

Logic and Metaphysics

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1. The Neutrality of Logic

As a theory of reasoning, logic has—or ought to have—nothing to do with metaphysics. It ought to have nothing to do with questions concerning what there is, or whether there is anything at all. It is precisely because of its metaphysical commitments that Aristotelian syllogistics, for example, was eventually deemed inadequate as a canon of pure logical reasoning. The inference from an A-form statement such as

- (1) All humans are mortal

to the corresponding I-form statement,

- (2) Some humans are mortal,

is syllogistically valid. But it depends on the existence of humans beings and should not, therefore, count as valid as a matter of pure logic. (It depends on the existence of human beings because, in a world with no such beings, (2) would be false whereas (1) would be true, although vacuously.) Likewise, modern quantification theory¹ has been found inadequate insofar as it sanctions as valid the inference from a universal statement such as

- (3) Everything is mortal

to the corresponding existential statement

- (4) Something is mortal,

whose truth-conditions, unlike those of (3), appear to clash with the metaphysical possibility that there is nothing at all. It also sanctions as valid the inference from (3) to any of its substitution instances, such as

¹ By modern quantification theory I mean ordinary textbook logic, as rooted in the logical theories of Frege (1893) and Whitehead and Russell (1910).

(5) Socrates is mortal,

whose truth depends on the contingent existence of Socrates. So-called free logics—which owe much to the pioneering work of Bas van Fraassen and Ermanno Bencivenga among others²—have been put forward precisely with the aim of freeing logic from such “defects in logical purity”, as Russell called them.³ Nor is this the end of the story. Free logics have their defects, too, or so one could argue. For instance, they normally include among their theorems statements such as

(6) Everything is either mortal or not mortal.

(7) Nothing is both mortal and not mortal.

And, on the face of it, these theorems appear to rule out the metaphysical possibility that there be entities that are incomplete, or even inconsistent, with respect to certain properties (here: the property of being mortal)—a possibility that some philosophers regard as perfectly legitimate as far as logic goes.⁴ (We are certainly free to regard (6) and (7) as necessary truths—the objection goes. But this would be a way to giving expression to our metaphysical convictions, not a logical imperative.) And we could continue. Whether there is, today, a logical theory that can claim full metaphysical neutrality is an open and controversial question. But there is no question that this is an ideal *desideratum*. As a pure theory of reasoning, and as a theory of what is true no matter what is the case (or in every possible world, as some like to put it), logic should carry no metaphysical commitments. It should ideally be compatible with every metaphysical view. In short, it should be metaphysically neutral.

This conception of logic reflects what Bencivenga calls the “locked room” metaphor.⁵ Logicians must pretend to be locked in a dark, windowless room, and to know nothing about the world outside. When confronted with a sentence, they must try to evaluate it exclusively on the basis of their linguistic competence. If they can establish that the sentence is true, then the sentence is *logically true*. And if they can establish that the sentence is true *if* certain other

² See e.g. van Fraassen (1966) and Bencivenga (1980). For an overview of free logics, see Bencivenga (1986) and Lambert (1991).

³ Russell (1919: 203).

⁴ Counterexamples to (6) find expression in various sorts of “partial logics” (see Blamey 1986 for an overview); counterexamples to (7) find expression in “paraconsistent logics” (see Priest *et al.*, 1989).

⁵ Bencivenga (1999: 6f).

sentences are true, then the corresponding argument is *logically valid*. Logical truth and validity are based on how our language is defined, independently of what extralinguistic reality might look like. The difficulty, of course, arises from the fact that the boundary between linguistic competence and metaphysical presuppositions is far from clear. Some would regard such statements as (6) and (7)—for example—as reflecting certain fundamental principles governing our ordinary use of such connectives as ‘either ... or’, ‘both ... and’, and ‘not’; others would regard those statements as reflecting specific assumptions about what the world might be like. This is why there is controversy as to what exactly should count as logically true or logically valid. Nonetheless, there is little controversy that if logic is to qualify as a pure theory of reasoning, then the boundary should be drawn in conformity to the locked room metaphor.

