Ontological Commitment and Reconstructivism

Massimiliano Carrara
Dipartimento di Filosofia, Università di Padova, Padova (Italy)

Achille C. Varzi
Department of Philosophy, Columbia University, New York (USA)

Abstract. Some forms of analytic reconstructivism take natural language (and common sense at large) to be ontologically opaque: ordinary sentences must be suitably rewritten or paraphrased before questions of ontological commitment may be raised. Other forms of reconstructivism take the commitment of ordinary language at face value, but regard it as metaphysically misleading: common-sense objects exist, but they are not what we normally think they are. This paper is an attempt to clarify and critically assess some common limits of these two reconstructivist strategies.

1. Introduction

Ordinary language describes a world inhabited by entities of different sorts—people, tables, trees, smiles, heaps of sand, penalty kicks. We utter sentences such as

    (1)   There is a table in the kitchen
    (2)   There are deeds, such as a smile, that are worth a thousand words,

which contain explicit existential idioms and which therefore seem to commit us to the existence of corresponding entities (here: tables and deeds, such as a smile). Even without explicit quantification, the very use of a term (singular or general) naturally suggests the existence of a corresponding entity, as in

    (3)   The table is heavier than the sofa
    (4)   Her smiles hide a sarcastic mood.

Some would say that sentences such as these *imply* the existence of the entities named. Others would say that they *presuppose* the existence of those entities. Either way, the existential import would hardly be questioned.

1

One must, however, distinguish two sorts of issues here. On the one hand, it is not quite clear how (or whether) one can speak of the true "ontological commitment" of ordinary language, or of an ordinary-language speaker. It is a fact that ordinary sentences may have a deceptive grammatical form, and it is reasonable to argue (following in the footsteps of a tradition that goes back at least to Frege) that questions concerning ontological commitment only arise upon a suitable logical reconstruction. But how far can we push this reconstruction without changing the substance of ordinary language? And how feasible is the goal of an ontologically transparent language? On the other hand, assuming an adequate level to be available for the purpose of ontological analysis, the question arises of what kind of entities ordinary language is committed to. Let us suppose that the grammatical form of (1) coincides with its logical form. What sort of thing are we committing ourselves to when uttering (1)? Is the table an enduring physical object? An aggregate of molecules? A trope? A bundle of properties? A temporal stage of a four-dimensional entity?

These two sorts of issue—we submit—represent two different ways of thinking about the status of common-sense sentences such as (1) through (4) and our purpose in this paper is to clarify their relationships. We are not interested in the epistemic problem of accounting for "common-sense truths" (*à la* Moore). Rather, we are interested in the semantic problem of accounting for the truth conditions of common-sense statements—and consequently for their ontological underpinnings. And we are interested in this problem especially insofar as it arises within the prospects of a *revisionist* or *reconstructivist* account, i.e., an account which takes philosophy to be concerned with the task of providing a critical reconstruction of the naive image of the world which stems from common sense and ordinary language.

We shall distinguish two main sorts of reconstructivism. The first sort—which we call *linguistic reconstructivism*—takes seriously the idea that in order to assess the ontological commitment of ordinary-language sentences one must first exhibit their logical structure. The second sort of reconstructivism—which may be called *ontological reconstructivism*—stresses the necessity of providing a revision directly at the ontological level, a revision of the nature of the entities or of the kinds of entity which deserve a place in our inventory of what there is. Granting that tables exist—says the ontological reconstructivist—they might not be what we think they are. They might, in fact, be entities of a very different sort (for instance tropes, bundles of properties, etc.)

Our hypothesis is that the difference between these two strategies—the linguistic and the ontological sorts of reconstructivism—does not reflect dif-

ferent philosophical positions but, rather, different concerns. The linguistic reconstructivist views ordinary sentences as ontologically opaque; the ontological reconstructivist takes the ontological commitment of ordinary sentences at face value, but views them as misleading from a strictly metaphysical point of view (they disguise the true metaphysical make up of the entities they are about). In both cases, we will try to illustrate a common difficulty—namely, that the only way to account for the validity of a reconstruction is to confront it with our pre-analytical picture of the world, and that therefore one must be capable of attributing a meaning to those very manners of speech which the reduction is supposed to eliminate.

2. Linguistic Reconstructivism

Let us consider linguistic reconstructivism first. In general terms, this sort of reconstructive strategy might be seen as an extension of an analytic strategy that seems necessary anyhow to avoid the traps of grammatical form. Think of the silence of the Cyclops as Polyphemus was crying out for help:

(5)   Nobody is killing me!

