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Ambitious, Yet Modest, Metaphysics

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1 What Can Metaphysics Hope to do?

There is a long history of worrying about whether or not metaphysics is a legitimate philosophical discipline. Traditionally such worries center around issues of meaning and epistemological concerns. Do the metaphysical questions have any meaning? Can metaphysical methodology lead to knowledge? But these questions are, in my opinion, not as serious as they have sometimes (historically) been taken to be. What is much more concerning is another set of worries about metaphysics, which I take to be the greatest threat to metaphysics as a philosophical discipline. These worries, in effect, hold that the questions that metaphysics tries to answer have long been answered in other parts of inquiry, ones that have much greater authority. And if they haven't been answered yet then one should not look to philosophy for an answer. What metaphysics tries to do has been or will be done by the sciences. There is nothing left to do for philosophy, or so the worry. Let me illustrate this with two examples, one of which is our main concern here.

1.1 Two Examples

The most striking examples where it seems that the question metaphysics tries to answer has been answered long ago outside of philosophy are examples from ontology. These will be our main concern in this paper. One of the central questions in the philosophy of mathematics is an ontological question: are there any mathematical objects? If there are then a certain story of mathematical truth and objectivity will have to be told, and if there are not then a completely different one has to be right. This is supposed to be a large-scale philosophical question about mathematics. It's the question whether or not there are mathematical objects. But it seems that this question is not a philosophical question at all. It is one that is easily answered within mathematics. Mathematics has

established that there are infinitely many prime numbers, and thus that there are numbers, and thus that there are mathematical objects. After all, what is a mathematical object if not something like a number? The question that was meant to be part of a reflection on mathematics as a whole, and part of a philosophical understanding of mathematics from the outside, turns out to be answered within mathematics itself. What philosophy is trying to do has long been done.

Similarly for other ontological questions, for example whether there are any properties. This question is supposed to be a large-scale philosophical question about how to understand the world of individuals and how they all relate to each other, reflecting on this world as a whole. But materials science has found out that there are some features of metals that make them more susceptible to corrosion, but more resistant to fracture. And thus what it has figured out immediately implies that there are features, i.e. properties. What is left for metaphysics to do?[1]

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This general concern does not carry over to all questions that are commonly discussed in metaphysics, but it does carry over to several others which are not immediately problems in ontology. I will briefly mention one such metaphysical problems, to contrast it, at the end, with the ontological ones, which are our primary concern. One of the oldest metaphysical problems is the problem of change, and it is often put as the problem to say whether change is possible, and if so, how it is possible. This is supposed to be a philosophical problem, a problem in metaphysics. On the other hand there are empirical problems of change. Consider a candle that is bent after being left by the window during a sunny day. How was this possible, how could it have happened? The answer to this, empirical, problem is complicated, but known. It comes mostly from materials science and physics, and includes stories of the effects of sunlight on solid matter, the particular features of wax, and their dependency on temperature, and so on and so forth. The sciences have answered the question how this candle changed in this particular way, how it was possible, even though no one touched the candle. But once we know how a particular change was possible, don't we then know that change is possible, and how? What is left for metaphysics to do?[2]

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[1] There is also the issue whether these questions are so trivially answered that we don't even need to bring in the sciences. One might hold that there are numbers is already implied by Jupiter having four moons, since that implies that the number of moons of Jupiter is four, and thus that there are numbers. Similarly for properties. This worry raises slightly different issues than the worry as I put it above, and so I would like to sideline it here. I have discussed it in [Hofweber, 2005b].

[2] Whether there is a metaphysical problem of change and what it might be is discussed in detail in [Hofweber, 2008a]. Any way to state the alleged problem of change is controversial, and nothing in the following hangs on my particular way of putting it here.

For metaphysics to be a legitimate project, it has to do better than to ask questions that have long been answered. In our cases here the questions seem to be answered by the sciences, which we can take to be those incredibly successful parts of inquiry like physics, materials science, and mathematics. Maybe the questions that metaphysics is trying to ask are not the ones I mentioned above. Maybe metaphysics has some work to do despite what has already been done by the sciences. How this might be so is the topic of the first part of this paper. In this section we will look at this issue somewhat generally, in the next one we will look at the case of ontology in particular. After that I will outline what I take to be the correct way to demarcate ontology as a metaphysical project next to the sciences. Then we will see what work there is to do in ontology, and how to tackle it.

1.2 Two Attitudes

There is one radical way to save metaphysics in our above cases. It has a defender in E. J. Lowe, for example in his [Lowe, 1998]. The main line is simply this: The sciences by themselves do not answer the question how the candle changed its shape, and mathematics by itself does not answer the question whether or not there are infinitely many prime numbers. Rather they assume or presuppose that change is possible at all / that numbers exist at all. And only under these assumptions do they then establish that there are prime numbers / how the candle changed. These assumptions can't be discharged by the sciences, but they are left for metaphysics to cash in. The sciences thus need metaphysics to discharge assumptions that they simply made at the outset. This makes metaphysics into a discipline of the greatest importance. All scientific results depend on the work of metaphysicians for their being established without assumptions. But, of course, this could go badly wrong. If metaphysics sides against change, then the sciences were simply wrong. And if metaphysics sides against numbers then mathematics was based on one big mistake. This situation would be no different than a detective deciding to turn a missing person investigation into a murder case, even though no body was found. The detective might arrest a suspect, but when the missing person turns up there is nothing left to do but apologize and to let the suspect go. The accusation was based on a false assumption. Similarly, mathematics might be based on the false assumption that there are numbers at all, or science on the false assumption that change is possible at all. Of course, mathematics can still be useful, even if it is based on a false assumption. Just as it can be useful to keep someone looked up who is innocent. In either case, though, something has gone badly wrong.

We can call this stance towards the relationship between metaphysics and the sciences the *immodest attitude*. It is immodest, on the side of metaphysics, since it takes metaphysics to be of grander importance than it is. That this stance is immodest is made nicely vivid by David Lewis' description of the philosopher going to the mathematics department with the bad news coming from metaphysics that numbers have to go (see [Lewis, 1991]). The mistake on the immodest philosopher's side is to think that scientific theorizing works this way: it first makes certain general assumptions (that there is a material world, that it contains objects, that they change, that there are numbers, etc.) and then given these assumptions science tries to find out some more of the details. To the contrary, the sciences establish their results without needing any further vindication from philosophy. That there are numbers and that change is possible is implied by the relevant theories, not assumed or presupposed. The above version of the immodest attitude is based on the wrong picture of how science works. And it smells like a regress waiting to happen. If I have to presuppose that change is possible at all before I can explain particular changes, then don't I also have to presuppose, say, that metaphysics can figure anything out at all, before trying to figure something in particular out? And can I then not figure something out until I discharged that assumption, that anything can be figured out at all?

