, more theoretical, question doesn't. It is the presence of these emotions that explains the ascription of responsibility and the acceptance of compatibilism in the first case; and it is the absence of these emotions that explains the negative answer given to the second question, and the acceptance of incompatibilism in the second case.

Again, there are framing effects in subjects' intuitions concerning compatibilism and incompatibilism (Nahmias et al. 2007)

Nahmias et al. (2007) gave their subjects one of two hypotheses. Either they were given the scenario stated below with psychologically "non-reductionist language" (in brackets) or in "reductionist language" (without brackets).

Most respected neuroscientists [psychologists] are convinced that eventually we will figure out exactly how all of our decisions and actions are entirely caused. For instance, they think that whenever we are trying to decide what to do, the decision we end up making is completely caused by the specific chemical reactions and neural processes [thoughts, desires, and plans] occurring in our brains [minds]. The neuroscientists

[psychologists] are also convinced that these chemical reactions and neural processes [thoughts, desires, and plans] are completely caused by our current situation and the earlier events in our lives, and that these earlier events were also completely caused by even earlier events, eventually going all the way back to events that occurred before we were born.

So, if these neuroscientists [psychologists] are right, then once specific earlier events have occurred in a person's life, these events will definitely cause specific later events to occur. For instance, once specific chemical reactions and neural processes [thoughts, desires, and plans] occur in the person's brain [mind], they will definitely cause the person to make the specific decision he or she makes.

The subjects then were asked if individuals in the situation described were free or responsible for their actions. Roughly 40% of the subjects given the "reductionist" scenario said that individuals in the situation described were free/responsible for their actions, while roughly 85% of those given "psychological" language said that individuals in the situation described were free/responsible for their actions (p. 227).

There are framing effects in subjects' intuitions concerning personal identity.
(Nichols and Bruno, 2010)
Bernard Williams (1970) argues that our intuitions concerning personal identity are affected by the way different thought experiments are framed. Nichols and Bruno take Williams' article as a starting point for their own investigation of the effects of framing on subjects' intuitions about personal identity. They are able to show that one can elicit either intuitions that favor psychological continuity as necessary for personal identity or bodily continuity as sufficient for personal identity, depending on the sorts of scenarios one gives subjects. They are also able to show that intuitions that personal identity requires psychological continuity are more robust than intuitions that personal identity involves bodily continuity.

Personality traits predict one's intuitions with respect to incompatibilism and compatibilism
Feltz and Cokely (2009) have shown that extraversion in personality type predicts compatibilist intuitions. To demonstrate this, they gave subjects a scenario nearly identical to the psychologically non-reductionistic scenario in Nahmias et al. (2007). Subjects who tested as high on extraversion on the Big 5 personality inventory were more likely to be compatibilists. Those who tested low on extraversion were more likely to be incompatibilists.

Experimental consequences

All of these results might be thought to lead to a sort of skepticism about the intuitions that provide justification for philosophers' metaphysical beliefs. These results seem to show intuitions shot-through with irrationality. However, we don't think the traditional metaphysician has any significant cause to worry. First, it's not at all clear to us how much epistemic force the intuitions and views of the *hoi polloi* should have on the confidence with which philosophers' hold their own philosophical views. Philosophers have spent a great deal of time thinking carefully about issues in metaphysics (among other areas).[13] The presence of irrational metaphysical belief in non-philosophers is a sociologically and psychologically interesting fact. But any inference to irrationality in philosophers' metaphysical beliefs is illicit. This isn't to say that philosophers aren't or can't be irrational in the way they hold their metaphysical positions. Of course they can be.

Second, it is worth noting that in each of our cases above, it is the philosopher *qua philosopher* who determines what is and isn't an appropriate way to form metaphysical beliefs.[14] It is the philosopher who notes that the way questions are framed shouldn't affect our judgments concerning personal identity or the truth of compatibilism or incompatibilism. It's the philosopher who notes that if a personality type is causing one's philosophical belief, an epistemically defective belief-producing process is operative. It's not true a priori that philosophers are rational. But any sort of argument from results in experimental philosophy to a thoroughgoing skepticism about the epistemic value of our intuitions risks self-defeat.

