

Language in the Ontology Room*

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Abstract

The way we answer questions about what there is crucially depends on the language and the logic in which they are framed. This entry introduces the orthodox view on how to carry out such debates, as was formulated by W. V. O. Quine, as well as a number of influential alternatives. A further issue that is explored is whether disagreement about what there is turns on mind-independent features of reality, or it is an artifact of language.

Keywords: ontology; metaontology; existence; quantification; first-order logic; higher-order logic; metasemantics; internalism; externalism; ontological pluralism; ontological realism; ontological deflationism; naturalness.

1 Introduction

Ontology (from Greek *on*, *ontos* ‘being’, and *logos*, ‘discourse’) is the branch of philosophy that studies what there is. The term ‘ontology’ may also be used to refer to the (kinds of) entities associated with an interpreted language, as in ‘the ontology of ordinary English is comprised of middle-sized dry goods’, or a theory, as in ‘quantum mechanics has no agreed-upon ontology’. Although the discipline of ontology has been practiced

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throughout the history of philosophy, the term ‘ontology’ did not appear until the 17th century.

The expression ‘ontology room’ is a label for the context in which ontological debates are, or should be carried out. The rationale for introducing such a notion is that quantifiers appear to be interpreted in different ways depending on the context of utterance. If ‘there is no wine’ is uttered at a party, the statement will be interpreted as meaning that there is no wine in the relevant apartment or venue. When ‘there is no wine’ is uttered by a philosopher, the statement is typically interpreted with the quantifier wide open, that is, as meaning that there are absolutely no tables.

The task of identifying a language that best fits the aim and scope of ontology, which is commonly referred to as *language of the ontology room*, pertains to metaontology, the discipline that studies the methodological underpinning of ontology. This entry sets out to explain how choosing such a language turns on broader semantic, logical, and philosophical considerations.

2 The orthodoxy

The contemporary orthodoxy in matters of metaontology, which is articulated in Quine [8], can be outlined as follows.

Ontological questions are stated in English by means of expressions of the form ‘Are there F s?’ or, equivalently, ‘Do F s exist?’. Commitment to the existence of F s is tantamount to accepting the truth of the logical regimentation of ‘There are F s’, which is a statement of the form $\exists x \hat{F}x$, where \hat{F} is the paraphrase of the English ‘... is an F ’ to the formal language of choice. The resulting *criterion of ontological commitment* is captured by Quine’s adage ‘to be is to be the value of a bound variable’.

The rationale for addressing ontological questions in the language of predicate logic is that the logical form of natural-language sentences can be ambiguous, as was already observed by the likes of Gottlob Frege and

Alfred Tarski. Here is a case in point. The ordinary English statement (*i*) ‘the person across the hall owns a dog’ appears to entail ‘someone owns a dog’. However, (*ii*) ‘the average person owns 0.4 dogs’ has the same subject-predicate structure in English as *i*. Thus, if logical form is determined by the syntactical structure of natural language, one should be able to infer the patently absurd ‘someone owns 0.4 dogs’. Once suitably regimented, however, it becomes clear that *i* and *ii* have different logical forms, and that only *i* licenses the relevant existential generalization.

It follows from Quine’s criterion that the answer to an ontological question is affected by one’s choice of logical regimentation. Because regimenting sentences of ordinary language is not a mechanical procedure, determining a speaker’s ontological commitments can be contentious. To see that, suppose that David states ‘doughnuts have holes’. If the form of his utterance is rendered in predicate logic as

$$\forall x(Doughnut(x) \rightarrow \exists y(Hole(y) \wedge Belong(y, x))) \quad (1)$$

then he will be ontologically committed to holes, provided that he is also committed to doughnuts. But it may turn out that David understands his own statement as having the following form instead:

$$\forall x(Doughnut(x) \rightarrow Perforated(x)). \quad (2)$$

If so, the statement will commit David to perforated objects, not holes. Quine’s criterion therefore guarantees that commitment to holes is avoided, as long as quantification over them is paraphrased away. The nontrivial challenge for the antirealist about holes will then be to show that such a paraphrase is able to preserve our core beliefs and inferences involving the term ‘hole’, see Lewis & Lewis [5]. The point generalizes, and is especially relevant to entities whose existence is most contentious, such as abstract or merely possible objects.