2. Metaphysical Ramifications

But logic is not only a theory of reasoning. It is also, and to a great extent, a theory of language. At least as a matter of practice, a logical theory includes also an account of the meaning structures that underlie our ordinary discourse, for it is only relative to such structures that a rigorous theory of reasoning can be formulated. After all, insofar as logically valid reasoning must be truth-preserving, logic must tell us something about truth. It mustn't tell us *which* sentences are true; but it must tell us *what it takes* for a sentence to be true. It mustn't tell us what are the truth-makers of a sentence; but it must tell us what the truth-makers of a sentence must be like. And as such logic has a lot to do with metaphysics.

One sense in which logic, so construed, is tied up with metaphysical matters is that the question of what the truth-makers of a sentence must be like calls for a specification of the ontology underlying our language—i.e., of the ontological categories that must be posited in order to provide an explicit semantics for the language. The debate on the status of second-order logic is a good example of this sort of metaphysical concern. If we follow Quine in characterizing our ontological commitments in terms of values of the bound variables showing up in the logical form of our statements⁶, then an inference of, say,

- (8) There is a property that everything has

⁶ Quine (1939).

from a premise such as (3) would be acceptable only if properties are admitted as *bona fide* entities. A platonist would have no qualms about this; for a nominalist, by contrast, talk about properties is merely a *façon de parler*, hence the inference from (3) to (8) should be blocked. (If there are no properties whatsoever, there are no properties that everything has.) The same goes for certain inferences that can be formulated entirely within the scope of first-order logic. Both a platonist and a nominalist would agree on the truth of an arithmetical statement such as

(9) 3 is greater than 2.

But whereas a platonist would take (9) to imply the existential statement

(10) There is a number greater than 2,

a nominalist about arithmetic would reject the inference on account of her refusal to take number talk at face value. Of course, such a disagreement on the logical status of the inference reflects a deeper disagreement on the meaning of the relevant statements. For a platonist, (9) is a perfectly unambiguous statement: it asserts that the number designated by the numeral ‘3’ is greater than the number designated by the numeral ‘2’. For a nominalist, by contrast, an utterance of (9) amounts to a different assertion—an assertion which, when properly understood, involves no numerals whatsoever. For example, (9) may be understood as an abbreviation for the schema

(9') Whenever there are at least three things that ϕ there are at least two things that ϕ ,

where ϕ is any predicate in the language and the locutions ‘there are at least three things’ and ‘there are at least two things’ can be expressed in terms of ordinary first-order quantification without any appeal to number-referring expressions:

(9'') If among the things that ϕ there exist x, y, z such that $x \phi, x \neq z$, and $y \phi, y \neq z$, then among the things that ϕ there exist x, y such that $x \phi, y \phi$.

Whether this is a good way of cashing out the meaning of (9) may of course be matter of controversy. For one thing, (9'') expresses a logical truth whereas a platonist may well insist that (9) expresses a necessary *arithmetical* truth, i.e., a proposition that holds true in every model *of arithmetic*. But this is precisely the point: what inferences should qualify as logically valid, and what statements

as logically true, depends on the sort of entities that one is willing to countenance. And this is a metaphysical issue. (Likewise, in the case of a contingent statement such as (3), the platonist's reading will eventually differ from the nominalist's. Both would agree that (3) is the universal closure of the formula

(11) x is mortal.

But whereas the nominalist would understand (11) as asserting that the object picked out by the variable ' x ' has the property denoted by the predicate 'is mortal', the nominalist would understand (11) as asserting a brute fact about x : to say of x that it is mortal is not to say that there is something *in virtue of which* x is mortal.⁷ Again, this is obviously a metaphysical disagreement, indeed one that has been the focus of intense philosophical disputes throughout the history of philosophy.)

This link between logic and metaphysics ties in with another sense in which logic, construed as a theory of language, is hooked up with metaphysical matters. One fundamental intuition about truth is that every true statement, at least a statement that is contingently true, must be *made true* by some entities in the world. Yet the language that we ordinarily speak is so rich and varied that it can be misleading, and there is no reason to suppose that every statement wears its truth-makers on its sleeves (as it were). We have already seen that a statement such as (9), which seems to be about the numbers 2 and 3, may be understood nominalistically in such a way as to avoid any explicit commitment to an ontology of numbers. Likewise, and more generally, it can be argued that many ordinary sentences have a grammatical form that is ambiguous or otherwise deceptive. When we say that the winged horse does not exist, do we really mean to speak of a non-existing individual? When we say that John gave Mary a kiss, do we really mean to say there is something—a kiss—that John gave to Mary? When Alice says that she saw nobody on the street, does she mean to speak of a person called 'Nobody'? On the face of it, there are no straightforward answers to questions such as these. And it is reasonable to argue (following in the footsteps of a tradition that goes back at least to Frege) that in order to come up with definite answers it is necessary to go beyond the "surface grammar" of such statements and look at their "deep structure". This is a dis-