Third, suppose that all of the above-mentioned results had been shown to hold in philosophers, rather than in ordinary non-philosophers. It's not at all clear that these results would give us any more reason for skepticism in metaphysics than we already had. We already knew that there is deep and widespread disagreement among those very well-situated epistemically (or so it would seem) regarding such diverse issues as the nature and existence of properties, relations, numbers, and possible worlds; the existence of God; the nature of composition; the nature of the mind; the nature of time; and the nature of ordinary material objects. We knew that many people persist in their metaphysical views in spite of the fact that they acknowledge there are people better-situated epistemically than they with respect to many of their views (witness, e.g., the esteem in which David Lewis is held and the number of philosophers who have adopted his views on the nature of possible worlds). We knew that the views a philosopher winds up holding are influenced greatly by the views of one's teachers (in a way not dissimilar from the way geography plays a significant role in the religious views a person winds up holding). We don't think that these factors from within

the discipline of metaphysics (and philosophy more broadly) should incline one toward skepticism about one's metaphysical beliefs. Yet they seem to us a much more powerful reason for skepticism than results in experimental metaphysics are.

Finally, while such considerations may induce a sort of philosophical caution, it is not clear what significance they have for *method* as such. Observe that much metaphysical discussion is driven by data of the sort, "spiders share some of the anatomical features of insects" and "there is a table"—neither controversial, nor called into question by experimental results. Further, on the standard account, a metaphysic does not result directly from intuition, but rather from *theories* to account for data. There may, of course, be divergent intuitions about which theories best account for data or even what data must be accounted for. However, the overall picture moves philosophical metaphysics from direct dependence on intuition about what there is, to a potential for reasoned debates about explanatory power.

A Modest Proposal[15]

If we are correct, some proposed new directions for metaphysics are wrong turns. Even so, we are left with the original concern that ordinary metaphysics leads only to a messy pileup or dead end. We are left with deep and widespread metaphysical disagreement. We have argued that one shouldn't think that central metaphysical disputes are chimerical, at least not in the way Hirsch and Thomasson propose. We also have argued that experimental metaphysics at best doesn't pose a problem for traditional metaphysics, and at worst poses no worse problem than the traditional metaphysician already had. How should one think of the state of metaphysics, then?

We think that contrary to the views of some, a great deal of progress has been made in metaphysics. It is true that as metaphysics has progressed, metaphysicians haven't come to consensus in the way scientists have come to consensus on many of the central questions in science. But we have a much better view of logical space than we had a hundred years ago (with Russell's seminal work in analytic metaphysics), or three hundred years ago (at the height of the flowering of modern metaphysics), or in the time of Plato and Aristotle. Consider, for instance, philosophical debate around the nature of abstracta. As a result of the work of philosophers such as David Lewis (1986, 1999a), David Armstrong (1978, 1989, 1997), Alvin Plantinga (1974), Peter van Inwagen (2001, 2004), and Roderick Chisholm (1976, 1989), we have a much more robust idea of what properties, relations, propositions, and possible worlds might be like. It is true that we have no consensus as to what any of these things are. But as a result of the work of these philosophers, we are able to see more clearly the

layout of logical space. This is real philosophical progress, we submit. This sort of progress has been made in many areas of metaphysics: compatibilism and incompatiblism, realism and anti-realism, the nature of space and time, and the nature of ordinary material objects.

It would be naïve to expect or hope for anything like the sort of consensus one sees in science. But we do hope and expect that metaphysicians will continue to illuminate options for possible answers to longstanding metaphysical problems.[16]

Notes

1   Here we mean to commit ourselves only to the thesis that truth supervenes on being. In particular, truth supervenes on what things there are and the properties and relations they instantiate. (See Bigelow, 1988, p. 133; Lewis, 1999a, pp. 206–7; 2001; and Merricks, 2007 for discussion).

2   Indeed, Quine thought the confusion of use and mention was the source of many ontological sins, particularly in the work of Russell.

3   That is, he rejects possible worlds as most philosophers think of them. In Quine (1969, pp. 147ff.) he suggests (if one really wants to countenance the existence of possible worlds) that one might take possible worlds to be sets of quadruples of real numbers representing objects' occupying regions of spacetime.

