Synthese
DOI 10.1007/s11229-016-1110-4

S.I.: META ONTOLOGY

The neo-Carnapians

Peter van Inwagen[1]

Received: 15 September 2015 / Accepted: 28 April 2016

Abstract This essay defends the neo-Quinean approach to ontology against the criticisms of two neo-Carnapians, Huw Price and Amie Thomasson.

Keywords Ontology · Meta-ontology · Carnap · Neo-Carnapian · Quine · Neo-Quinean

1. It is a commonplace that the last four decades have seen a grand revival of metaphysics within analytical philosophy, and that an important part of this revival has been the willingness of analytical philosophers to engage in ontological debates—debates about the existence or non-existence of abstract objects like numbers and attributes and propositions, and of concrete objects like mereological sums, "arbitrary undetached parts," and temporal parts. One important school of philosophers currently engaged in the debates about the existence and nature of such objects has been dubbed "the neo-Quineans." One simple way of describing the neo-Quinean school is this: it comprises those ontologists who venerate Quine's "On What There Is" as the foundational document of their ontological method. Philosophers being the contentious lot they are, however, it is perhaps not astonishing that the arguments and theses of the neo-Quineans have not commanded universal assent. Arguments that purport to show that neo-Quineanism is a flawed approach to ontology have been appearing in the literature with increasing frequency. Jonathan Shaffer, for example, has defended the position that metaphysicians should not be concerned with questions about what exists but rather about what is "fundamental." Others—Eli Hirsch and Hilary Putnam—have maintained that Quine was wrong (and his followers are wrong) to suppose that there

✉ Peter van Inwagen
vaninwagen.1@nd.edu

[1] Department of Philosophy, The University of Notre Dame, Notre Dame, IN 46556-4619, USA

Published online: 08 June 2016

is only one sense in which a thing can "exist." These philosophers—proponents of "quantifier variance"—contend that that 'exist' has many possible meanings: in one of these senses of 'exists' the mereological sum of the Eiffel Tower and the Washington Monument (for example) exists, and in another it doesn't.[1] And then there are those critics of neo-Quineanism whom I shall call the neo-Carnapians.

Several able philosophers have recently urged that neo-Quineanism rests on a mistake that is different from the mistakes alleged by Schaffer and Hirsch and Putnam. Neo-Quineanism rests (they say) on the mistake of thinking that Carnap's views on ontology (Carnap's meta-ontology, to use a phrase that is now current) were refuted by Quine in his famous exchange with Carnap in 1951.[2] In this essay, I will consider the arguments of two neo-Carnapians, Huw Price and Amie L. Thomasson.[3]

The present essay is a defense of neo-Quineanism against the arguments of Price and Thomasson. But I must add that it is in large part an attempt to discover what these arguments *are*. For—so it seems to me—much of what Price and Thomasson say is irrelevant to the arguments of the neo-Quineanians or is relevant only to peripheral and dispensable aspects of their arguments or is so abstract that it is hard to see what its relevance to their arguments is. (I am not one of those philosophers who uses 'It is hard to see what the relevance of p to q is' to mean 'p is irrelevant to q'. What I mean is this: There are long stretches of text in both the works I have mentioned that represent themselves as identifying defects in the arguments of Quine and the neo-Quineans; I have read these passages carefully in an attempt to determine how their content applies the theses and arguments of the neo-Quineans; this attempt has been inconclusive because the content of those passages is so very, very abstract.)

My procedure will be this. I will present an argument (an argument that I regard as a typical neo-Quinean argument) for the existence of things of a certain kind. The argument I shall present is an argument for the existence of numbers, but I might as well have presented an argument for the existence of propositions or of unrealized possibilities or of abstract objects of any of a wide variety of other kinds.

If Price and Thomasson are right, there must be some way (or ways) in which this argument is defective. Having presented the argument, I will proceed to ask where—according to Price and Thomasson—its defect lies (or its defects lie). I will suggest various possibilities concerning what they might say about the argument and defend it against those possible criticisms. My purpose is not to endorse the argument or to affirm the existence of numbers. It is rather to attempt to show that if the argument *is* defective, Price and Thomasson have not correctly identified its defects.