3 Beyond the orthodoxy

Other metaontological views offer alternatives to the Quinean orthodoxy. Meinong [7] and his followers have rejected the notion that to exist is to be something. In particular, they think that ontological questions have the form ‘Do *F*s exist?’, and not ‘Are there *F*s?’. The rationale for this claim is that competent speakers are willing to assent to ‘some characters from *War and Peace* do not exist’, regimented as

$$\exists x(Character(x) \wedge \neg Exist(x)). \quad (3)$$

But if existence were tantamount to being something, condition 3 would be equivalent with the logically inconsistent

$$\exists x(Character(x) \wedge \neg \exists y(x = y)). \quad (4)$$

Meinongianism calls for an account of what it takes to exist, as opposed to merely be something. Sometimes the distinction is taken as a brute fact—a solution which is widely regarded as obscure. Some Meinongians instead equate nonexistence with property indeterminacy: unlike ordinary humans, the nonexistent human Sherlock Holmes has no definite number of hairs on his body. The problem with such a move is that it appears to overgenerate nonexistent entities, since property indeterminacy is arguably involved in paradigmatic cases of metaphysical indeterminacy, such as macroscopic objects, quantum particles, and the open future, cf. Torza [11].

A different challenge to the orthodoxy is raised by Fine [2], who argues that the Quinean criterion is inadequate in that it fails to capture the logical relations between ontological commitments. For although committing to the natural numbers entails committing to the prime natural numbers, the entailment relation is reversed by Quine’s account, since the statement that there are natural numbers, regimented as

$$\exists x Natural(x) \quad (5)$$

follows from the statement that there are prime natural numbers, regimented as

$$\exists x(Natural(x) \wedge Prime(x)). \quad (6)$$

Fine recommends that commitment to natural numbers be expressed by means of the universal generalization

$$\forall x(Natural(x) \rightarrow Exist(x)) \quad (7)$$

where the existence predicate in 7 is defined by the higher-order condition ‘there is a property P such that, in reality, x is P ’. The expression ‘in reality’ is a primitive sentential operator with the following intended meaning: ‘in reality, a is P ’ is true if and only if it is a fundamental aspect of reality that ‘ a is P ’ is true. However, the kind of skepticism about the adoption of a primitive existence predicate, which targets standard Meinongianism, is likely to carry over to the adoption of a primitive reality operator.

A further point of contention concerns the number of (primitive) existential quantifiers to be employed. On the orthodox view, the only sense of ‘exist’ that is appropriate in the ontology room is the one captured by the unrestricted existential quantifier. According to ontological pluralists like McDaniell [6], however, things can exist in different ways. Chairs and numbers differ insofar as the former exist in the way concrete things exist, i.e. by having spatiotemporal location and causal efficacy, whereas the latter exist in the way abstract things exist, i.e. despite lacking spatiotemporal location and causally efficacy. Ontological pluralism is the view that the language of the ontology room features multiple primitive existential quantifiers, as many as there are ways of being. Van Inwagen [13] has criticized the view for misrepresenting the truth conditions of quantified statements, as well as their logic.

The thesis that the language of ontology should involve an unrestricted quantifier has come under fire on logical grounds. For if the quantifier of a language \mathcal{L} ranges over absolutely everything, a standard semantics for \mathcal{L}

will comprise an absolute domain U , i.e., a set of which absolutely everything is a member. By the separation axiom of set theory, U has a subset U' that is the set of all things that are not self-membered, which is known to lead to Russell's paradox. Consequently, either the language of the ontology room or its model theory must be reformed.