4   To be fair, van Inwagen does think that various (controversial) things follow from the fact that properties are things that can be said-of an object: They can exist when not instantiated, they exist necessarily, they can't be parts of physical objects, they can't be sensed, physical objects aren't bundles of them, existence is a property, and there are haecceities.

5   For further discussion see also Thomasson's excellent discussion of Quine's method in this volume, van Inwagen (2009) and Cameron (2008).

6   Though it's worth noting that many of the important ideas in Carnap (1950) may be found in Quine (1980a).

7   There are different replies to reasoning of this sort. A direct response is that one side in a metaphysical debate does not always have equivalents to offer the other. Hirsch considers a response of this sort for platonism and nominalism (2009, pp. 252–6 and other places).

8   Arguments of this sort appear in Hirsch as well—though he does not argue from reference. See, for example, Hirsch (2002a).

9   Though see Loar (1976) and Jackson (1998) for dissenting views.

10 Compare to Wiggins' (1967) discussion of reference under a sortal.

11 Thomasson finds in such considerations reason to reject the 'only' part of the constraint from Quine's criterion Q1. For, 'Quine's test for ontological commitment ignores the fact that there are often implicit commitments to certain kinds of entities even where we are not yet quantifying over them' (2007, p. 167). But either we accept the analytic entailments or not. If not, as Thomasson acknowledges, the threat to Q1 goes away. But if we accept the entailments, surely they should be part of our best theories—so that if a theory is committed to simples arranged tablewise, and from this there must be a table, our theory is thereby committed to the existence of the table. So the threat to Q1 is not clear.

12 Compare to the two-tier theory of the necessary a posteriori in places like Davies and Humberstone (1980), Tichy (1983) and Sidelle (1989).

layout of logical space. This is real philosophical progress, we submit. This sort of progress has been made in many areas of metaphysics: compatibilism and incompatiblism, realism and anti-realism, the nature of space and time, and the nature of ordinary material objects.

It would be naïve to expect or hope for anything like the sort of consensus one sees in science. But we do hope and expect that metaphysicians will continue to illuminate options for possible answers to longstanding metaphysical problems.[16]

Notes

1   Here we mean to commit ourselves only to the thesis that truth supervenes on being. In particular, truth supervenes on what things there are and the properties and relations they instantiate. (See Bigelow, 1988, p. 133; Lewis, 1999a, pp. 206–7; 2001; and Merricks, 2007 for discussion).

2   Indeed, Quine thought the confusion of use and mention was the source of many ontological sins, particularly in the work of Russell.

3   That is, he rejects possible worlds as most philosophers think of them. In Quine (1969, pp. 147ff.) he suggests (if one really wants to countenance the existence of possible worlds) that one might take possible worlds to be sets of quadruples of real numbers representing objects' occupying regions of spacetime.

4   To be fair, van Inwagen does think that various (controversial) things follow from the fact that properties are things that can be said-of an object: They can exist when not instantiated, they exist necessarily, they can't be parts of physical objects, they can't be sensed, physical objects aren't bundles of them, existence is a property, and there are haecceities.

5   For further discussion see also Thomasson's excellent discussion of Quine's method in this volume, van Inwagen (2009) and Cameron (2008).

6   Though it's worth noting that many of the important ideas in Carnap (1950) may be found in Quine (1980a).

7   There are different replies to reasoning of this sort. A direct response is that one side in a metaphysical debate does not always have equivalents to offer the other. Hirsch considers a response of this sort for platonism and nominalism (2009, pp. 252–6 and other places).

8   Arguments of this sort appear in Hirsch as well—though he does not argue from reference. See, for example, Hirsch (2002a).

9   Though see Loar (1976) and Jackson (1998) for dissenting views.

10   Compare to Wiggins' (1967) discussion of reference under a sortal.

11   Thomasson finds in such considerations reason to reject the 'only' part of the constraint from Quine's criterion Q1. For, 'Quine's test for ontological commitment ignores the fact that there are often implicit commitments to certain kinds of entities even where we are not yet quantifying over them' (2007, p. 167). But either we accept the analytic entailments or not. If not, as Thomasson acknowledges, the threat to Q1 goes away. But if we accept the entailments, surely they should be part of our best theories—so that if a theory is committed to simples arranged tablewise, and from this there must be a table, our theory is thereby committed to the existence of the table. So the threat to Q1 is not clear.