⁷ Compare Quine (1948: 30). For an articulated formulation of this view see Sellars (1962).

inction that linguists have taken very seriously.⁸ But the tools needed to work out the distinction—the tools needed to exhibit the deep structure underlying the grammatical form of our ordinary statements—involve in a crucial way the tools of logic.

A paradigm example of this line of thinking is provided by Russell’s analysis of negative existentials involving definite descriptions⁹, as in

(12) The winged horse does not exist.

Prima facie, a statement such as (12) seems to take us straight to a paradox, asserting *of something* (namely, the winged horse) that it does not exist. To put it differently, to see whether the statement is true we would have to look for the object designated by the term occupying the subject position and check whether it satisfies the condition expressed by the propositional function that follows. But in this case there is no object we can look for; indeed, the statement is true precisely insofar as the term occupying the subject position does *not* designate an object. So we have a problem. That is, we have a problem unless we deny that the expression ‘the winged horse’ is a genuine singular term acting as the subject of the proposition expressed by (12). And this is exactly the way out offered by Russell. For Russell the grammatical form of (12) is misleading. The very fact that it makes sense to ask *whether* the winged horse exists constitutes a sufficient reason to deny that ‘the winged horse’ is a genuine singular term, hence a term that can occur as the subject of a proposition. Rather, ‘the winged horse’ is for Russell an “incomplete symbol” that lacks “any significance on its own account” and disappears as soon as we exhibit the deep structure of the sentences in which it appears. In the present case, the relevant deep structure is explained as follows:

(12') It is not the case that there exists one and only one winged horse,

i.e., as the negation of the conjunction of the following two statements:

(12a) There exists at least one winged horse

(12b) There exists at most one winged horse

And the semantic analysis of these two statements poses no problems. because the predicate ‘winged horse’ has an empty extension, (12a) is false, hence

⁸ The classic reference is Chomsky (1957), but it will be apparent that distinction need not be cashed out in Chomskyan terms.

⁹ The *locus classicus* is Russell (1905a).

the conjunction of (12a) and (12b) is false, hence their negation is true. No paradox here. In other words, for Russell (12) is nothing but a convenient abbreviation for (12'). And it is (12'), not (12), that delivers the right truth-conditions.¹⁰

This analysis, of course, applies to every statement whose grammatical form follows the pattern

(13) The so-and-so is .

Not only that. It also applies to those statements in which the definite description 'the so-and-so' is replaced by a designating phrase of a different sort, including ordinary proper names such as 'Pegasus' or 'Socrates'. Precisely insofar as it makes sense to ask whether Pegasus or Socrates exist, the corresponding expressions do not for Russell qualify as genuine proper names. They are, rather, disguised descriptions and should be treated as such. For example, 'Pegasus' could be seen as an abbreviation of the description 'the winged horse'; hence a potentially paradoxical assertion such as

(14) Pegasus does not exist

could be identified with (12) and analyzed accordingly. It might be objected that in some cases it may be difficult to identify the description that hides behind an ordinary proper name. But this is a practical complication that in principle does not interfere with the theoretical force of the analysis. Besides, as Quine famously emphasized,¹¹ there is always a possibility to dispense of *all* ordinary names by relying on descriptions in which the descriptive predicate is construed directly from the names themselves. 'Pegasus' could correspond to the description 'that thing called: P-e-g-a-s-u-s' or, more simply, 'that thing that pegasizes', so that (14) would eventually boil down to

(14') Nothing pegasizes,

which is perfectly unproblematic. In this way, every apparent name would be eliminated in favor of a predicating phrase and the paradoxical flavor of negative existentials would disappear: though it makes no sense to use a name that names nothing, it is perfectly alright to use a predicate that is *true of* nothing,