Fine [1] takes the first horn of the dilemma: although we are unable to state 'there are no numbers' in such a way that the quantifier ranges over absolutely everything, we can make sense of a language wherein that statement is true for a given set-sized domain, and would continue to be true for any potential set-sized expansion of the domain. Ontological theorizing will then require the intensional resources needed to express the relevant notion of potentiality.

Taking the second horn will involve reforming the model theory for the language of the ontology room, insofar as the aforementioned paradox presupposes that the semantics is stated in a first-order language, and so that the domain is a set. The paradox may be avoided, and absolute quantification rehabilitated, if the semantics is suitably reformulated in terms of higher-order logic, cf. Williamson [14].

A further sticky point regarding the orthodoxy is whether higher-order quantification should be employed in the language of ontology itself. Quine [9] had reasons for rejecting higher-order logic across the board, and in particular in the ontology room. First, he thought that higher-order quantification is not ontologically innocent: since the values of higher-order variables are sets, quantifying into predicate position will automatically commit one to abstract entities. Second, he thought that higher-order logic is not a logic proper, in that it lacks a sound and complete axiomatization.

Advocates of higher-order ontology are unmoved by Quine's objections, in that they regard quantification into predicate position as semantically primitive, hence irreducible to first-order quantification over sets. Moreover, although higher-order logic is not axiomatizable, it enjoys greater expressive

power than its first-order counterpart.

More to the point, it is claimed that appeal to higher-order logic solves or dissolves a host of classical problems in ontology. One question that is as old as philosophy is whether there are only particulars (Socrates, the Eiffel Tower) or also properties of particulars (mortality, tallness). Platonists identify properties with universals, i.e., entities that are, or can be, instantiated. Thus, platonism is true if the following first-order thesis is satisfied:

$$\exists x \exists y (Instantiate(x, y)). \quad (8)$$

Platonists infer condition 8 from any simple truth such as ‘the Eiffel Tower is tall’, or

$$Tall(e) \quad (9)$$

given a schema guaranteeing that whatever is F instantiates F -ness, or

$$\forall x (F(x) \rightarrow Instantiates(x, F\text{-ness})). \quad (10)$$

Although Platonism makes for a simple and powerful theory, it notoriously faces intractable metaphysical and epistemological challenges. Higher-orderists claim that commitment to properties need not involve universals. Indeed, they think that natural-language quantification over properties is regimented as quantification into predicate position in a formalized language. Since ‘the Eiffel Tower is tall’ logically entails ‘the Eiffel Tower is somehow’, or

$$\exists X X(e) \quad (11)$$

it follows that property realism is a simple fact of logic. If the property role is captured by higher-order quantifiers, the case for universals, and so for the controversial schema 10, is undercut, see Jones [4].

Higher-order property realism avoids some of the pitfalls of platonism, such as Bradley’s regress, which goes as follows. Platonists explain the truth that the Eiffel Tower is tall by means of the existence of two individuals, the Eiffel Tower and tallness, plus the truth that the former instantiates the

latter. By the platonist's own lights, such a truth requires to be explained, as well. The explanans in this case involves three individuals—the existence of the Eiffel Tower, tallness, and the relational property of instantiation—plus the truth that the ordered pair ⟨the Eiffel Tower, tallness⟩ instantiates the relational property of instantiation. Because the same pattern keeps recurring, platonists are caught in an infinite regress, which flies in the face of their explanatory ambitions. Higher-order property realism is impervious to Bradley's regress in that it does not attempt to explain true predication in terms of instantiation, cf. Trueman [12, ch. 10.2].

4 Substantivity

Say that two parties are having a disagreement if there is a sentence p , individuated phonetically, that is affirmed by one and denied by the other; and that the disagreement is substantive if p means the same in either party's mouth, otherwise it is verbal.

It follows that ontological disagreement is always substantive, as long as the parties in any given debate agree on the interpretation of the quantifiers (and possibly an existence predicate), as well as the nonlogical vocabulary involved—which is straightforward, provided that there is a language of the ontology room.