Or consider the Russellian analysis of definite descriptions. A statement of the form

(6)   The king of France does not exist

is not about a (unique) object which is the king of France and which does not exist, even if it might seem so and even if some philosophers (Meinong, for example) supported this idea. In cases such as these, the grammatical form of a sentence or statement turns out to be deceptive for its semantic analysis. It turns out to be deceptive particularly when it comes to determining *what* the sentence is about, or even *whether* it is about anything at all, as in (6).

Now, precisely this sort of consideration seems to be at work, to a greater or lesser extent, also among philosophers dealing with ontological issues at large. Consider a philosopher who believes exclusively in the existence of subatomic particles (for example, because this belief complies with a good theory of the physical world, or for some other independent reason). For this philosopher a sentence such as (1) is, literally taken, not true. If all there is are microscopic particles, then macroscopic objects such as tables cannot be part of the furniture of the world—hence *a fortiori* there cannot be tables in the

3

kitchen. More generally, for a philosopher whose ontology comprises only subatomic particles, sentences that imply or presuppose the existence of other sorts of entity cannot be *literally true*. This does not mean that our philosopher must give up common sense and refrain from making sense of (1). If the kitchen is partly occupied by the sort of thing that we commonly term a table, she might actually assert (1). But she would warn that (1) is somewhat misleading, that its grammatical form is not ontologically transparent, and that only a suitable reformulation (for example, a reformulation that only mentions or quantifies over subatomic particles) would exhibit its proper truth conditions. Exactly as with sentences such as (5) and (6), the grammatical form of (1) would have to be suitably revised to avoid falling into ontological traps. At least this is what our philosopher would say if she is a linguistic reconstructivist.

To further clarify, it may be helpful to distinguish two brands of linguistic reconstructivism, which may be labeled the "revolutionary" and the "herme-neutic" brands (following Burgess and Rosen (1997)). According to the revolutionary brand, revising the grammatical form of a sentence like (1) amounts to replacing it with a more correct form. More generally, ordinary language is taken to involve a number of serious ontological errors and one important task of philosophy would be to correct those errors systematically, paraphrasing the problematic sentences in some suitable way, assigning new meanings to specific words or new logical forms to entire clauses. For example, sentence (1) could be paraphrased as

(1')   There are xs in the kitchen, and such xs are arranged tablewise,

where the bound variable ranges over the accepted entities (whatever they are—for example, subatomic particles). Sentence (1') may of course be false. But if the kitchen contains one of those things that we commonly call 'tables', then (1') will be true even if the original sentence (1) would, strictly speaking, be false.

It is worth emphasizing that this sort of reconstruction does not necessarily imply that one give up the *use* of sentence (1) to express the proposition that there is an instance of what we usually call a 'table' in the kitchen. The reconstructivist can make use of this and similar sentences of ordinary language. But she will regard them as loose *abbreviations* of the sentences (ontologically impeccable but admittedly clumsy and more complex) of the regimented language. In this way she will be in a position to carry on speaking with the vulgar. For if the need arises, she can always make it clear that she does not really mean (and she should not be held responsible for the strict and literal consequences

4

of) what she is saying; what she *really* means is . . ., and here she will produce the relevant paraphrase.

In the philosophy of mathematics this strategy is rather common. It is well exemplified by certain nominalistic programs where quantification over numbers is reformulated as quantification over token numerals, spacetime points, or some other sort of particulars. But it is not difficult to find examples of this strategy in other philosophical areas as well. For a concrete illustration, here is a quote from the nominalist-materialist philosopher featured in a famous dialogue by David and Stephanie Lewis:

> I did say that there are holes in the cheese; but that is not to imply that there are holes. [. . .] When I say there are holes in something, I mean nothing more nor less than that it is perforated. The synonymous shape-predicates '. . . is perforated' and 'there are holes in . . .'—just like any other shape-predicate, say '. . . is a dodecahedron'—may truly be predicated of pieces of cheese, without any implication that perforation is due to the presence of occult, immaterial entities. (Lewis and Lewis 1970, p. 207.)

Notice that we are not just dealing with simple rewriting operations. When we say that a sentence such as

(7)   There are good probabilities that John will be here for dinner

can be rewritten as:

(7')   It is quite probable that John will be here for dinner

we are showing that we need not commit ourselves to the existence of individual probabilities. But this only requires that we regard the quantifier in (7) as part of the idiomatic locution *there are good probabilities that* . . . , a locution which operates as a propositional connective exactly like *it is quite probable that* . . . in (7'). By contrast, in the sort of reconstruction under examination a paraphrase expresses a genuine revision, as in (1'). In some cases this may even require changing the logical form of the relevant sentence, as in

(8)   There are holes in that piece of cheese,

which becomes

(8')   That piece of cheese is perforated.