¹⁰ Of course, this analysis is not uncontroversial. Strawson (1950), for example, objected that a subject-predicate statement does not *assert* the existence and unicity of an entity corresponding to the subject term—it *presupposes* it

¹¹ See Quine (1939).

i.e., a predicate whose extension is the empty set. It follows that for Russell and Quine the only genuine singular terms are demonstrative pronouns such as ‘this’ and ‘that’, namely those expressions that in standard logical notation correspond to the individual variables. For it makes no sense to ask ‘Does this exist?’ or ‘Does that exist?’, just as in logic it makes no sense to ask whether an individual variable has a value. For Russell this conclusion ties in with a precise metaphysical thesis, according to which the only things that exist are those with which we can be directly acquainted.¹² For Quine the conclusion is a byproduct of a general ontological criterion, summarized in the dictum “To be is to be the value of a bound variable”. Either way, the nexus between metaphysical concerns and logical analysis is apparent. As a theory of reasoning logic ought to be metaphysically neutral, but as a theory of language it is a primary tool of metaphysics.

3. Logical Analysis across the Board

These are just examples. To appreciate the general point, it is now important to notice that the same sort of consideration can be applied to all sorts of cases where the metaphysical import of a statement is at issue. For example, earlier we asked whether a statement such as

(15) John gave Mary a kiss

should this be understood as implying the existence of an entity corresponding to the noun phrase ‘a kiss’. Evidently, the answer is in the affirmative if we interpret (14) as asserting that there is something—namely, a kiss—that John gave to Mary. This interpretation would establish a deep similarity between (14) and a statement such as

(16) John gave Mary a book,

in which the reference to a book seems unquestionable. However, things look different if we interpret (14) as a mere grammatical variant of

(15') John kissed Mary.

This is a simple relational statement about John and Mary and nothing else, so the analogy with (16) is lost or, rather, discarded as pertaining exclusively to the

¹² This is explicit in Russell (1910).

level of surface grammar. The verb phrase ‘gave a kiss’ would be a mere grammatical variant of ‘kissed’ (whereas there is no corresponding variant for the verb phrase ‘gave a book’); and the fact that in English we can use the former in place of the latter—one could argue—is merely a linguistic accident, a peculiarity of the English language that should not mislead our ontological intuitions. Even a statement in which the *prima facie* analogy between kisses and books is explicitly asserted, as in

(17) John gave Mary two things: a book and a kiss,

could be suitably paraphrased so as to break the analogy. It would be enough to rewrite (17) as

(17') John gave Mary a book and kissed her,

or something along these lines. We often speak *as though* there were such things as kisses along with people and books. But we often speak loosely—it might be argued—and what we say should not be taken literally. A good deal of logical analysis is needed before one can draw any ontological conclusions from the words we use.

Here are a few more examples of logical analyses of this sort, taken somewhat randomly from the literature. In each case, a statement that seems to be about ontologically “dubious” entities (a crack, a waltz, a difference in age, etc.) is analyzed as expressing a proposition that is, in fact, ontologically neutral with respect to those entities:¹³

(18) There is a crack in the vase.

(18') The vase is cracked.

(19) Sue was dancing a waltz.

(19') Sue was dancing waltzly.

(20) There is a difference in age between John and Tom.

(20') Either John is older than Tom or Tom is older than John.

(21) This tomato and that fire engine have the same color.

(21') This tomato and that fire engine agree colorwise.

(22) There are many virtues that Tom lacks.

(22') Tom might conceivably be much more virtuous than he is.

¹³ Sources: Lewis and Lewis (1970: 4) (with ‘crack’ in place of ‘hole’); Ducasse (1942: 233); White (1956: 68f); Loux (1998: 66f); Alston (1958: 9); Melia (1995: 224).

- (23) The average star has 2.4 planets.
(23') There are 12 planets and 5 stars, or 24 planets and 10 stars, or . . .