The argument will presuppose very few of the theses commonly associated with the way Quine and the neo-Quineans approach ontological questions. It will presuppose

[1] See Schaffer (2009, pp. 347–383), Hirsch (2011), and Putnam (2004).

[2] See Carnap (1950) and Quine (1951). An earlier version of Quine's paper was presented at a meeting of the Philosophical Seminar of the University of Chicago in 1951, a meeting at which Carnap was also present. Both papers have been reprinted many times. They are reprinted together in Feigl et al. (1972, pp. 585–601).

[3] Price's arguments are presented in Price (2009), and Thomasson's in Thomasson (2015). (See particularly Chap. 1, "Whatever Happened to Carnapian Deflationism?" of Thomasson (2015).)

only theses—only *two* theses—drawn from Quine's philosophy of quantification. And these are:

– That there is, in the final analysis, only one kind of variable. That is to say,
  (a) All variables occupy nominal positions (variables do not occupy sentential or predicative or adjectival or adverbial positions: if some linguistic item occupies a sentential or predicative or adjectival or adverbial position, then, whatever it may be, it is not a variable).
  (b) The range of variables is unrestricted. The range of a variable is restricted neither to objects of some given category or kind nor to the members of some specified domain of quantification. Such sentences as '$\forall x$ (x is a physical object $\vee x$ is a set)' and '$\forall x \exists y$ (y is a logical category & x belongs to y)' are perfectly meaningful (given that the natural-language predicates they contain are meaningful) and express theses that are about, well, everything. Variables whose range is restricted to objects of particular sorts (and which display some distinctive visual feature that allows them to be identified as such) are a kind of useful fiction. Suppose, for example, that the sentence 'In this paper, boldface variables are to range over sets' occurs in the introductory paragraphs of a philosophical paper, and that one of the subsequent sentences of that paper is, '$\forall \boldsymbol{x} \exists \boldsymbol{y} \forall z$ ($z \subseteq \boldsymbol{x} \rightarrow z \in \boldsymbol{y}$)'. The latter sentence must be understood as an abbreviation of some such sentence as '$\forall x$ (x is a set $\rightarrow \exists y$ (y is a set & $\forall z(z \subseteq x \rightarrow z \in y)$))'—that is, as an abbreviation of a sentence that contains only "general purpose" variables, variables of the only kind there is.

  This thesis is a consequence of Quine's contention that variables are essentially pronouns. To have the variables 'x', 'y', and 'z' and so on at one's disposal is simply to have an unlimited supply of all-purpose third-person-singular pronouns at one's disposal. The first of the quoted sentences in (b) means exactly the same thing as, is a notational variant on, 'Everything whatever is such that (*it* is a physical object $\vee$ *it* is a set)'. In this sentence, the pronoun 'it' occurs twice, and the antecedent of both its occurrences is 'everything whatever'. The second quoted sentence illustrates the expressive advantages one gains by having "an *unlimited* supply of all-purpose third-person-singular pronouns at one's disposal."[4]

– That the quantifiers are univocal. That is to say,

  The meaning of a quantifier does not change when one "applies" it to objects in different logical categories (or metaphysical categories or ontological categories or any kind of categories you like). For example, in the sentence,

$$\exists x \exists y (x \text{ is a mathematician } \& y \text{ is a theorem } \& x \text{ has proved } y),$$

  the two occurrences of '$\exists$' have exactly the same meaning, despite the fact that L. E. J. Brouwer and his fixed-point theorem belong to different logical (etc.) categories if any two things do.

[4] For a discussion of the expressive advantages gained by having an unlimited supply of all-purpose third-person-singular pronouns at one's disposal, see Van Inwagen (1998), pp. 238–240 in particular. This essay is reprinted in Van Inwagen (2001); the relevant passage is on pp. 19–21 in the reprinted version.

2. We now proceed to the promised argument for the existence of numbers—the argument that is (I contend) a typical neo-Quinean argument. I will in fact *call* the argument the TYNQUA—for 'typical neo-Quinean argument'. The TYNQUA has two premises:

1. There are objects that have both masses and volumes.[5]
2. The average density in grams per cubic centimeter of an object that has both a mass and a volume is equal to the ratio of its mass in grams to its volume in cubic centimeters.