The *modest attitude* towards the relationship between the sciences and philosophy (modest from the point of view of philosophy) holds that the sciences don't need philosophy for their final vindication, nor does philosophy have the authority to overrule the results of the sciences. They are just fine without us. Collectively, that is. Individual philosophers can of course fruitfully join in on the scientific enterprise, and help out in ways that their philosophical training has especially prepared them for. What is at issue is not that, but how the results of philosophy and metaphysics, the disciplines, relate to those of the sciences. To have the modest attitude is not to have science worship. One can have the modest attitude and be critical of various sciences. One might hold that a particular science overstates its claims, or hasn't gathered enough evidence to be accepted as true, or the like. But what one can't do, with the modest attitude, is to hold that there is an open philosophical question whether p is the case even though one of the acceptable sciences has shown something that immediately implies p. And just that seems to be the case when we ask, in philosophy, whether there are any numbers.

Besides the immodest attitude there is another extreme, which we'll call the *unambitious attitude*. A philosopher who has this attitude will look at the closest science to see what it implies for a certain question which is traditionally thought of as a metaphysical one. Is everything water? No, various sciences found other stuff. Is time travel possible? Let's look at physics and see what it says. And

so on. The unambitious attitude works out the consequences that other parts of inquiry have for questions that are traditionally considered philosophical. It is like popular science journalism, getting clear on the consequences of the sciences without contributing to them, for a general audience.

If metaphysics is a legitimate project it has to find a place in between these two extremes. It has to be modest, but also ambitious. But how there can be such ambitious, yet modest, metaphysics is not at all clear. In the rest of this section we will briefly look at what seems to be required for it. In the next section we will look at whether ontology can be part of such a project.[3]

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1.3 Two Questions

Suppose we hold that metaphysics has to be both ambitious but also modest. If it is ambitious then there must be some questions that are properly addressed in metaphysics. We can then say that metaphysics has a domain: there are some questions that it should address. But if metaphysics is also modest then it not only has to have a domain, it has to have its *own* domain: there have to be questions that are properly addressed in metaphysics and on which the other parts of inquiry towards it is modest have to be silent. There must be some questions that are to be addressed in metaphysics, and only metaphysics. If another part of inquiry which has greater authority than metaphysics addresses this question as well then its answer, whatever it may be, will trump whatever answer metaphysics might give. Furthermore, it can't be that the questions in the domain of metaphysics have an answer *immediately implied* by the results in other parts of inquiry that have greater authority. This seems to be the case with our question whether or not there are numbers. You would not hear it in the mathematics department, unless there was a philosophical conversation going on. But it seems that an answer to it is immediately implied by results that are established in the mathematics department: for example, that there are infinitely many prime numbers. If metaphysics is both ambitious and modest then the questions that are in the domain of metaphysics can't have answers that are immediately implied by answers to the questions that are in the domain of the sciences. Not just that they are not immediately implied by the answers that are in fact given, but even by the answers that might be given but haven't been established yet. If metaphysics tries to answer questions that have an answer immediately implied by results that are in the domain of the

[3] Talk of modest and ambitious metaphysics, in particular ontology, also appears in Bas van Fraassen's [van Fraassen, 2002], but with a different meaning. For van Fraassen, modest ontology only studies the consequences of the sciences for what there is, while ambitious ontology asks questions that the sciences don't ask, in particular, modest and ambitious ontology exclude each other. See [van Fraassen, 2002, 11]. Thanks to Jason Bowers for this reference.

sciences then the metaphysician who is modest will have to acknowledge that the sciences have the final say on the issue. The metaphysician can merely jump the gun and put out an answer, but realize that if science will side one way rather than another in their pursuits there will be nothing left but to retract ones own answer and side with the sciences if they go a different way. Ambitious, yet modest metaphysics, has to have its own domain.

This gives rise to two of the main questions we should hope to make some progress on. Metaphysics worth the name has to be ambitious, yet modest. And that requires it to have its own domain. We thus have *the question of the domain*:

(QD) What questions are to be addressed in metaphysics?

If there is such a domain then there can be a legitimate project of ambitious, yet modest, metaphysics. There will be questions that are properly addressed by metaphysics, and their answers are not settled by what is established in other parts of inquiry. Thus ambitious, yet modest, metaphysics must have some form of autonomy. It must be able to do its own thing. This does not mean that it is completely isolated from the rest of inquiry. For example, which position to choose can be influenced by the positions taken in other parts of inquiry without the other parts directly implying answers to the metaphysical questions.

We should require only that there is no direct or immediate implication from the results of other parts of inquiry to an answer to the questions in the domain of metaphysics. If one were to require that the questions in the domain of metaphysics are independent in a stronger sense, that there is no implication at all, then this would impose a stronger standard on metaphysics than other parts of inquiry to be considered legitimate and distinct parts of inquiry. It might well be that physics has greater authority than sociology, and that some questions that sociology aims to answer have an answer implied, somehow, by the results of physics. But however such an implication might go, it would not be immediate, not like the implication from 'there are prime numbers' to 'there are numbers'. The former would not threaten sociology, but the latter does threaten metaphysics.

If there is such a domain for metaphysics then this gives rise to the question how metaphysics should proceed in trying to answer the questions in its domain. Is there a special method that comes with this special domain? Is there a distinctly metaphysical method with which these distinctly metaphysical questions are to be addressed? This next question is thus *the question of the method*:

(QM) How are the questions in the domain of metaphysics to be addressed?

Can there be such a thing as ambitious, yet modest, metaphysics? This is not so clear, in particular it is not so clear if the metaphysical projects we

metaphysicians are engaged in these days fall into it. We won't discuss this issue at the more general level here, and we won't focus on all of metaphysics. Metaphysics is a diverse discipline. A number of different kinds of problems are traditionally grouped together in it, and we should not expect a uniform answer to these questions for all of metaphysics. For example, I believe that the answers with respect to ontology and to the problem of change are quite different (we will see why at the end). In the following we will focus on ontology. In particular, we will discuss the cases of natural numbers, properties, and propositions. These cases will allow us to see how there can be ambitious, yet modest, ontology, and it will show us something about metaphysics and its relation to other parts of inquiry.

2 Ontology as Esoteric Metaphysics

Ontology makes the question of the domain very vivid. Is ontology trying to answer questions like

(1) Are there numbers?

It is not clear how this could be the question that ontology is trying to answer, since it would seem to turn the question into a trivial mathematical one. What then is ontology supposed to do?

There are two large-scale options about what the questions are that metaphysics, and in particular ontology, tries to settle. And this gives rise to two large-scale conceptions of what metaphysics is all about. The crucial dividing line between these two conceptions of metaphysics is the role of special metaphysical terminology. One conception holds that the questions in the domain of metaphysics are expressed in ordinary, everyday terms, accessible to all. We shall call metaphysics so understood *egalitarian metaphysics*. One does not need to understand special metaphysical terms to understand the questions that we are trying to ask in egalitarian metaphysics. The questions are accessible to all, even though not everyone cares equally about finding an answer to them. Egalitarian metaphysics has an easy time saying what its questions are, but a hard time explaining why they are metaphysical questions. The following questions are expressed in ordinary terms:

(2) Are there numbers?
(3) Is change possible?
(4) What are the most general features of everything?