Nor are these the only sort of cases that one can find in the literature. All of these are examples that illustrate an *eliminativist* strategy, as we may say. They implement a pattern of logical analysis whereby the entities mentioned in the surface grammar of a sentence (corresponding to the top item of each pair) are gently “eliminated” at the level of deep structure. But there are also cases where the analysis goes in the opposite direction—e.g., cases where the logical analysis discloses a hidden quantifier, thereby introducing ontological commitments that do not appear at the level of surface grammar. It is not difficult to find examples of this *introductionist* strategy in the literature, and the kiss example mentioned above can be turned into a case in point. We have said that a statement such as

- (15) John gave Mary a kiss,

which seems to be about John, Mary, *and* a kiss, can be interpreted as

- (15') John kissed Mary,

which is only about John and Mary. This is the eliminativist strategy. But one could equally well argue in the reverse, viewing (15) itself as the correct way of understanding (15'), which would therefore be interpreted as a statement involving *implicit* reference to a kiss. Indeed, there are philosophers (most notably Donald Davidson and Terence Parsons¹⁴) who have argued that this is the right way to go, in spite of its greater ontological commitments. One reason is that there are patterns of logical inference that would otherwise be difficult to explain. For instance, if (15) is analyzed as (15'), i.e., as a statement asserting that a certain two-place relation obtains between John and Mary, then it would be hard to explain why (15) is logically implied by

- (24) John gave Mary a kiss on the cheek,

i.e., by

- (24') John kissed Mary on the cheek,

a statement that involves a different, three-place relation. One would have to appeal to some *ad hoc* meaning postulate linking the two predicates, or else

¹⁴ See Davidson (1980) and Parsons (1990).

construe the second predicate as the result of applying the adverbial modifier ‘on the cheek’ to the first *and* then explain the inference in terms of the logic of adverbial modification—notoriously a difficult task. By contrast, if we take (15) and (26) at face value then the entailment is straightforward. The latter statement says that John gave Mary something, namely a kiss, *and* that the kiss was on the cheek; the former says only that John gave Mary a kiss—a plain case of conjunction elimination. This is not a proof that (15) and (24) are in order as they stand. But if we are interested in an account of how it is that certain statements mean what they mean, and if the meaning of a statement is at least in part determined by its logical relations to other statements, then one can hardly ignore the relevance of facts such as these. Indeed, from this perspective it is reasonable to suppose, not only that (15) and (24) are in order as they stand, but that *they* exhibit the deep structure of (15') and (24'), not vice versa. It is because (15') and (24') make implicit reference to a kiss—one could argue—that one can explain their inferential tie in terms of logical entailment.

4. The Traps of Logical Form

At this point, however, it is crucial to take stock. We have seen that logical analysis can play a key role in revealing the “deep structure” of our ordinary statements, and that this is necessary when it comes to matters of metaphysics. Before knowing *what* a sentence is about, or even *whether* it is about anything at all, we must understand what the sentence means “deep down”. For only the deep structure of a sentence is “intrinsically non-misleading” (as Ryle put it¹⁵) and therefore ontologically transparent. The surface grammar is full of traps.

But there is a negative side, too. For we have also seen that there is no unique way of revealing the deep structure of a sentence. We can read a sentence such as (15), which mentions kisses, as (15'), which only mentions John and Mary. But we can also read (15') as (15). And this is a problem. For how do we choose? How do we determine the direction of the analysis? Appeal to a general principle of ontological economy would favor the first, eliminativist strategy. But arguments *à la* Davidson would resolve the dilemma in the opposite direction, favoring of the introductionist strategy. How do we choose?

¹⁵ Ryle (1931-32).

To borrow a maxim from Hilary Putnam, it appears that under such circumstances “Occam’s Razor doesn’t know what to shave”.¹⁶ Perhaps in this specific case a careful scrutiny of the costs and advantages of the options might deliver an answer. After all, that was Davidson’s point. But the dilemma is a general one and arises in every case. Take again a sentence such as

(18) There is a crack in the vase,

which seems to commit us to the existence of a crack, and its crack-free paraphrase:

(18') The vase is cracked.

Ontological parsimony would suggest that we take the paraphrase to reveal the deep structure of the initial statement. To say that there is a crack in a vase is to say something about the vase, namely, that it has a certain shape or structure. So if (18) is true, it is true *because of how the vase is*. But one may also reverse the order of the analysis. One may think that it is *because there is a crack in it* that the vase is cracked, in which case it would be (18) that supplies an “ontologically transparent” paraphrase of (18'), not vice versa. And there may be good reasons for holding this view. It may be argued that the eliminativist strategy is not fully implementable, or that its full implementation (if possible) would involve unpalatable consequences.¹⁷ For example, since there are many ways in which a vase can be cracked, the eliminativist would have to rely on the availability of a large number of structural predicates that specify, not only *that* the vase is cracked, but also *how* it is cracked. Thus, a sentence such as

(25) There is a thin crack in the vase,

would have to be paraphrased by suitably modifying the predicate ‘is cracked’:

(25') The vase is thinly-cracked.