In short, this kind of reconstruction is not merely a stylistic reformulation but a substantive change—sometimes a change that is by no means trivial. And the

5

revolutionary reconstructivist is urging to go along with it. The Manifesto could read: *Philosophers have hitherto tried to understand language; now it is time to change it.*

The hermeneutic brand of linguistic reconstructivism works differently. If our philosopher is a hermeneutic reconstructivist, she will not demand any radical changes in our linguistic practices. She will not even revise or otherwise qualify her own practices: ordinary language is perfectly fine as is, *as long as we interpret it the right way*. For example, it is true that there is a table in the kitchen—she will say—for this is just a way of saying that there are some *x*s (here: subatomic particles) which are arranged tablewise in the kitchen. So sentence (1) would be false on a literal reading, but it would be true when interpreted more accurately, i.e., when interpreted as meaning the same as (1'). And for the hermeneutic reconstructivist this interpretation *is the only correct one*. As it happens, none of us really wants to say what we actually say; what our words *deep down* really mean (what they have meant all along) is . . . , and here follows a paraphrase.

On the hermeneutic strategy, then, the reconstruction is understood as a charitable reinterpretation, a "deep" analysis of what words assert at a "superficial" level. (The analysis may not be unique, so different implementations of the strategy are in principle possible.) Ordinary-language sentences are still viewed as abbreviations of philosophically accurate sentences; but unlike the revolutionary reconstructivist, the hermeneutic reconstructivist regards these abbreviations as part of the data to be interpreted. The case of (1), and possibly also (2) and (8), is in this sense comparable to that of

(9)   There is half a professor on every 10 students.

Surely the truth of this statement does not require the existence of such things as half professors. (9) can be true insofar as it expresses a ratio between the total number of professors and the total number of students:

(9')   The number of professors divided by the number of students is 0.5

or perhaps:

(9")   There are 1 professor and 20 students, or 2 professors and 40 students, or . . .

The phrase 'half a professor' has no autonomous meaning.

The revolutionary and the hermeneutic brands of reconstructivism are thus not quite the same. They embody different attitudes towards the nature of natu-

ral language. They do, however, share a common fundamental feature with regard to the issue of ontological commitment. It is this: for the linguistic reconstructivist *the truth conditions of an ordinary-language sentence are determined by the truth conditions of the corresponding paraphrase, or analysis, and do not therefore require an independent ontology*. Alternatively, we may say that the linguistic reconstructivist requires ordinary-language sentences to be suitably construed *before* looking at their existential import. Philosophical analysis thus becomes linguistic paraphrase and results in a duplication of languages. On one side is the language in use, highly idiomatic but ontologically deceptive; on the other side is the regimented language, hardly speakable but ontologically transparent (or "intrinsically non-misleading", as Ryle (1931–32) put it).

3. Why Linguistic Reconstructivism Is Inadequate

Linguistic reconstructivism has been subjected to severe criticism. Suffice it to recall Kripke's remarks in his book on Wittgenstein. The reconstructivist—says Kripke—holds a position that conflicts with common sense. But

> rather than repudiating common sense, he asserts that the conflict comes from a philosophical misinterpretation of common language—sometimes he adds that the misinterpretation is encouraged by the "superficial form" of ordinary speech . . . Personally I think such philosophical claims are almost invariably suspect. What the claimant calls a "misleading philosophical misconstrual" of the ordinary statements is probably the natural and correct understanding. The real misconstrual comes when the claimant continues, "All the ordinary man really means is . . ." and gives a sophisticated analysis compatible with his own philosophy. (Kripke 1982, p. 65)

Here Kripke is referring to the hermeneutic brand of reconstructivism, but similar considerations would apply to the revolutionary brand: a reconstrual that departs from common usage is highly suspicious.