On the other hand, one might hold that the questions that metaphysics is trying to answer involve distinctly metaphysical terminology. It would then be no wonder that the questions are to be addressed in metaphysics, since they involve terms that belong to metaphysics. This way of conceiving of metaphysics makes it easy to say why the question is in the domain of metaphysics, but hard to say what the question really is. We will call this approach to metaphysics *esoteric metaphysics*. Esoteric metaphysics holds that the questions metaphysics aims to answer involve distinctly metaphysical terms. It is properly called 'esoteric', since one needs to understand distinctly metaphysical terms in order for one to understand what the questions are that metaphysics tries to answer. You have to be an insider to get in the door. Esoteric metaphysics and egalitarian metaphysics are supposed to be opposites. The distinctly metaphysical terms that occur in the questions of esoteric metaphysics are distinct in the sense that they are not available to all, but are special terms from metaphysics. We will see below what does and doesn't count as esoteric metaphysics, and what is wrong with it.[4]

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Some versions of esoteric metaphysics are clearly absurd. For example, one version might hold that the question that metaphysics is trying to answer is this:

(5) What is metaphysically the case?

But the notion of 'metaphysically' is not spelled out in further terms. It is taken to be primitive metaphysical concepts. In addition, there is supposed to be an independence between what is the case and what is metaphysically the case. It is supposed to be such that it might well be that there are tables and chairs, and that thus that there are material objects, but metaphysically everything is mental, and thus metaphysically there are no material objects. Simply because there are material objects doesn't mean that metaphysically there are material objects. And simply because metaphysically there are no material objects doesn't mean that there are no material objects. What is the case and what is metaphysically the case are independent in this sense.

This version of esoteric metaphysics is absurd. It can't be that in metaphysics we are trying to find out what is metaphysically the case, but nothing more can be said about what it is for something to be metaphysically the case, as opposed to being merely the case. For this project to get off the ground we need to know more what being metaphysically the case is supposed to be. And once we know that, we can ask: what is metaphysically the case?

[4] I prefer to use 'egalitarian' and not the opposite of 'esoteric', which according to Joshua Knobe and *wikipedia* seems to be 'exoteric', in characterizing egalitarian metaphysics.

Although this version of esoteric metaphysics is absurd, there are a number of contemporary philosophers who in effect hold that the domain of metaphysics is to be defended along these lines.

The most common way to be an esoteric metaphysician in practice is not to have a primitive metaphysical concept that distinguishes the facts that are in the domain of scientific or other investigations from those that are there for philosophers to find out about. Rather these metaphysicians rely on a notion of metaphysical priority: some notion that claims that certain facts or things are metaphysically more basic than other facts or things. These notions of metaphysical priority usually get terms that are very familiar from ordinary discourse, but are supposed to have a distinctly metaphysical meaning. Examples of such notions are: more fundamental, prior, ultimate, the ground of, etc. Proponents of these versions of esoteric metaphysics usually hold that we do have some handle on these metaphysical concepts. And they try to make the case for this by giving examples where intuitively we would all say that A is more basic than B. But generally these metaphysicians pull a bait and switch here. They rely on some rather ordinary notion of priority and give an example of A being more basic than B in this ordinary sense, and then claim that this shows we have a handle on priority in a metaphysical sense. Ordinary notions of priority include not only such notions as being smaller, or earlier, or further down, but also a little more metaphysically sounding ones as causal order, or counterfactual dependence, and conceptual priority. Causal or counterfactual concepts are perfectly ordinary, and they do play a crucial role in ordinary everyday thinking. What has to be the case, what would be the case if something else weren't the case, what is brought about by something else, all these ways of thinking about the world play an important role in our planning and thinking, although it is hard to say what role they play precisely. Still, these are not the notions of priority that the esoteric metaphysicians are after. They, generally, hope to distinguish what is more basic among those things that have to be the case. That is, they want a hyper-intensional notion of priority, one distinguished among the facts that have to be the case. And they would like to do this in a distinctly metaphysical sense. There are many uncontroversial notions of priority. What is at issue is whether there is a metaphysical sense of priority on which the domain of metaphysics can be based.

Let's in the following capitalize the distinctly metaphysical notions to distinguish them form their more down to earth, ordinary counterparts. So, the less popular version of esoteric metaphysics takes the special notions to be the one what is ULTIMATELY or METAPHYSICALLY or FUNDAMENTALLY the case. The more popular version takes some notion of metaphysical priority as basic. Such a notion will hold that certain things or facts are more BASIC

or more FUNDAMENTAL or PRIOR in a metaphysical sense than others. Either way, it gives rise to some nice esoteric metaphysics. Let's look at two examples.

The source of recent esoteric metaphysics is Kit Fine, in particular in his [Fine, 2001]. In that paper he wants to say how questions about realism are to be addressed, but in effect he outlines a larger project in metaphysics and how it is to be carried out. For Fine the crucial questions are what is real and what is grounded in the real. But the two central notions in these questions, ground and reality, are not to be mistaken with the ordinary everyday notions. My hopes might be real, but grounded in false promises. That is not a concern for Fine, though, since he means the question in a special metaphysical sense of these concepts. We should thus capitalize GROUND and REALITY (or REAL) to make clear that we mean these notions in a metaphysical sense.[5] FN:5
Fine is happy to work under the assumption that these notions can't be spelled out, or defined, in terms of more ordinary notions like fact and truth, and thus he is happy to taken them as primitive concepts of metaphysics (p.14 f.). But then, does Fine's project just turn into a version of esoteric metaphysics that clearly should be rejected, like the one that tries to find out what is metaphysically the case? Fine certainly wouldn't like that, and he tries to make the case in his paper that even though we might well have to accept these notions as primitive, we nonetheless has some grasp of them. He illustrates this with some examples, and this in turn is a perfect example of someone relying on various perfectly acceptable notions of priority who claims that these cases of priority give us some insight into a kind of metaphysical priority.

There are a number of examples Fine gives in [Fine, 2001] that suggest that we have a grasp on the notion of metaphysical priority. But it seems to me that these are really examples of various other kinds of priority. For example, consider the case of a true disjunction and its true disjunct. One might hold that the true disjunct is metaphysically more basic than the true disjunction. But it seems to be rather a simple case of an asymmetrical logical relationship between them: the disjunction implies the disjunct, but not the other way round. That the disjunct is in some sense more basic than the disjunction can be accepted by all. What is controversial is whether this is in a metaphysical sense, or some other sense. I think it is simply a logical sense. Or take the case of mass, volume and density. Any two of them determine the third, but

[5] There is an issue about GROUND and whether it can be spelled out in ordinary terms. Fine says that the fact that F grounds the fact that G just in case G consists in nothing more than F. This is supposed to be an explanatory connection, but the relevant sense of explanation is supposed to be a special metaphysical explanation. So, it will depend on the details. The notion of REALITY is taken as primitive, though.

intuitively one pair, mass and volume, is more basic than density. And this seems right, but this is priority in a conceptual sense, not a metaphysical one. Our concept of density is derivative on our concepts of mass and volume.[6] And there are other senses of priority that should not be confused with metaphysical priority, whatever that might be. We will see another case below, involving mathematical priority.

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Fine gives a few examples of what 'grounding' is supposed to be. It is tied to the notion of a fact obtaining being nothing more than another fact obtaining. For example:

> Its being the case that the couple Jack and Jill is married consists in nothing more than its being the case that Jack is married to Jill. ([Fine, 2001, 15])

And this relationship is supposed to be an explanatory one. But I have to admit not to follow this. It is a conceptual truth, I take it, that

(6) A and B are a married couple iff A and B are married to each other.