But then the inference from (25) to (18) would be difficult to explain in terms of logical form, just as with the inference from (24) to (15), and a Davidsonian line of argument would apply. (The inference is of course straightforward if we take (25) at face value, as a statement asserting that there is a crack in the vase *and* that the crack is thin.)

¹⁶ Putnam (1987: 76).

¹⁷ The impossibility issue is discussed at length in Casati and Varzi (1994).

Again, the problem is not peculiar to these examples. If indeed it turned out that cracks cannot be paraphrased away in a systematic way, then we might gather that the eliminativist strategy is wrong-headed after all, and we may conclude that to properly describe the world around us we have to posit an ontology that includes cracks as well as vases. But what if it turned out that the eliminativist strategy *can* be fully implemented? Shall we then conclude that cracks are indeed a *façon de parler*? Shall we decide that the crack-free paraphrases reflect the deep structure of the corresponding crack-committing statements? Why so, and on what grounds? Ditto for all other cases, where the dispute concerns the existence of dances, age differences, chances, colors, and so on. Whenever we have a paraphrase p' of a certain statement p , we have the option to think of p' as expressing the deep structure of p . But we can also think of p as expressing the deep structure of p' . After all, paraphrases must be meaning preserving in both directions. So if in one direction the analysis reflects an eliminativist strategy, in the other direction it reflects an introductionist strategy. And the choice is up for grabs.

The trap, here, is to think that we can resolve these issues by mere logical analysis. Paraphrasability is at best a necessary condition if we want to *avoid commitment* to entities of some sort, and assertibility is a sufficient condition if we want to *proclaim commitment*, but neither is necessary or sufficient to provide us a clue to what there is. Neither is necessary or sufficient to determine the ontology itself. This point is important because it affects the link between logic and metaphysics that we were looking at. To put it in a slogan, logical analysis can be a tool for metaphysical investigations; but it is not a key. For the very issue of *which* sentences must be logically paraphrased—let alone *how* they ought to be paraphrased—can only be addressed against the background of one's own philosophical inclinations. If you don't like cracks, then you may try to paraphrase them away. But if you like them (so to speak), then you feel no need to regard statements such as (18) and the like as misleading. If you don't like kisses, then you may try to paraphrase them away. But if you think kisses are genuine denizens of reality, then you feel no need to regard statements such as (15) and the like as ontologically deceptive. Ditto for all other cases. Logic plays an important role in your decisions because—as I said—the meaning of a statement is at least in part determined by its logical relations to other statements. But logic cannot settle such issues for you.

As a matter of fact, this complex trade-off between logical analysis and metaphysical inclinations is already apparent in the first examples we consid-

ered, which focused on the opposition between platonist and nominalist readings of property-talk and arithmetical truths. To the extent that an eliminativist, non-committal analysis of such portions of our language can be systematically pursued, to that extent nominalism can be coherently defended. But the defense as such becomes part of a thoroughly metaphysical dispute. Logic plays a crucial role in setting up the dispute, but it does not and cannot solve it. Indeed, we may now observe that even Russell's analysis of definite descriptions, and Quine's radical enhancements, are to be understood in this light. When Russell says that

(12) The winged horse does not exist

must be paraphrased as (12'), it is because he holds that (12), as it stands, is incompatible with our sense of reality—with that robust “feeling for reality which ought to be preserved even in the most abstract studies”¹⁸. The analysis as such yields no ontological discovery. It is Russell's own ontological convictions that lead him through the quest for an appropriate logical form for (12), not *vice versa*. Likewise, it is Quine's “taste for desert landscapes”¹⁹ that leads him through the quest for a principled generalization of Russell's strategy. A philosopher of different convictions, however, may feel no need to take such actions. For Meinong (for example) the surface structure of a sentence such as (12) may well coincide with their deep structure because, for him, the winged horse has the same ontological dignity as any other object. It does not exist; but it is nonetheless to be included in a complete, philosophically respectable inventory of the world.²⁰ And surely enough, this does not make Meinong an incompetent speaker of the language. It simply means that he has different ontological views.