To some extent this criticism is ideological. Reconstructivism is viewed with suspicion because it is "unnatural", and naturalness is assumed to be a major desideratum. However, we may also take Kripke's remark as the onset of a more substantive criticism. By what criteria does the claimant feel entitled to reveal "all the ordinary man really means"? Or (if she is a revolutionary reconstructivist) by what criteria does the claimant feel entitled to change the meaning of what she says? Indeed, whether or not one is willing to stick to ordinary lan-

guage for the purpose of philosophical discourse, it is a fact that the only way one could ultimately evaluate the success of a linguistic paraphrase is by testing it against our pre-analytical intuitions, by comparing it with the image of the world as educated common sense deliver it through ordinary language. In order to analyse and eventually paraphrase a sentence it is first necessary to understand it—to attach a meaning to it. And this calls for a corresponding ontology. It is necessary to understand (1) before we can paraphrase it as (1'). It is necessary to understand (8) before we can assess the adequacy of a paraphrase such as (8'). Otherwise, why should one speak of "reconstruction"? How could one choose among conflicting alternatives?

One might, of course, object that reference to ordinary language is not crucial here, since what really counts is the global coherence of the regimented language. In this sense, the validity of the language of a scientific theory—for example: a theory of subatomic particles—is to be measured not in relation to some unspecified ordinary practice, but in terms of the adequacy to the overall scientific model. This may be a legitimate line of reply. But then we are not talking about linguistic reconstructivism anymore. Reconstructions would not be paraphrases or analyses *of* something given but would become genuine statements of the theory in question.

Even if one accepted this line of reply, however, there are other serious problems for linguistic reconstructivism. Let us go back to the Rylean idea that there are "intrinsically non-misleading" paraphrases of ordinary language. On what grounds should we accept that? Why should we suppose that there are linguistic reconstructions that are not themselves vitiated by one's ontological views? On closer inspection, the very issue of *which* sentences must be paraphrased—let alone *how* they should be paraphrased—can only be addressed against the background of one's own philosophical inclinations. When Russell says that (6) must be paraphrased as

(6')   It is not the case that there is one and only one king of France,

i.e., as a negation of a quantified existential statement rather than a subject-predicate statement, it is because Russell holds that the latter form is incompatible with our "strong sense of reality". It is Russell's own ontological convictions that lead him through the search of an appropriate logical form for (6), not *vice versa.* So much so that a philosopher such as Meinong, for instance, might feel no need to intervene. For a Meinongian the grammatical form of (6) may very well express its logical form because for a Meinongian the king of France has ontological dignity. (We go along with the received doctrine here, though

Oliver (1999) has shown its limits.) From this point of view the linguistic reconstructivists find themselves in a spurious position. As Diego Marconi has pointed out,

> The analysis of a natural language becomes, in part, a sort of indirect ontology—a purely speculative enterprise in which, rather than directly theorizing our ideas about "what there is", we attribute them to natural language, and hence to the speakers of yesterday, today, and tomorrow. (Marconi 1979, p. 274)

If things are so, then why not just make all necessary choices at the very start and formulate our ontology *directly*? Why not build our semantic theory on the basis of the ontology that we regard as most adequate in its own right?

The linguistic reconstructivist will have to address other problems, too. One is simply that the success of the strategy—the completeness of a reconstruction providing suitable paraphrases *in all relevant cases*—is far from being guaranteed. The above-mentioned study by Burgess and Rosen gives a good demonstration of the enormous difficulties and complexities of the nominalistic enterprise of reconstructing mathematical discourse. But the problem arises in every case, even simple ones. Consider the Lewisian nominalist and the task of paraphrasing away holes from natural language. A sentence such as (8) is easily taken care of. And we may assume that the reconstructivist will do well even in more intricate cases, such as

(10)   There are seven holes in that piece of cheese.
(11)   One of the holes in that piece of cheese is doughnut-shaped.
(12)   There are as many doughnut-shaped holes in that piece of cheese as cookies on your plate.

(We leave this as an exercise for the reader.) But how far can one go with this strategy? How feasible is the project of paraphrasing every ordinary sentence that mentions holes (explicitly or implicitly) by a correspondingly articulated sentence about perforated objects? Casati and Varzi (1994) have argued that this *desideratum* is unsatisfiable, or at least enormously complex (like the nominalist's *desideratum* in mathematics). Moreover, as often happens the initial problem has many subtle ramifications. For example, the reconstructivist will have to explain how it is possible for a world with no holes to cause our cognitive system—and our language—to represent it as full of holes (if we may say so). What is the source of our erroneous representation? What is it that makes us speak *as if* to countenance holes in order to describe a holeless world?