These two premises may be expressed in what Quine has called the canonical notation of quantification as follows (we also replace the operator phrase 'the ratio of **α** to **β**' with one of its standard abbreviations, '**α**/**β**'):

3. $\exists x$ (x has a mass & x has a volume)
4. $\forall x$ (x has a mass & x has a volume . $\rightarrow$ the average density of x in grams per cubic centimeter = the mass of x in grams / the volume of x in cubic centimeters).

The following statement,

5. $\exists x\, \exists y\, \exists z(x = y/z)$

is a logical consequence (a first-order logical consequence, some would say) of (3) and (4). That is to say, (5) follows from (3) and (4) by ordinary textbook quantifier logic.[6]

In plain English, (5) says that there exists at least one thing that is a ratio (at least one thing that, for some x and some y, is the ratio of x to y). And a "ratio" must be a *number*, for the operation "the ratio of …to …" yields only numbers. Formally:

6. $\forall x\, \forall y\, \forall z(x = y\,/\,z \rightarrow x$ is a number).

And '$\exists x$ x is a number' follows from (5) and (6). We have, therefore, deduced 'Numbers exist' from (1) and (2) and (6). Premise (1) is an empirical fact. Premise (2) is taught in every high-school physics classroom.[7] It is, moreover, is a pretty good candidate for an analytic statement. But I will assume only that it is true. Statement (6) is certainly analytic. (Say, if you like, that the TYNQUA has three premises: (1), (2) and (6).)

Is the TYNQUA a knock-down argument? Does it *demonstrate* the existence of numbers? Of course not. This is philosophy. There are no knock-down arguments or demonstrations or proofs in philosophy—not at any rate of substantive, positive theses.[8] (I find it puzzling, incidentally, that some critics of current analytical ontology

[5] By a 'volume' we understand what is normally called a non-0 volume—thus, the volume of a point-mass, as we are using 'volume', is not "0" or "0 cubic centimeters" or "0 cubic light-years"; rather a point-mass does not have a volume (in the present sense) at all. My only purpose in giving 'volume' this non-standard sense is to simplify the statement of the argument.

[6] Expressions like 'the mass of x in grams' are *open terms*. The validity of the inference of (5) from (3) and (4) is comparable to the validity of the inference of '$\exists x\, x$ is bald' from '$\exists x$ (x is a woman & the father of x is bald)'. (I take "free logic" not to be "ordinary textbook quantifier logic.")

[7] Here's a little exercise in X-phi. Give a statistically significant number of high-school physics teachers a true-false test. Include among the statements to be marked 'T' or 'F' the statement 'The average density in grams per cubic centimeter of an object of non-0 volume is equal to its mass in grams divided by its volume in cubic centimeters'. I predict that that statement will be marked 'T' by every one of them.

[8] See Van Inwagen (2009).

should think that they are making some sort of case against ontology by pointing to the undoubted fact that ontological disputes seem to be unresolvable. *All* philosophical disputes—at least those of any consequence—are unresolvable, or at any rate give every evidence of being so. The ubiquity of disagreement among ontologists is precisely on a par with the ubiquity of disagreement among philosophers of mind, philosophers of language, epistemologists, moral philosophers, political philosophers, ….) There are all sorts of things that can be said against the TYNQUA, and there are many ways in which those who deny the existence of numbers might reply to it. (But why would anyone *want* to deny the existence of numbers? We shall address this question in Sect. 8.)