But how is it an explanatory relationship? Even if conceptual connections can be explanatory, which is not at all clear, this doesn't seem to be a case of it. How does Jack being married to Jill explain they are a married couple? To be sure, it is supposed to be a special case of metaphysical explanation, and that might be sufficiently different from normal explanations. It certainly would not be a good answer to the ordinary question why Jack and Jill are a married couple to reply because they are married to each other. But what then is this metaphysical explanation?

As far as I understand Fine's view, it is a sophisticated version of esoteric metaphysics: metaphysics is supposed to find out what is GROUNDED in REALITY, in a special metaphysical sense of these terms. To know what this sense is gives you entrance into the discipline, but it takes a metaphysician to know this sense. Esoteric metaphysics never sounded so exclusive.

Although many people talk about metaphysical priority, Jonathan Schaffer puts it to some especially nice and far out use in his defense of priority monism, the view that the whole cosmos is ultimately prior, see [Schaffer, a] and [Schaffer, b]. Schaffer maintains that what ontology should be concerned with is not what exists, what there is, or anything trivial like that. What ontology should find out is what is ultimately prior. And he argues that the answer is: the

[6] Conceptually it might be that our concept of density is really weight per volume, not mass per volume. But in either case, I think conceptual priority accounts for our judgments of priority here. Marc Lange pointed out to me that Newton introduced mass in terms of volume and density, which might suggest that he thought the latter two were more basic in a physical sense. If that is right then conceptual priority and physical priority, according to Newton, come apart.

one cosmos. But what does 'prior' mean? What is this metaphysical priority or grounding supposed to be? Schaffer isn't too concerned with those who find this notion somewhat mysterious. After all, he points out, it can be traced back to Aristotle, and has been used in metaphysical debates for millennia. And it can be spelled out in other terms, like 'in virtue of' (which, of course, has to be taken in a metaphysical sense). And it is just so useful to have. But as he says, it in the end has to be taken as a primitive concept: 'Grounding is an unanalyzable but needed notion–it is the primitive structuring conception of metaphysics.' ([Schaffer, b, 13]). But what is at issue here is whether or not there is a legitimate discipline of metaphysics at all. It might well be that there can't be such a project without such a primitive notion (although I deny this). But that doesn't mean that there can be such a project with such a notion. Whether there can be such a project as metaphysics at all is what is at issue. I have enough doubts about the glorious history of philosophy to not take Aristotle's word for 'priority' to be a clear enough notion on which metaphysics can be based. In a sense, of course, priority is a clear notion. There are many things that are prior or more fundamental than other ones, but they are so in many senses of these words. What is disputed and controversial is whether there is a special metaphysical sense of priority or fundamentality. This I deny.[7]

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Take another example. There is a reasonably clear sense in which the prime numbers are more fundamental than the even numbers. The prime numbers generate all the numbers with multiplication, whereas the even numbers are merely the multiples of 2. Mathematically the prime numbers are more basic. That's why there is a lot more work done on prime numbers than on even numbers. Also, in a sense the truths about the prime numbers 'ground' the truths about all the numbers. Each number term can be replaced with a complex term involving only primes and multiplication. All quantification over numbers can be understood as quantification over what is generated by the prime numbers with multiplication. But no one, I hope, would say that in REALITY there are only prime numbers. Or that ULTIMATELY there are no composite, i.e. non-prime, numbers. The prime numbers are mathematically special, not metaphysically. Judgments of fundamentality here should not be

[7] In conversation, as well as in [Schaffer, b, 21], the Euthyphro contrast is often mentioned as a clear case of metaphysical priority: is something good because the Gods love it, or do the Gods love it because it is good. But this is not at all clear. There are two counterfactual dependencies here which are not metaphysical priority: if the Gods loved something else then that would be good, vs. if something else were good then the Gods would love that. And there are causal readings of the contrast (which are not a case of metaphysical priority), and so on. Metaphysical priority is supposed to be another sense of priority, distinct from counterfactual and causal ones. When undergraduates get the contrast it is not at all clear that this gives them the notion of metaphysical priority, as Schaffer holds.

given a metaphysical or ontological reading. Similarly for someone who holds that 0 and 1 are more fundamental than any other number since they generate all the numbers with addition. One could imagine a debate between a priority prime-ist and a priority 0-1-ist about which numbers there ultimately are, but let's not.

In addition, there is a reasonably clear debate between some mathematician who holds that the numbers are basic, and another who holds that ultimately its all structures.[8] The second will attempt to prove theorems with more algebraic methods and hold that the number systems are merely a way to represent particular structures, which are more basic. The first will hold that it is important to keep in mind that the structures merely abstractions from the number systems, say, which are in turn more basic. They will disagree on what mathematical problems are the most central ones, how to tackle them, and so on. This is a perfectly fine difference between stances towards how to proceed in mathematics that can described as a difference about what is more basic or more fundamental. But it would be a mistake to think that there is a disagreement at stake about metaphysical priority. 'Priority' makes a lot of sense, in a lot of senses. But whether 'metaphysical priority' makes sense, and whether other senses of priority track metaphysical priority is what is at issue.

Esoteric metaphysics is to be distinguished from metaphysics that introduces metaphysical notions in the theories or answers it tries to give to otherwise ordinary questions. For example, a metaphysician might hold that the best answer to a certain question is metaphysical theory T, which in turn implicitly defines a certain theoretical notion. For that to be the case there will have to be a metaphysical question without that notion to start with, and then a theory with that notion, claiming to give the best answer to the former question. If the question already contains the metaphysical term then it is esoteric metaphysics. If only the answer contains the term then it is not. Esoteric metaphysicians in practice don't like to introduce the special terminology this way, though, and they generally prefer to take it as a primitive. For example, one might hold that first there is the question which counterfactuals are true, and the answer to that question introduces the term 'natural'. Then there is the next question: which things are natural in this sense. But the followup question is then derivative on the theory of counterfactuals. This seems to give counterfactuals too big of a role in metaphysics, and doesn't seem to be a proper way to start the project of ontology.

[8] This is not a debate about *philosophical structuralism*, the view, say, that numbers are positions in a structure, but *foundational structuralism*, the view that structural considerations are more central or basic than considerations about particular number systems.

Mathematics might seem like an esoteric discipline in our sense, but it really is a paradigm example of an egalitarian project. If you open a mathematics journal, the articles will aim to answer questions that are themselves full of mathematical notions. But these notions are not unexplained. In fact, almost all mathematical notions are explicitly defined in terms of notions that ultimately go back to ones accessible to all, including that of a natural number, of a collection, and so on. Mathematics, inaccessible as it in fact might be, is a paradigm of an egalitarian project. Everyone, in principle, can join in. Everything can be explained in ordinary terms.