These objections are especially challenging for the revolutionary brand of linguistic reconstructivism. But analogous considerations hold for the hermeneutic brand as well. The hermeneutic reconstructivist will insist that the ordinary use of the sentences such as (10)–(12) is misleading and that those sentences, if interpreted correctly, express propositions that do not commit the speaker to any holes of sorts. Likewise, a suitable construal of (1) may express a proposition that does not imply or presuppose that tables exist. The problem is that this explanation leads to a picture of natural language which is utterly implausible, if intelligible at all. Our language— the language that we have learned and made ours since our very first contacts with the surrounding world—would consist of sentences whose real meaning eschews us. It would consist of sentences that are only acceptable as loose talk. It would be a sort of metalanguage with regard to the regimented language of philosophy—the true language, the one that really expresses the ontological commitments of all of us *qua* natural language speakers. Is this an acceptable picture?

In fact, the hermeneutic account is worse off in this regard. The revolutionary reconstructivist always knows how to play her game, or so we may assume. When speaking the language of everyday life she can give expression in English to the fact that some stuff in the kitchen is arranged tablewise by asserting (1), but when speaking the language of philosophy she would assert the negation of (1). More generally, she can assent to (13) when loosely speaking, and to (14) when speaking strictly and literally:

(13)   There are tables.
(14)   There are no tables.

This may be confusing to some people, but the revolutionary reconstructivist will always know when is when, and she will be happy to explain. However, the hermeneutic reconstructivist does not have the same leeway. To the extent that (13) is to be interpreted (charitably) as (13'), (14) will have to be interpreted as (14'):

(13')   Some stuff is arranged tablewise.
(14')   No stuff is arranged tablewise.

And this is bizarre. After all, if one thinks that tables do not exist, then (14) seems to be a perfect way of expressing that view. Its paraphrase (14') is plainly false. So the only way out for the hermeneutic reconstructivist is to say that (14), unlike (13), is to be taken literally. But this, too, is bizarre. For then the distinction between grammatical form and logical form becomes utterly arbi-

10

trary, and there appear to be no criteria for discriminating the loosely true from the strictly true.

4. The Neutrality Thesis

One could also consider a third brand of linguistic reconstructivism, in addition to the revolutionary and the hermeneutic brands. One could maintain that the proposition expressed by an ordinary use of (1) is consistent *both* with the proposition that tables exist *and* with the proposition that tables do not exist. In this sense, one could argue that the reconstruction is ultimately consistent with common sense. For instance, following Hodes (1990) one could maintain that (1) carries a *thin* commitment to tables, but its *thick* commitment is to entities of a different sort, namely, those entities whose existence warrants the truth of (1), whatever they are (e.g., subatomic particles arranged tablewise).

A position along these lines is defended by Peter Van Inwagen (1990) (and, more recently, by P. Goggans (1999)). To illustrate, consider those of us who are not professional astronomers. They would easily assert a sentence such as

(15) It was cooler in the garden after the sun had gone down.

At the same time, consider a Copernican theorist who, during an exposition of her theory, asserts:

(16) The sun does not move.

According to Van Inwagen, these two assertions are not in conflict. They are not in conflict because the proposition expressed by the ordinary use of (15) is consistent with the proposition expressed by the Copernican use of (16). And the reason for this is that the proposition expressed by the ordinary use of (15) does not require, for its truth, anything more than what is required for the truth of a paraphrase of (15) in which talk of sun motion is replaced by talk of change of relative position between the sun and the earth. Such a paraphrase would be neutral between Ptolemaic and Copernican views. By analogy, then, just as the proposition expressed by the ordinary use of (15) is consistent with the proposition expressed by the Copernican use of (16), so the proposition expressed by the ordinary use of (1) would be consistent with the proposition expressed by the metaphysical use (and this is Van Inwagen's metaphysics) of (14), which says that tables do not exist.

11

Now, it seems to us that one can certainly agree with Van Inwagen as far the relationship between (15) and (16) is concerned. But how acceptable is the analogy with the relationship between (1) and (14)? As Van Inwagen himself concedes, ordinary utterances of (15) do at least seem to imply something inconsistent with the Copernican's statement of (16). So the point is: Why is it that in the case of (15) we are *not* inclined to take the statement literally?