5. Interpretation and Revolution

Here is another way of pressing this point.²¹ Following John Burgess and Gideon Rosen, let us distinguish two ways in which the link between a sentence p

¹⁸ Russell (1919: 169).

¹⁹ Quine (1948: 3).

²⁰ See Meinong (1904), reviewed by Russell himself (1905b). (Here I am going along with the received doctrine, but see Oliver (1999).) Meinong had his followers; see e.g. Parsons (1980) and Routley (1980).

²¹ This section expands on section 4 of Varzi (2002).

and its “transparent” paraphrase p' can be understood.²² The first is what they call the *hermeneutic* understanding. On this understanding, the paraphrase, p' , *reveals* the deep structure of p and therefore its truth conditions, those conditions that are supposed to take us straight to the truth-makers of p . This is arguably how Russell and Davidson (and many others) conceived of the logical analyses they propose in the examples discussed above. The second way to understand a paraphrase is what Burgess and Rosen call the *revolutionary* way. On this conception, the paraphrase, p' , does not reveal the meaning of the given sentence p but *explains* it; its purpose is not to exhibit the logical form of p but rather to *fix* it by dint of resisting alternative interpretations. For the sentence as such can be used by different speakers to mean different things. This is not how Russell and Davidson would put it but it is, for example, what Quine had in mind.²³ In short: the revolutionist is not interested in understanding language; she just doesn't want her language to be misunderstood.

Now the point I want to stress is that revolutionary paraphrases are perfectly all right, but they don't play any direct role in our metaphysical investigations. They do not and cannot play any direct role because they presuppose that we already have a cause to fight for—that we already have a view about what there is. We just want to make sure that people don't draw the wrong inferences from what *we* say, so we provide (only upon request, perhaps) all the necessary linguistic amendments. This is where the tools of logical analysis come into the picture. On the other hand, the hermeneutic paraphrases *could* be of great help, because they could be truly revealing; yet it is very unclear where we can look for the relevant evidence. In fact, it is not even clear whether there can be any evidence at all, or whether the hermeneutic approach delivers a picture that is intelligible. For the picture would be this: our daily language—the language that we have learned and made ours since our very first contacts with the surrounding world—that language would consist of sentences whose real meaning often eschews us. It would consist of sentences most of which are only acceptable as loose talk. It would at best qualify as a sort of metaphoric language with regard to the logically regimented language of the philosophers, the latter being the only genuine object language and thus the only language that can express our genuine ontological commitments. Is this an acceptable picture?

²² Burgess and Rosen (1997).

²³ See especially Quine (1960: §33).

It might be thought that this is not different from what happens when logical regimentation take place in scientific discourse. To borrow an analogy from Peter van Inwagen,²⁴ suppose we heard an educated person say

(26) The sun moved behind the elms.

Arguably, we should not interpret her statement as asserting that the sun has really moved in the sky. We should be charitable: she spoke loosely and we must reinterpret (26) in a way that makes this statement consistent with the heliocentric theory—for example as

(26') Owing to the change in the relative positions and orientations of the earth and the sun, it came to pass that a straight line drawn between here and the sun would have passed through the elms.

This would be legitimate insofar as we would be entitled to assume that the speaker has indeed subscribed to the Copernican revolution (so to speak). The speaker has certain views about astronomy, we know that, and we know that if the need arises she can express herself more clearly. We know that so well that we can take care of that *on her behalf*, interpreting (26) as (26'). However, metaphysics is not like physics, and when it comes to metaphysics we can hardly base our interpretation of what someone says on the basis of the principle of charity. Ordinary speakers need not be astronomy experts to know that the sun does not move and the hermeneuticist may rely on this fact. But most people who assert common-sense sentences about cracks, or about kisses, or about other “dubious” entities, are totally unaware of any metaphysical theories about such entities. So how should one reinterpret *those* assertions? “The speaker could not possibly mean to say that *there is a crack* in the vase! She was speaking loosely. She meant to say that the vase *is cracked*.” Is *this* interpretation legitimate? The revolutionist is free to mean what she wants by the words she uses, like Humpty-Dumpty. But what entitles the hermeneuticist to assume that all speakers mean the same?