The esoteric approach to metaphysics undoubtedly has it appeal, since it gives rise to a metaphysical project with some degree of autonomy. Simply what is true doesn't tell us what is ULTIMATELY true, and what is a fact doesn't either. We have autonomy from the facts, but, of course, not from the FACTS. Even though some who hold on to metaphysical priority, like Schaffer, think that science tracks what is prior in this sense, this isn't a requirement at all. Why not think that what science tracks is merely what is scientifically prior, which might or might not coincide with what is metaphysically prior? Or that science pretty well tracks what is metaphysically prior, except that it misses one last level of priority, what is ultimately prior, which is only settled in philosophy. Esoteric metaphysics appeals to those, I conjecture, who deep down hold that philosophy is the queen of the sciences after all, since it investigates what the world is REALLY like. The sciences only find out what the world is like, but what philosophy finds out is more revealing of reality and what it is REALLY like. Of course, the primitive notion of fundamentality or priority gives one no guarantee that any value should be attached to what is more or less prior, and to finding that out. Still, those who hold onto such a project certainly project such value onto this, but if the notion is primitive, I don't see why they should.

The freedom from the facts in esoteric metaphysics opens the door for many metaphysical views to be reintroduced that were long gone. I can't wait for the first metaphysician to come out and defend that everything is water. Not to be confused with *aquaism*: the view that everything is water. That is clearly false. Rather, its *priority aquaism*: everything is ultimately water. Water is the most fundamental of all things. Of course, water is H_2O, and so made up from other stuff, but that is the wrong sense of priority. Water is metaphysically more basic than both H and O, though physically H and O might well be more basic. Our ontology contains only water. It nicely goes with a process metaphysics. It supports our intuitive judgment that water is an especially important liquid. It is perfectly understandable: I mean it in Thales' sense! Maybe it even gives rise to the final explanation of why time flows. And the

next one will defend *priority aeroism*: the view that everything is ultimately air. (The final explanation of why time flies!) A new golden era, or the dark ages all over again.

It is often not clear whether someone is an esoteric metaphysician. One nice example is Ted Sider, who is not an esoteric metaphysician in a good part of [Sider, this volume], but then happily turns into one at the end. The crucial issue that makes one esoteric is whether the questions one is trying to answer involves special metaphysical terms. It is a different story if the answers one provides involve such terms. There is nothing wrong, as far as I can tell, with introducing theoretical terms to answer perfectly meaningful questions. When Sider in the first half of his paper speculates that the most natural quantifier meanings might be magnets he is not esoteric, since he takes it that the question of ontology is just the question: are there Xs? But when in the second half of the paper he imagines that magnetism might not be strong enough he goes esoteric. On that option the question we try to answer in ontology are questions like:

(7) Is '$\exists x$ *x* is a number' true when '$\exists$' has the most NATURAL meaning with the same inferential role as the existential quantifier in English?

This is an esoteric question, since it involves the metaphysical notion of naturalness. It also suffers from the problem that the existential quantifier in English has no inferential role to speak of. The inferential role of the existential quantifier in first order logic does not carry over to the existential quantifier in English (we have empty names, singular terms that are not even in business of denoting, and so on). So even if naturalness makes sense, the most natural property of properties satisfying the minimal inferential role of the English existential quantifier might be something very different. By the way, I take David Lewis not to be an esoteric metaphysician. Whether he is one depends, in his case, on the role of the special metaphysical notion of 'naturalness', i.e. is it part of the question, or part of the answer to some other question stated in ordinary terms?

Other approaches can be esoteric or not, depending on the details. For example, those who talk a lot about truthmaking might or might not be esoteric, although in practice many metaphysicians who like truthmaking are esoteric metaphysicians. In general, those who prefer semantic methods are less likely to be esoteric than those who stress truthmaking.[9] Another interesting case is Jody Azzouni, in [Azzouni, 2004]. Azzouni is esoteric in a slightly

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[9] For example, Agustin Rayo assures me, in conversation, that he wants to have nothing to do with esoteric metaphysics in his [Rayo, 2008].

different sense in that he holds that the question we are trying to ask in ontology isn't expressed by any sentence of English.[10] There are many others that could be considered here as well. But enough about the dark side.

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3 Ontology as Egalitarian Metaphysics

Some philosophers are driven to esoteric metaphysics since it seems that without some special metaphysical notion that can be used in the question that defines metaphysics, there is nothing to do for our beloved discipline. But this is a mistake. In the following sections I will outline a different, positive answer to the question of the domain, an answer that is squarely egalitarian. Ontology is concerned with questions that are expressed in perfectly ordinary terms, accessible to all. Nonetheless, the ontological question about numbers, for example, is not answered in mathematics. This way of defending ontology as a philosopher's project will be based on rather different considerations than the versions of esoteric metaphysics we saw above, and the method with which ontological questions are to be addressed is also distinctly different from the esoteric approaches.

In this section I will present what I take to be the answer to the question of the domain and the question of the method for ontology. This answer is based on a variety of considerations about natural language, most of which I will only be able to outline in a crude form. The details can be found in various papers cited below, as well as in my forthcoming book, *Ontology and the Ambitions of Metaphysics*, [Hofweber, 2008b]. It will give us an outline of an alternative positive answer to how to defend ontology as a philosophical discipline, what considerations are involved in its defense, how it differs from the esoteric approaches, and finally what the answer is to some ontological questions.

3.1 Polysemous Quantifiers

Many expression in natural language are polysemous, that is, they are a number of closely related, but different, readings, which correspond to a number of different, but related, contributions that they can make to the truth conditions of utterances of sentences in which they occur. This is uncontroversial for verbs. For example, the verb 'get' has a variety of different readings:

(8) Before I get home I should get some beer to get drunk.

[10] See [Hofweber, 2007b].

Quantifiers are polysemous as well. They have at least two readings. On one of them they make a claim about the domain of objects that they range over, a claim about what the world contains. This reading is the active one in a common utterance of:

(9) Someone kicked me.

Call this *the domain conditions reading*, or *external reading*. In addition, they have a reading tied to an inferential role, a certain way in which quantified statements inferentially relate to quantifier free ones. An example to illustrate this use of quantifiers is a common utterance of:

(10) There is someone we both admire.

when I have forgotten who it is. All I want to say is that:

(11) You admire X and I admire X.

It is supposed to be the very same X, although I can't remember who X is. To get that across I need a quantifier, but not one that ranges over what the world contains. The sentence I want to utter should be implied by any instance. After all, it might be that the only thing we both admire is Sherlock Holmes. In this case there will be a true instance, namely:

(12) You admire Sherlock, and I admire Sherlock.

but there will be no object in the world that is such that we both admire it. (I am assuming here, of course, that there is no Sherlock Holmes, which is slightly controversial among philosophers, but almost universally accepted by everyone else.) On a common utterance of (10) I will want to remain neutral with respect to whether the object admired exists or not. If (12) is true then this should be enough for (10) to be true. 'Someone' has a reading where this is so. On this reading, any instance of (11) will imply (10), irregardless of what the semantics is of the term that replaces 'X'. It might be a referring term, or not. And this is exactly what I am trying to say with (10).

This reading we can call the *inferential role reading* or *internal reading*. That quantifiers are polysemous in this way we can see from general considerations about the need for them in communicating information. In particular, the argument that quantifiers are polysemous in this way has nothing to do with metaphysics or ontology. It comes simply from the need we have for quantifiers in ordinary, everyday communication.