One reason is that an ordinary speaker who asserts (15) knows that the heliocentric theory is true, even if she is not an expert in astronomy. Hence, when uttering (15) she would be asserting something that she knows to be false. This is why we are entitled to reinterpret (15) in a way that makes it consistent with the heliocentric theory: we are being *charitable*. ("The speaker couldn't possibly mean to say that the sun had moved! She was speaking loosely.") This seems the obvious explanation also in other cases proposed by Van Inwagen in support of his thesis. For instance, when we answer a question by saying "yes and no", or "it is and it isn't", we are not violating the principle of non-contradiction. For certainly we do not mean to say something that is, by our own lights, false. However, as Penelope Mackie (1993) has observed, if this is the right explanation in such cases, then it is of little use for Van Inwagen's attempt to exploit the analogy in support of the neutrality thesis. For there is no analogy. Ordinary speakers do not need to be astronomy experts to know that the sun doesn't move. But most people who assert common-sense sentences such as (1) are totally unaware of the metaphysical theories proposed by philosophers. So why should one reinterpret those assertions? "The speaker couldn't possibly mean to say that *there is a table* in the kitchen! She was speaking loosely. She meant to say that *there is stuff arranged tablewise* in the kitchen." What sort of charitable reading is this? This is plain misconstrual.

We think a similar fate awaits a second analogy proposed by Van Inwagen. Suppose that a group of pioneers arrive in the unpeopled land of Pluralia. From time to time they observe what seem to be large black tigers, and they come to refer to them by the term 'bliger'. Occasionally, the Pluralians say things such as

(17)   There is a bliger crossing that field.

One day a foreign zoologist arrives and discovers that bligers do not really exist. What the Pluralians call 'bligers' are just temporary combinations of six animals which, when seen from a distance, produce the illusion of a large and dangerous feline. The zoologist's discovery can be expressed by the sentence

(18)   There are no bligers.

But for Van Inwagen this does not mean that the Pluralians were speaking falsely when asserting (17):

> I am obviously not denying that there are occasions on which six animals arrange themselves in bliger fashion (as we might say). But it does not follow from this fact that there are bligers [. . .] Consider six animals arranged in bliger fashion; consider the region of space that they collectively occupy; there is no one thing that just exactly fills this region of space. (Van Inwagen 1990, p. 104).

In other words, for Van Inwagen the zoologist's discovery that there are no bligers is analogous to the metaphysician's discovery that there are no tables (but only, say, subatomic particles arranged tablewise).

Let us ignore the problem of what it means to say that there is "no one thing that just exactly fills" the region of space occupied by six animals when they are arranged bligerwise. (The mereological fusion of the six animals is, in a very precise sense, one single thing; see Casati and Varzi (1999) for details.) This new analogy is problematic regardless. For even if we accepted that the *language* spoken by the Pluralians is neutral with regard to the ontological status of bligers, their *beliefs* are not neutral. They believe that 'bliger' refers to a large feline, and they believe that such felines exist. Hence the philosopher would still deem it necessary to correct these beliefs. She can say that 'bliger' must mean something else (namely, such and such a combination of four monkey-like creatures, a sort of sloth, and a species of owl). Or she can say that deep down 'bliger' has always meant something else. Either way, we are back to the non-neutral sort of reconstructivism discussed earlier. Moreover, it is precisely because the zoologist's discovery goes *against* ordinary beliefs —namely, the belief that a bliger is a single animal—that it is possible to categorise it as the discovery of the non-existence of bligers. So if the metaphysical discovery that tables do not exist is indeed analogous to the discovery that bligers do not exist, then it follows that that discovery will be inconsistent with ordinary beliefs, namely, with the beliefs that there are tables and bligers.

5. Ontological Reconstructivism

The bliger analogy allows us to introduce the second kind of reconstructivism, the one that we have termed "ontological reconstructivism". We are thinking of

a sort of reconstruction that applies, not to the *nomina*, but to the *nominata*—not to the language we employ to talk about things, but to the things themselves. According to this view, ordinary language need not be massively corrected or reinterpreted, and neither is it ontologically neutral. The ontological reconstructivist will not deny that tables exist (for instance). Yet she will urge that tables are not what we normally think they are. Common sense and natural language represent tables as material continuants—three-dimensional material objects that endure through time. For the ontological reconstructivist they might, as a matter of fact, be entities of a different kind—for instance, four-dimensional hunks of subatomic particles, bundles of tropes, or what have you.

In a sense, this strategy coincides with the linguistic reconstructive strategy discussed so far. After all, to say that tables are not what we think they are, but rather hunks of subatomic particles (for instance), is to say that a sentence such as (1) is best understood as (1'), where the variable ranges over a domain of particles. Whether the paraphrase takes place at the linguistic or at the ontological level makes little difference, or so one could argue. However, there are also some peculiar aspects of this reconstructive strategy which add content to the distinction, at least as a matter of principle.

Consider a concrete illustration. A realist mathematician, who believes in the existence of the natural numbers, asserts

(19)   2 plus 2 equals 4.