12   Compare to the two-tier theory of the necessary a posteriori in places like Davies and Humberstone (1980), Tichy (1983) and Sidelle (1989).

13 The claim that philosophers are expert intuiters of matters epistemic and metaphysi-
cal is more fully explored in Williamson (2007).

14 The same goes for results in experimental ethics and experimental epistemology.

15 We suspect that however much disagreement there might be about the nature of our
proposal, there will be widespread agreement that our proposal is quite a bit more
modest than that of Jonathan Swift.

16 We'd like to thank Gordon Barnes and Tom Crisp for discussion of these issues.

References

Appiah, A. (2008), *Experiments in Ethics*. Cambridge: Harvard University Press.

Armstrong, D. (1978), *A Theory of Universals*. Cambridge: Cambridge University Press.

—(1989), *Universals: An Opinionated Introduction*. Boulder, CO: Westview Press.

—(1997), *A World of States of Affairs*. Cambridge: Cambridge University Press.

Bigelow, J. (1988), *The Reality of Numbers: A Physicalist's Philosophy of Mathematics*. Oxford: Oxford University Press.

Blatti, S. (2012), "Material constitution." This volume.

Cameron, R. (2008), "Truthmakers and ontological commitment: or how to deal with complex objects and mathematical ontology without getting into trouble." *Philosophical Studies*, 140, 1–18.

Carnap, R. (1950), "Empiricism, semantics and ontology." *Revue Internationale de Philosophie*, 4, 20–40. Reprinted in many places, including Carnap (1956), *Meaning and Necessity*. Chicago: University of Chicago Press, pp. 205–21.

Chisholm, R. (1976), *Person and Object*. London: George Allen and Unwin.

—(1989), *On Metaphysics*. Minneapolis: University of Minnesota Press.

Davies, M. and Humberstone L. (1980), "Two notions of necessity." *Philosophical Studies*, 38, 1–31.

DePaul, M. and Ramsey, W. (1999), *Rethinking Intuition*. Lanham, MD: Rowman and Littlefield.

Donnellan, K. (1974), "Speaking of nothing." *Philosophical Review*, 81, 3–31.

Feltz, A. and Cokely, E. (2009), "Do judgments about freedom and responsibility depend on who you are? Personality differences in intuitions about compatibilism and incompatibilism." *Consciousness and Cognition*, 18, 342–50.

Hawthorne, J. (2009), "Superficialism in ontology," in Chalmers, D. Manley, D. and Wasserman, R., eds, *Metametaphysics: New Essays on the Foundations of Ontology*. Oxford: Clarendon Press, pp. 213–30.

Hirsch, E. (1993), *Dividing Reality*. Oxford: Oxford University Press.

—(2002a), "Against revisionary ontology." *Philosophical Topics*, 30, 103–27.

—(2002b), "Quantifier variance and realism." *Philosophical Issues*, 12, 51–73.

—(2005), "Physical-object ontology, verbal disputes, and common sense." *Philosophy and Phenomenological Research*, 70, 67–97.

—(2008), "Langauage, ontology, and structure." *Noûs*, 42, 509–28.

—(2009), "Ontology and alternative languages," in Chalmers, D., Manley, D., and Wasserman, R., eds, *Metametaphysics: New Essays on the Foundations of Ontology*. Oxford: Clarendon Press, pp. 231–59.

—(2011), "Introduction," in E. Hirsch, *Quantifier Variance and Realism: Essays in Metaontology*. Oxford: Oxford University Press.

Jackson, F. (1998), "Reference and description revisited," in J. Tomberlin, ed., *Philosophical Perspectives 12: Language, Mind, and Ontology*. Oxford: Blackwell, pp. 201–18.

Knobe, J. and Nichols, S. (2007), "Moral responsibility and determinism: the cognitive science of folk intuitions." *Noûs*, 41, 663–85. Reprinted in Knobe, J. and Nichols, S. (2008).

—(2008), *Experimental Philosophy*. New York: Oxford University Press.

Kripke, S. (1980), *Naming and Necessity*. Cambridge, MA: Harvard University Press.