The two readings of quantifiers differ in truth conditions, with one being like an objectual reading of the quantifier, the other one being like a substitutional reading. (This is not 100 percent accurate, but close enough for now). The

inferential roles are straightforward in the simplest cases. In the particular quantifier case: 'F(t)' implies 'Something is F.' In the universal quantifier case: 'everything is F' implies 'F(t)'. In both cases it does not matter what 't' is as long as it is grammatically a singular term. In particular, whether or not 't' is a referring expression and whether or not is succeeds in referring, even if it tries, is irrelevant for the internal reading. That the only true instance of (10) is (12), and that 'Sherlock' doesn't refer to anything is no obstacle to (10) being true.

Also, it can be specified precisely what contribution to the truth conditions the quantifier makes in its internal reading, and why these truth conditions give it this particular inferential role. This story can be extended to generalized quantifiers. I won't get into this here, though.

To give another example, consider the sentence:

(13) Everything exists.

On the one hand, it seems trivially true. All the things in the world have one thing in common: they all exists. But on the other hand, it seems clearly false. Santa doesn't exist, and so there is at least one thing that doesn't exist. So, not everything exists, and Santa is one of these things that doesn't exists. These two ways of thinking about (13) correspond to our two readings of quantifiers. On the external reading of 'everything' (13) is true, and on the internal one it is false.

It is important to note that both readings of the quantifiers have equal standing. It would be a mistake to think that one is somehow derivative on the other. It is not the case that one reading is a contextual restriction of the other (see [Hofweber, 2000]). Nor is one somehow more strict, or that one is appropriate for philosophy and the other for ordinary talk. Both readings occur in ordinary discourse, as well as in philosophical discourse. In addition, any of the readings can grammatically and meaningfully occur in any part of discourse. It would be a mistake to think that, say, quantification over numbers, or properties, or material objects, always has to be in accordance with one reading. Both are perfectly meaningful when combined with any predicates.

It is a consequence of this that certain questions have two readings, and the ones that intuitively are the questions we want to ask in ontology are among them:

(14) Are there numbers?

has an internal and an external reading, just as the statement:

(15) There are numbers.

The distinction of internal vs. external questions comes, of course, from Carnap, [Carnap, 1956]. I think Carnap had a deep insight when he made that distinction. However, he was all wrong about why there is such a distinction and when he argued that external questions are meaningless. External ones are just as meaningful as internal ones, they are merely different readings of the same sentence. And contrary to Carnap I don't think that an external–internal distinction is the end of a metaphysical discipline of ontology. Instead it is a distinction that is a central part of why there is such a discipline in the first place, i.e. why ontology has its own domain. We will see why this is so shortly. I would like to point out, though, that I take Carnap's deep insight to be quite different from others who also take inspiration from Carnap. In particular, I think Carnap's insight should not be developed as a form of anti-realism about ontology, as defended, for example, by Stephen Yablo, in [Yablo, 1998] and [Yablo, 2000], or David Chalmers, see [Chalmers, this volume]. There indeed are two different questions we can ask with sentences like (14). But both of them are equally meaningful, factual, etc. The present view thus defends a distinction between internal and external questions, but also holds that this is the key to a version of realism about ontology as a philosopher's project. More on this shortly.[11]

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3.2 Non-Referential Singular Terms

New singular terms can sometimes be introduced apparently without change of truth conditions. This is especially striking for talk about numbers, properties, and propositions. There are apparently trivial inferences from *innocent statements* like:

(16) Fido is a dog.
(17) Jupiter has four moons.

to their *metaphysically loaded counterparts*:

(18) Fido has the property of being a dog.
(19) It's true that Fido is a dog.
(20) The number of moons of Jupiter is four.

These inferences are indeed trivially valid, but the new singular terms are not referential singular terms. Instead the loaded counterparts are, in the relevant uses, *focus constructions*. They present the same information with a different emphasis. In [Hofweber, 2007a] and [Hofweber,2005b] I argue that there is a

[11] The claims in this section are defended in [Hofweber, 2000] and [Hofweber, 2005b.

focus effect in the relevant uses of these sentences, and that the explanation why it is there shows that the relevant singular terms are not referential. The basic idea is this: sentences like

(21) I had two bagels.

and

(22) The number of bagels I had is two.

have a quite different role in actual communication, despite the fact that they are, apparently, truth conditionally equivalent. For example, only the former is a decent answer to the the question:

(23) What did you have for lunch?

The reason for this is that even though (21) and (22) have the same truth conditions, and communicate the same information, they do so in a different way. (21) communicates the information neutrally (unless given special intonation), while (22) gives a certain part of the information a special emphasis. This is what is commonly called a focus effect. Focus is often the result of intonation, as in:

(24) I had two BAGELS.

but in (22) this is achieved syntactically and does not require a special intonation (over and above what is already settled by the syntax). A well-known pair of examples that has a similar general structure is the so-called *cleft-construction*:

(25) Sue likes opera.
(26) It is Sue who likes opera.

The harder part is to see what the explanation is for the focus effect that arises in common uses of sentences like (22). In [Hofweber, 2007a] I argue that the explanation for why there is a focus effect in (22), but not in (21), is that in (22) the determiner 'two' is dislocated from its canonical position and put into a position that is in some tension with its syntactic category. Thus 'two' in (22) is still, semantically, a determiner, and not a referring expression. In particular, (22) is not, semantically, an identity statement where we claim that what two singular terms stand for is one and the same entity. Such identity statements do not come with a focus effect like (22). For the details of these arguments I will have to refer you to [Hofweber, 2007a].

It is important to note that so far this is only an account of certain special uses of number words, those that occur in especially puzzling inferences. The

larger issue of the semantic function of number words is left open by this so far. It is our next topic.

But if what I said so far is right then we can see why the inference below is indeed trivial:

(27) a. Jupiter has four moons.
b. Thus: The number of moons of Jupiter is four.
c. Thus: There is a number which is the number of moons of Jupiter, namely four.

But it does not yet answer the question 'Are there numbers?' in its external reading.

3.3 Internalism vs. Externalism

Given that quantifiers in principle have two readings, an internal and an external one, and that singular terms in principle can be referential and non-referential, the question arises whether or not in a particular domain of discourse, talk about natural numbers, say, there is a pattern in one direction or another. This gives rise to two large scale views about talk about numbers, properties, propositions, and other things. Let's call *internalism* about talk about natural numbers the view that number words and other number terms are non-referential in ordinary uses, and that quantifiers over numbers are used in their internal reading in ordinary uses. Call *externalism* about talk about natural numbers the view that the singular terms are commonly referential and quantifiers are commonly used in their external reading. Similarly for talk about properties, and others.

In principle, quantified statements over numbers always have two readings, and they thus can be used in either one of these readings. The question is not whether quantifiers are internal or external when they range over numbers. They can be used either way. The question is whether there is a pattern in one direction or another in our actual use of such quantifiers. Also, even if number words semantically are not singular terms, they can certainly be used with the intention to refer. The question is whether there is a pattern in our use of numbers words, are they used referentially or not, in general? If there is no pattern then neither internalism nor externalism is true. This is conceivable, but would make number talk completely weird. However things turn out, we must make sense of our talk about numbers, and the mixed option makes little sense.

To decide between internalism vs. externalism (if any) is the crucial task for answering the ontological questions. If one of the other is true then this will

settle what metaphysical work there is left to do in ontology with respect to this domain.