What is her ontological commitment? Of course her thin commitment is to the natural numbers, at least to the numbers 2 and 4. But what is her thick commitment? What are the entities whose existence warrants the truth of (19)? Here is where the ontological reconstructivists step in. Depending on their view, we will learn that the actual commitment of the mathematician is a commitment to entities of some kind or other. Some may take natural numbers to be abstract particulars of an otherwise unspecified sort, whose essential properties are fixed by the Peano axioms. Others may construe them as classes, for instance classes of equinumerous sets (as in the Frege-Russell view). Still others will construe the natural numbers as cumulative sets—for instance as the members of the Zermelo series

(20) $\emptyset, \{\emptyset\}, \{\{\emptyset\}\}, \{\{\{\emptyset\}\}\}, \ldots$

For the working mathematician the choice among these options may well be a matter of convenience. But for the ontological reconstructivist the choice is serious metaphysical business.

Now, there are at least two problems with this picture. The first is simply that the number of available options is embarrassingly overwhelming. For example, among those who construe the natural numbers as sets, we must still distinguish those who construe them as the members of the Zermelo series in (20) and those who construe them as the members of the Von Neumann series:

(21)   Ø, {Ø}, {Ø, {Ø}}, {Ø, {Ø}, {Ø, {Ø}}}, . . .

And many other such constructions are possible—for instance along the following pattern:

(22)   Ø, {John}, {Ø, {John}}, {Ø, {John}, {Ø, {John}}}, . . .
(23)   Ø, {Mary}, {Ø, {Mary}}, {Ø, {Mary}, {Ø, {Mary}}}, . . .

All of these are progressions, i.e., infinite series each of whose members has only finitely many precursors. All satisfy Peano's axioms. What principled way can there be of saying *which* of them is the series of the natural numbers? Even assuming that we have good metaphysical reasons to say that numbers are sets, what metaphysical reasons could we offer in support of one option over the others? What principled reasons can be offered in favor of the claim that the number 2 mentioned in (19) really is the set {{Ø}} rather than the set {Ø, {Ø}} or the set {Ø, {John}}? As Paul Benacerraf (1965) has famously argued, this embarrassment of riches appears to undermine the claim that the natural numbers are sets at all. And we doubt that one can resolve the issue by construing numbers as *kinds* of sets, as urged e.g. by Jonathan Lowe (1998). For then we would still have to decide, for example, whether the "twos" are to include sets such as {Mary, John}, {Ø, John}, {Ø, {Ø}}, etc., or rather sets such as {{Ø}}, {{John}}, {{Mary}}, and the like. There are many eligible kinds of sets just as there are many eligible sets of a kind. (All of this has an analogue in the linguistic brand of reconstructivism. The reconstructivist who wishes to maintain that talk of numbers is a mere *façon de parler*—that talk of numbers is talk of sets in abbreviated form—will have to say which is the proposition truly expressed by a sentence like (19). The one obtained by interpreting '2' as an abbreviation for '{{Ø}}'? The one obtained by interpreting '2' as an abbreviation for '{Ø, {Ø}}'?)

It might be objected that this difficulty arises in the case of abstract entities such as numbers, but need not arise in the case of other entities such as tables and other objects of the garden variety. After all, it is usually on the basis of solid criteria that ontologists choose to construe such objects as entities of a

kind (say, four-dimensional hunks of subatomic stuff) as opposed to other kinds (enduring substances, bundles of tropes, or what have you). There is a second problem, though. For consider again the many different ways in which the natural numbers can be construed. We can distinguish two possibilities: either there is no constraint on what progression qualifies as the set of natural numbers (as Quine (1960) held), or there is some constraint. If the former is the case, then of course ontological reconstructivism doesn't even get off the ground:

> Arithmetic is, in this sense, all there is to number: there is no saying absolutely what the numbers are; there is only arithmetic. (Quine 1968, p. 198)

So let us assume that the latter is the case. For example, Benacerraf has insisted that a progression cannot qualify as the set of natural numbers unless the *less-than* relation under which its members are well ordered is at least recursive, and possibly primitive recursive. (All the series in (20)–(23) satisfy this requirement, but obviously there are some that do not.) Now what grounds are there for imposing constraints such as this? In Benacerraf's case, the reason is that we expect that if we know which numbers two numerals designate, we must be able to compute in a finite amount of time which one comes first in the progression. So the ordering relation must be recursive for the progression to be usable as the numbers. But this means that the constraint is determined by what the numbers are supposed to be. More generally, the criterion by which a progression can be rated admissible or inadmissible, as the case may be, is determined by certain properties which the natural numbers are supposed to have. And here lies the difficulty for the ontological reconstructivist. In connection with the linguistic variety of reconstructivism we have argued that the only way one could ultimately evaluate the success of a linguistic paraphrase is by testing it against our intuitions about the meaning of ordinary linguistic expressions. Now we find that the only way to evaluate the success of an ontological reconstruction is by testing it against our intuitions about the entities at issue. In both cases, then, to account for the validity of a reconstruction we must confront it with our pre-analytical picture of the world. And this means that we must be able to make sense of that picture in the first place.