Hirsch [3] has denied the existence of such a language on metasemantic grounds, and with that the substantivity of many an ontological debate. Suppose that Amy, an advocate of ordinary ontology, says 'there are tables', whereas Bob, a self-avowed revisionist, rejoins 'there are no tables'. The principle of charity compels Amy to interpret Bob so as to ascribe him as many true utterances as possible. Given everything Bob has said, Amy can interpret his utterance of 'there are no tables' as 'there are no simples that are tables', which is true in her mouth. Also, charity compels Bob to interpret Amy's utterance of 'there are tables' as 'there are simples arranged tablewise', which is true in his mouth.

The point generalizes: given a suitable paraphrase, Amy and Bob can understand each other as being truthful; and charity compels them to do so. Their mutual disagreement regarding the existence of composite objects appears therefore to be verbal, in that it originates in the two parties employing different unrestricted quantifiers. The view, known as *quantifier variance*, threatens to deflate a large part of the ontological enterprise by undermining the thesis that there exists a preferred language in which to cast ontological disputes. Indeed, Hirsch goes so far as to claim that disagreement regarding composition, persistence, and the ontology of material objects at large is typically verbal. Quantifier variance leads to a brand of ontological deflationism that is broadly inspired by Rudolf Carnap.

The go-to strategy to safeguard ontological practice from the deflationary threat is to question the underlying charity-based metasemantics. Ever since the work of Saul Kripke, Hilary Putnam, and David Lewis, the mainstream view in metasemantics has been largely externalist: what a word means is determined not only by fit with use, but also by the eligibility of the candidate meanings. Roughly, a candidate meaning for a term is more eligible than another if it is more natural, or fundamental. It is possible for eligibility to trump fit: the extension of ‘fish’ as used by John Doe will not include whales, even if the most charitable interpretation of his utterances happened to be one that makes ‘whales are fish’ true.

Sider [10] has argued that quantifier meanings are not all on a par, as some enjoy greater eligibility than others. An interpretation of the quantifier that makes ‘everything is simple’ true is more eligible than one that makes ‘everything is either simple or an organism’ true. In general, gerrymandered meanings are less eligible, hence they tend to be ruled out by an externalist metasemantics. A maximally eligible quantifier is one that perfectly carves the world’s ontological structure at its joints.

An argument against quantifier variance, and ontological deflationism at large, can then be mounted. Suppose two parties in the ontology room

disagree about the truth of ‘there are Ps ’, and that there is a maximally eligible quantifier meaning Q . Because the ontology room is the context where questions about the world’s ontological structure are addressed, eligibility trumps fit as far as quantifier meanings are concerned. We are therefore justified in ascribing Q to both parties in the debate. It follows that ‘there are Ps ’ has the same meaning in either party’s mouth, which guarantees that the disagreement is substantive.

The strategy just outlined offers a way out of ontological deflationism on the basis of two key, if controversial assumptions: the metaphysical thesis that there is way of perfectly carving the world’s ontological structure at the joints; and the metasemantic thesis that facts about meaning are a function of facts about the world’s structure.

5 Conclusions

As Quine first acknowledged, the way ontological questions are answered turns on the language we choose to regiment them. Because regimentation is not a mechanical task, there is a number of choice points leading to different candidate languages to be employed in the ontology room. On the orthodox view, ontological theses are regimented in classical first-order logic, and existence is expressed by the unrestricted existential quantifier. Several alternatives to the orthodoxy have been articulated, which question the equivalence of existence and quantification; the possibility of unrestricted quantification; the adequacy of first-order logic; and the uniqueness of the existential quantifier.

Largely orthogonal to the distinction between orthodox and unorthodox metaontology is the question whether ontological disagreement is substantive rather than verbal. Advocates of quantifier variance have mounted a sustained critique of ontology’s substantivity, whereas realists have defended the ontological enterprise on the grounds of an externalist metasemantics.

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