Nor is this the whole story. As it turns out, both ways of engaging in logical analysis involve a duplication of languages. For neither is willing to give up natural language altogether. Whether we are revolutionists or hermeneuticist, we surely want to carry on speaking with the vulgar, hence we are going to emphasize the pragmatic indispensability of ordinary language against the philosophi-

²⁴ See Van Inwagen (1990: ch. 11).

cal value of the regimented language (ontologically impeccable but practically unspeakable). However, *this duplication of languages only works fine for the revolutionist*. For only the revolutionist is always in a position to tell which language is being spoken.

Take the crack-eliminativist once again. When speaking with the vulgar she can give expression in English to the fact that a vase is cracked by asserting the sentence

(18) There is a crack in the vase.

However, when speaking strictly and literally she would rather assert the negation of (18), namely

(27) There are no cracks in the vase.

This may be confusing to some people but the revolutionist will always know when is when, and she will be happy to explain. She may even want to express her views by uttering the conjunction of (18') and (27) in the same breath, and we would understand:

(28) The vase is cracked, but there are no cracks in the vase.

Not so for the hermeneuticist. If you are a hermeneuticist you do not have the same leeway. To the extent that (18) is to be interpreted as (18'), (27) will have to be interpreted as (27'):

(27') The vase is not cracked.

This is so because (27) is just the negation of (18), so the paraphrase of one must be the negation of the paraphrase of the other. But this is bizarre. After all, the vase *is* cracked. More generally, there appears to be no way for the hermeneuticist to express her ontological views to the effect that

(29) There are no cracks.

For this would have to be interpreted as

(29') Nothing is cracked,

which contradicts (18'). The only option would be to say that (27) and (29), unlike (18), are to be taken strictly and literally. Unlike (18), (27) and (29) are *not* to be paraphrased. But this is absurd. For then the fundamental distinction between grammatical form and logical form becomes utterly arbitrary and there

appears to be no principled way of discriminating the loosely true from the strictly false.

6. Concluding Remarks

So what are we to make of this? I started out by saying that logic can play a crucial role in protecting us from the metaphysical traps of surface grammar: We should not think that *all* those things exist that are referred to or quantified over in our ordinary statements. But we have seen that there is also a deep structure trap, namely, to think that *only* those things exist that are referred to or quantified over at the level of deep structure, i.e., in the logical paraphrases of our statements. This is a trap because of the multiplicity of the available paraphrases and, more importantly, because of the reversibility of the link between a sentence and any of its logical paraphrases. At this point, however, we can add that this trap leads to serious drawbacks only if we think of logical analysis in hermeneutic terms—only if we expect the tools of logic to provide us with a key to disclose the true ontology underlying our language, or the system of concepts embodied in our language. From a revolutionary perspective the picture looks different. The revolutionist engages in honest metaphysical theorizing and uses logic only for the purpose of clarifying her views. She does not build her metaphysics into the mind of all speakers of the language. She does not expect logic to tell us what our words *deep down* really mean—what they have meant all along. She only expects logic to provide some help when it comes to clarifying what *she* really means when she uses certain words. And this is perfectly alright.

So here is how I suggest to cash out the complex trade-off between logical analysis and metaphysics. I suggest to cash it out in terms of asymmetric dependence. Because all metaphysical theorizing takes place in language (or about language), and because logic is to a great extent a theory of language, metaphysics can hardly get off the ground without the help of logic. But because logical analysis cannot by itself reveal anything about the world itself, logic cannot do any work for metaphysics except in the revolutionary sense. From this perspective, the slogan is: Put metaphysics first. On the other hand, all of this is to be understood against the background of our initial remarks about the neutrality of logic. What counts as metaphysically possible, or as metaphysically necessary, should still be defined within the constraints of logic, so the notions of logical possibility and necessity should be as wide as possible and should not

rule out any *prima facie* metaphysical options. In this sense, it is logic that comes first, and logicians should beware of any metaphysical biases that may surreptitiously enter into the picture. Our coin has two sides: To be a tool for metaphysics, logic must be metaphysically neutral. But when it comes to metaphysical theorizing the tools of logic cannot be neutral on pain of falling into the hermeneutic trap. The final slogan, then, is this: Metaphysics comes first, as long as logic is already there.

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