3.4 Internalism about (Talk about) Natural Numbers

I have argued that internalism about talk about natural numbers is correct, see [Hofweber, 2005a]. This is a substantial claim that relates to a number of difficult issues in natural language and mathematics. Number words in natural language have some strange features, in particular they can occur as apparently singular terms, as in:

(28) Two is a number.
(29) The number of moons is four.
(30) Two and two is four.

but also as determiners or some kind of modifier, as in:

(31) Jupiter has four moons.
(32) Two and two are four.

How number words can do both is not so clear. Why do number words have the ability to appear in these different grammatical positions, with apparently different semantic functions? This puzzle is a problem for everyone. If we want to understand what we do with number words, both in mathematics as well as in natural language, we have to understand how that can be so. In [Hofweber, 2005a] I have argued that there are different explanations for different cases, but the one that is most relevant for understanding arithmetic is the difference between (30) and (32). Here the explanation is not one that is purely at the level of language, but involves an account of overcoming a certain cognitive difficulty in learning basic arithmetic early on. I won't be able to outline what the account is nor what is accounts for, but it has the consequence that number words in (30) as well as in symbolic arithmetical statements like:

(33) $2 + 2 = 4$

are really determiners, expressions just like 'many' or 'some', that appear for cognitive reasons in a syntactic position contrary to their true type. This account explains, for many cases at least, why number words can appear so these different syntactic positions, and how they relate to each other. In particular, it follows that number words are not referring expressions in these uses, including in the symbolic arithmetical statements. Internalism about talk about natural numbers is one consequence. And it also has a number of consequences in the philosophy of mathematics. For example, it guarantees

that true arithmetical statements are true no matter what exists, or how many things exists, and it gives rise to a version of logicism about arithmetic.

3.5 Internalism about (Talk about) Properties and Propositions

I have argued that internalism is also correct about talk about properties and propositions. Contrary to number words, where at least many philosophers hold that it is prima facie plausible that number words are like names, the prima facie case for propositions clearly goes the other way. That-clauses, on the face of it, are not names or referring expressions. They are clauses, like 'who did it' or 'when I am ready'. That-clauses stand for objects is a strange thing to hold prima facie, but for that-clauses there is some reason to think so, in particular their interaction with quantifiers. Internalism can make sense of the interaction with quantifiers that that-clauses have in general. For example, both internalism and externalism can account for this inference:

(34) He believes everything I believe. I believe that snow is white. So, he believes that snow is white.

But they would understand it slightly differently. The internalist will hold that the inference exploits the inferential role of the quantifier, while the externalist will hold that the quantifier ranges over a domain of propositions, which contains the proposition that snow is white. The difference between internalism and externalism when it comes to propositions will be more apparent in the endgame. In particular, there is a powerful objection to internalism which suggests that externalism is the only option. To defeat this object is the main task in the defense of internalism.

The best objection to internalism is that it relies on the wrong view of what is expressible in our own language. It seems that internalism must hold that every proposition is expressible in present day English. After all, the sentence:

(35) Every proposition is expressible in present day English.

should, according to internalism, be true since all instances are true. What makes an internal universally quantified statement false is that there is a false instance of the quantifier, in our very own language. So (35) should be true. Furthermore, we have good reason to think that there are propositions inexpressible in present day English, and so internalism must be false.

This argument is powerful, but in the end mistaken. Internalism, properly formulated, can accommodate all good arguments we have for the limits expressibility in contemporary English. The key to seeing this is to understand how context sensitivity is to be accommodated in the internal reading of the quantifier, and how it relates to our notion of expressibility. When we say that

a proposition is expressible in a language we mean that it can be expressed with an utterance of a sentence in that language. But is it allowed for that sentence to have context sensitive expressions in it, and if so, what contexts are allowed? This gives rise to three different notions of expressibility: what is expressible without context sensitive phrases, what is expressible with context sensitivity by speakers in the contexts they are in fact in, and what is expressible with context sensitivity in arbitrary contexts. Issues of context sensitivity also arise in giving the truth conditions for internal quantifiers. The inferential role of the quantifiers should properly relate them to context sensitive instances, not merely ones without context sensitivity in them. Once this is done properly, we can see that (35) can be understood in three different ways, corresponding to three different notions of expressibility. And with the proper specification of the truth conditions of the internal quantifier over propositions we can see that (35) is false on two of these three readings, but true on the third one. To spell this out properly is a little bit involved since one has to specify the truth conditions for internal quantifiers when they are supposed to properly interact with context sensitive expressions. This is done in [Hofweber, 2006]. With this we can see that internalism is not refuted by considerations about expressibility.

There are also various other considerations in favor of internalism. Some are found in [Moltmann, 2003], although her view in the end is different, and there are others as well, of course. The case of properties is similar, but slightly different from the case of propositions. These two, however, are completely different from the case of natural numbers.

3.6 A Domain for Ontology

Suppose what I outlined above is indeed correct. That is, suppose that internalism is true for talk about numbers, properties, and propositions. How does it relate to ontology?

First, there is the issue what question ontology is trying to answer. Many have thought that ontology is just the discipline that tries to find out what there is. But this is problematic, since whether there are numbers is settled in mathematics, not philosophy. Some, notably Quine, have endorsed this and accepted ontology as finding out what there is, and that this is settled in the sciences. Others reject that ontology is trying to find out what there is. Instead they hold that it is concerned with what there is in REALITY, or what there is ultimately/fundamentally/most prior/in the most objectively natural sense of '$\exists$'. This leaves room for philosophy, but turns ontology into esoteric metaphysics. The present account is in the middle. The question that ontology is trying to ask is just the question what there is, but it is neither

trivial, nor is it, in the case of numbers, properties, and propositions, answered in mathematics or the sciences. Here is why.

The question:

(36) Are there numbers?

is underspecified and has two readings, one arising from the internal, and one from the external reading of quantifiers. The question corresponding to the internal reading is answered completely trivially in the affirmative. It follows from Jupiter having four moons, and thus the number of moons being four. The question with the external reading is not trivially answered this way. But is it answered nonetheless, for example, in mathematics? If internalism about talk about natural numbers is correct then the question is not answered in mathematics. Arithmetic does not imply an answer to the external question, even assuming that it is literally true (which it is according to internalism). The external question is simply left open.

With the external question left open it is there for the taking, and I see no objection to philosophy giving it a shot. Addressing a question that is left open by the sciences is fully compatible with ambitious, yet modest, metaphysics. Simply because the sciences leave a question open doesn't mean, of course, that the question is properly philosophical. But let's not worry about what is properly philosophical. It should be enough that it is an ontological question that is left open by the sciences. Nothing they say directly implies an answer to it. So, how should we go about trying to answer it?

4 The Answer to the Ontological Questions

We now know what the ontological question is, namely 'Are there numbers, etc.?' just as we always thought. We also know this question is not trivially answered by easy arguments. And we know that it is not answered in mathematics. It is thus left open, available for philosophical consideration. A philosophical project of ontology has a domain, a distinct question about numbers not answered by mathematics. And so ontology makes sense as a philosopher's project. But here is the rub: if all this is right then there is indeed a philosophical project of ontology, but the project is largely trivial. The conditions that allow for ontological questions to be distinctly philosophical questions guarantee an answer to these questions. In particular, we can now see what the answer is to the ontological question is about numbers, properties, and propositions.