Now this problem, unlike perhaps the previous one, does not only arise in the case of the abstract entities of number theory. It arises generally. The ontological reconstructivist who says that tables are four-dimensional hunks of subatomic particles arranged in such-and-such a way will have to justify her claim by showing that the reconstruction does not violate our intuitions about

tables. She will have to show that it "works". And this means that what tables "really" are is constrained, in a crucial way, by what they are in the intuitive ontology of common sense.

6. Conclusion

We have thus reached a point where the prospects of reconstructivism cloud up. If the issue is one of ontological or conceptual economy we may well rely on some kind of reconstruction to reduce the number of relevant categories (for instance, by assimilating numbers to sets and tables to bundles of particles). However, the multiplicity of solutions that lend themselves to the task leads to a stall. As Putnam (1987) put it, in that case "Occam's Razor doesn't know what to shave". If, by contrast, the issue is not merely one of economy, then it is the interplay between pre-analytical intuitions and regimented principles that reaches a worrisome stall. The common-sense ontology does most of the work, but it can't get any credit.

We conclude on a cautionary note. If an assessment of the reconstructed theory always calls for some reference to our pre-systematic beliefs, and if the justification of our favorite reconstructive strategy calls for some reference to our ontological inclinations anyway, then the advantages of the strategy fade away. The fundamental question is whether philosophers who hold different metaphysical views are speaking of different worlds, or of one and the same world described in different ways. And the sort of reconstructivism examined here leaves this question unresolved.

Bibliography

Benacerraf, P.: 1965, 'What Numbers Could Not Be', *Philosophical Review* **74**, 47–73.
Burgess, J. P. and Rosen, G.: 1997, *A Subject with No Object. Strategies for Nominalistic Interpretation of Mathematics*, Clarendon Press, Oxford.

Casati, R. and Varzi, A. C.: 1994, *Holes and Other Superficialities*, MIT Press, Cambridge (MA).

Casati, R. and Varzi, A. C.: 1999, *Parts and Places: The Structures of Spatial Representation*, MIT Press, Cambridge (MA).

Goggans, P.: 1999, 'How Not to Have an Ontology of Physical Objects', *Philosophical Studies* **94**, 295–308.

Hodes, H.: 1990, 'Ontological Commitments: Thick and Thin', in G. Boolos (ed.), *Essays in Honour of Hilary Putnam*, Cambrige University Press, Cambridge, pp. 235–260.

Kripke, S.: 1982, *Wittgenstein on Rules and Private Language*, Blackwell, Oxford.

Lewis, D. K. and Lewis, S. R.: 1970, 'Holes', *Australasian Journal of Philosophy* **48**, 206–212.

Lowe, E. J.: 1998, *The Possibility of Metaphysics. Substance, Identity, and Time*, Clarendon Press, Oxford.

Mackie, P.: 1993, 'Ordinary Language and Metaphysical Commitment', *Analysis* **53**, 243-251.

Marconi, D.: 1979, 'Le ambigue virtù della forma logica', in *Tempo verbale e strutture quantificate in forma logica*, *Atti del Seminario*, Accademia della Crusca, Firenze, pp. 265–284.

Oliver, A.: 1999, 'A Few More Remarks on Logical Form', *Proceedings of the Aristotelian Society* **99**, 247–272.

Quine, W. V. O.: 1960, *Word and Object*, MIT Press, Cambridge (MA).

Quine, W. V. O.: 1968, 'Ontological Relativity', *Journal of Philosophy* **65**, 185–212.

Putnam, H.: 1987, 'Truth and Convention: On Davidson's Refutation of Conceptual Relativism', *Dialectica* **41**, 69–77.

Russell, B.: 1905, 'On Denoting', *Mind* **14**, 479–93.

Ryle, G.: 1931-32, 'Systematically Misleading Expressions', *Proceedings of the Aristotelian Society* **32**, 139–170.

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