Lewis, D. (1986), *On the Plurality of Worlds*. Oxford: Blackwell.

—(1999a), *Papers on Metaphysics and Epistemology*. Cambridge: Cambridge University Press.

—(1999b), "Armstrong on combinatorial possibility," in Lewis (1999a). Originally published in *Australasian Journal of Philosophy*, 70, 211–24.

—(2001), "Truthmaking and difference making." *Noûs*, 35, 602–15.

Loar, B. (1976), "The semantics of singular terms." *Philosophical Studies*, 30, 353–77.

McGrath, M. (2008), "Conciliatory metaontology and the vindication of common sense." *Noûs*, 42, 482–508.

Merricks, T. (2007), *Truth and Ontology*. Oxford: Oxford University Press.

Nahmias, E., Coates, J., and Karvan, T. (2007), "Free will, moral responsibility, and mechanism: experiments on folk intuitions." *Midwest Studies in Philosophy* 31, 1, 214–42.

Nichols, S. and Bruno, M. (2010), "Intuitions about personal identity: an empirical study." *Philosophical Psychology*, 23, 293–312.

O'Leary-Hawthorne, J. and Cortens, A. (1995), "Towards ontological nihilism." *Philosophical Studies*, 79, 143–65.

Plantinga, A. (1974), *The Nature of Necessity*. Oxford: Oxford University Press.

Quine, W. V. O. (1969), *Ontological Relativity and Other Essays*. New York: Columbia University Press.

—(1980a), "On what there is," in W. V. O. Quine, ed., *From a Logical Point of View*. Cambridge, MA: Harvard University Press, pp. 1–19.

—(1980b), "Two dogmas of empiricism," in W. V. O. Quine, *From a Logical Point of View*. Cambridge, MA: Harvard University Press, pp. 20–46.

—(1980c), "Reference and modality," in W. V. O. Quine, *From a Logical Point of View*. Cambridge, MA: Harvard University Press, pp. 139–59.

Roy, T. (2000), "Things and *de re* modality." *Noûs*, 34, 56–84.

Russell, B. (1985), "The philosophy of logical atomism," in D. Pears, ed., *The Philosophy of Logical Atomism*. Lasalle: Open Court, pp. 35–156.

Schaffer, J. (2009), "The deflationary metaontology of Thomasson's *Ordinary Objects*." *Philosophical Books*, 50, 142–57.

Sidelle, A. (1989), *Necessity, Essence, and Individuation*. Ithaca, NY: Cornell University Press.

Sider, T. (2009), "Ontological realism," in Chalmers, R., Manley, D., and Wasserman, R., eds, *Metametaphysics: New Essays on the Foundations of Ontology*. Oxford: Clarendon Press, pp. 384–423.

Thomasson, A. (2007), *Ordinary Objects*. Oxford: Oxford University Press.

—(2008), "Existence questions." *Philosophical Studies*, 141, 63–78.

—(2009), "Answerable and unanswerable questions," in Chalmers, R., Manley, D. and Wasserman, R. eds, *Metametaphysics: New Essays on the Foundations of Ontology*. Oxford: Clarendon Press, pp. 444–71.

—(2012), "Research problems and methods in metaphysics." This volume.

Tichy, P. (1983), "Kripke on necessity a posteriori." *Philosophical Studies*, 43, 225–41.

van Inwagen, P. (1990), *Material Beings*. Ithaca, NY: Cornell University Press.

—(2001), *Ontology, Identity, and Modality*. Cambridge: Cambridge University Press.

—(2004), "A theory of properties," in D. Zimmerman, ed., *Oxford Studies in Metaphysics*, vol I. New York: Oxford University Press, pp. 107–38.

—(2009), "Being, existence, and ontological commitment," in Chalmers, D., Manley, D., and Wasserman, R., eds, *Metametaphysics: New Essays on the Foundations of Ontology.* Oxford: Clarendon Press, pp. 472–506.

Wiggins, D. (1967), *Identity and Spatiotemporal Continuity.* Oxford: Blackwell.

Williams, B. (1970), "The self and the future." *The Philosophical Review*, 79, 161–80.

Williamson, T. (2007), *The Philosophy of Philosophy.* Oxford: Blackwell.