Let's briefly reflect on what seems to be a central thesis about reference or denotation:

(REF) If Fred exists then 'Fred' refers to Fred.

Of course, I am assuming that 'Fred' is unambiguous, or at least used in the same way throughout. (REF) is uncontroversial, I take it, and probably a conceptual truth. Note that it implies the following:

(REF*) If 'Fred' doesn't refer to Fred then Fred doesn't exist.

There are two ways for an expression not to refer. One is to aim to refer, but not to succeed. A classic case of this are empty names. Although the details of any example one might try to give of this are controversial, let's nonetheless take 'Sherlock' to be an empty name of this kind. That is, suppose Sherlock is a name and thus has the semantic function of picking out an object. But it fails in carrying out that function. It thus doesn't succeed in referring, and thus doesn't refer. Thus Sherlock does not exist. Nothing in the world is Sherlock, no matter what in general the world contains. There could be all kinds of people, with all kinds of professions, but no matter how general properties are instantiated in the world, nothing in it is Sherlock. And nothing could be. If 'Sherlock' does not refer then Sherlock does not exist. This is all fairly trivial, but I go over it to make it vivid for our next case.

Names aim to refer, but they can fail to succeed in what they aim for. The second way in which an expression might not refer is when it does not even aim to refer. Non-referential expressions, like 'very', don't refer since they don't even aim to refer. If internalism is correct about talk about numbers, properties, and propositions, then the relevant singular terms are non-referential. They do not aim to refer, and thus they do not refer. According to the above version of internalism 'two' is just like 'most'. But since it doesn't refer we know that there is no such thing as the number two. Since 'two' and 'the number two' are non-referring expressions nothing out there is (or can be) the number two. There can be all kinds of objects, abstract or concrete, they can have all kinds of properties and relations to each other. Nonetheless, none of them is (or can be) the number two. Or any of the other numbers. Internalism thus answers the ontological question. It doesn't help with the question of nominalism. Internalism is independent of nominalism or platonism. But it decides whether among all the entities there might be any one could be the number two. Again: no matter how many abstract things there might be, however many ω-sequences there might be, nothing is (or can be) the number two. And similarly, none of the things there are matter for the truth of arithmetic.

Talk about aiming to refer is, of course, somewhat metaphorical. It is illustrative, but not required. And it can be misleading. After all, I might not aim to insult you, but do it nonetheless, so why think that not aiming to refer guarantees that an expression doesn't refer? Aiming to refer is, of course, not an intentional state of a number word. It is a way to talk about its semantic function, what the word does at the level of language. If internalism is right then numbers are not referential in the sense that their semantic function is not that of picking out an entity. In addition, if internalism is right then speakers of the language do not in general use the word with the intention to refer. Some certainly might have such intentions, but those are deviant cases. Number words thus are just like words like 'some' or 'many'. Number words, just like any other words, can be used by particular speakers with the intention to refer, and these speakers can succeed in referring to something. I can use 'two' to refer to my biggest tomato plant, and succeed. But I can't use it or any other word to refer to the number two (as this phrase is commonly used).

And similarly for our other cases. If internalism about talk about propositions is true then 'the proposition that snow is white' as well as 'that snow is white' are non-referential phrases. They do not aim to refer or denote, and thus whatever there might be, none of it is the proposition that snow is white. Similarly for properties. Thus internalism settles the external, ontological questions. It doesn't imply anything about how many things there are, whether they are abstract or concrete, etc. But it guarantees that whatever things there may be, none of them are numbers, properties, or propositions.

5 The Prospects for Ontology

If all this is correct, what follows for our beloved discipline of ontology? On the one hand it's good, on the other, not so much. What is good is that ontological questions are sometimes properly in the domain of philosophy. The ontological question about numbers, the one that is not addressed in mathematics, and left open for philosophy, is just the question 'Are there numbers?' That question is a real, meaningful, and factual question. And the answer we gave above to that question, namely 'No', is the answer to the real ontological question. We found the question, and the answer. But what is bad for the discipline of ontology is that when the question is in the domain of metaphysics then the answer is always 'No' and thus there is little work to be done once it is clear whose question it is. This only holds for 'overlap' cases, cases where the sciences and philosophy both have an interest

FN:12 in the same subject mater: numbers, say, or properties, or material objects.[12] In other cases, say Cartesian egos, or causally inert angels, the present line does not apply.

What this tells us is that in the relevant cases we can never hope to find a positive ontological project, where the philosophical discipline of ontology finds certain entities. If anyone finds entities, it's the sciences (for overlap cases). What remains to be settled are various cases. How about events? How about sets? and so on. How these cases, all of which are overlap cases, will go will be determined by whether internalism or externalism is true for them. If externalism is true then metaphysics has nothing to contribute, if internalism is true then there are no such things. However, each of these cases is rather difficult. To settle internalism vs. externalism in any of these cases is a substantial and difficult task. Here there is much work to be done, but it is largely in the philosophy of language, and various largely empirical considerations about our minds, and how we talk. This then gives us the answer to the question of the method (for overlap cases):

(37) There is no distinct metaphysical method to address ontological questions. To find the answer we have to decide between internalism and externalism, which is done with the methods employed in the study of language, and related issues.

This answer to the question of the method shows that there is a special role for the philosophy of language in the metaphysical discipline of ontology. Even though the ontological questions are not about language at all, the way to settle cases is done with the methods from the study of language.

There is much work to be done in settling cases with respect to internalism or externalism, and however it will go, it will settle the relevant ontological question. But there is more to it for the larger metaphysical project. Whether internalism or externalism is true has very different consequences for different domains. If internalism about properties is true then the problem of universals is based on a mistake. If externalism is true then it is not. If internalism is true about propositions then a certain view about what can be expressed in language and thought is true, if externalism is true then it's another.[13] If internalism about number talk is true then a version of logicism about arithmetic is true.

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[12] In the case of material object I believe that externalism is true. If so, then the ontological question about material objects as well as composite objects is answered in the affirmative by scientific means. We have empirical reasons to believe in the affirmative answer to the ontological and metaphysical question about material and composite objects. Not from physics, necessarily, but from materials science and other sciences.

[13] See [Hofweber, 2006].

If externalism is true then logicism is hopeless. And so on. That's where the action is, and that's why ontology matters.

What we have seen for ontology does not carry over to other parts of metaphysics. For example, it does not apply to the problem of change. If there is such a problem at all, it will have to find its place in the domain of metaphysics in a different way.[14] But there is a positive light for metaphysics here that goes much beyond the limited role that philosophical projects in ontology can play. Deciding between internalism and externalism not only is the key to answering the ontological questions, it also gives us answers to many other questions, and some of those are questions in egalitarian metaphysics. For example, the question:

(38) Is arithmetic is true no matter what exists?

is not settled in mathematics, if internalism is true, but has an affirmative answer on the version of internalism about talk about natural numbers defended in [Hofweber, 2005a]. Metaphysics will be alright, but it will be different than how most metaphysicians think of it.[15]

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[14] In [Hofweber, 2008a] I have argued that there is no metaphysical problem of change at all. This contrasts with the ontological question about numbers, say, where I hold that there is a metaphysical question whether there are numbers.

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