What I want to ask, however, is: What might *Price* and*Thomasson* have to say about this argument (and, more generally, about arguments of the sort of which this argument is an example)? I do not find this an easy question to answer. Much of what Price and Thomasson have to say—however relevant it may be to *some* arguments of *some* neo-Quineans, however relevant it may be to Quine's own arguments—is irrelevant to *this* argument, to the TYNQUA. (Thomasson's defense of the analytic-synthetic distinction, for example. I myself am happy to accept the thesis that there are clear cases of analytic sentences and clear cases of non-analytic sentences. I have, in fact, contended that statement (6) is analytic. I am, moreover, happy to concede that Carnap's "deflationism" does not imply anti-realism, fictionalism, or "quantifier variance.") And much of what they say is so abstract that it is hard to see how it bears on the TYNQUA. A critic of the TYNQUA might, of course, reject one or the other of the two presuppositions of the argument, might reject the Quinean position on the nature of quantifiers and variables. But, if I understand Price and Thomasson, they are willing to grant these presuppositions—either *simpliciter* or at least for the sake of argument.[9] That is, they insist that they can show that the neo-Quinean approach to ontology is defective without rejecting any of the theses of Quine's philosophy of quantification.

3. Will they say that (2) is true only within a certain "linguistic framework"—owing to the fact that 'ratio' has meaning only within the "numbers framework"? I will certainly grant that (2) is *expressible* only in language in which numerals occur not only as adjectives but as nouns. Consider, for example, the sentence,

7. If every member of the Admissions Committee casts a vote, the result of the vote cannot be a tie, since the Committee has nine members and nine is an odd number.

The first occurrence of 'nine' in this sentence is an adjective (modifying 'members') and its second occurrence is a noun[10]—and not a "defective" noun, like 'behalf' in 'I spoke on her behalf' or 'miles' and 'length' in 'Manhattan is 13.4 miles in length'—and occupies a position subject to existential generalization. The sentence

$\exists x$ the Admissions Committee has nine members and x is an odd number

[9] See Price, p. 332 and Thomasson, pp. 63–69.

[10] Note that the second occurrence of 'nine' in (7) can be replaced by 'the number nine'—unambiguously a noun phrase—*salva grammatica* and the first cannot.

follows from (7) by existential generalization. (If the Admissions Committee indeed has nine members, the open sentence 'the Admissions Committee has nine members and x is an odd number' is satisfied by every odd number.) But the sentences

$\exists x$ the Admissions Committee has x members and nine is an odd number

and

$\exists x$ the Admissions Committee has x members and x is an odd number

are ungrammatical: variables cannot occur in adjectival positions; variables are pronouns, and pronouns are not adjectives (or "pro-adjectives").[11]

If we did not speak a language in which there were phrases that denoted (or at any rate, purported to denote) numbers—nominal numerals (if you will forgive the unfortunate jingly sound of that expression) and phrases like 'the number of members of the Admissions Committee' and 'the average density of the moon in grams per cubic centimeter', we could not *say* that the average density in grams per cubic centimeter of an object that had a mass and a volume was equal to the ratio of its mass in grams to its volume in cubic centimeters. And, of course, we could not *say* that for any numbers x and y ($y \neq 0$) there was a unique number that was the ratio of x to y. But does it follow from this that the statement that numbers exist (or the statement that the number 9 exists or the statement that the ratio of the number π to the number 510.116 exists) is true only relative to the "numbers framework"?—or to any "linguistic framework"? Can we say that, for some linguistic framework, the statements 'Numbers exist' or 'The number 9 exists' and 'The ratio of π to 510.116 exists' are *analytic* statements within that framework? I have to ask: What do any of those statements even *mean*? How can an existential statement be analytic? How can an existential statement be true by definition? It is easy enough to see how a statement like '$\forall x\, \forall y\, \forall z(x = y/z \rightarrow x$ is a number)' manages to be true by definition, for the definition of '/ ' will be something like this: '$x/y =_{df}$ the z such that (z is a *number* and $x = z \times y$)'.[12] It follows logically from this definition that any ratios there may be are numbers[13]; it does not follow (logically) that any pair of numbers *has* a ratio—that there *are* any ratios.

I have implied that existential statements are never analytic (although of course I do not deny that there are existential statements that are necessary truths). I should mention that Thomasson, at least, does not dispute this statement. (On this point, I think, her view differs from Carnap's.) But she does insist that, if one uses the words 'proposition' and 'property' at all, then one must regard the following two sentences as analytic:

If snow is white, then the proposition that snow is white is true.

If snow is white, then snow has the property of being white.

[11] Translated into "philosophers' English," the first of the two offset sentences would read, 'It is true of at least one thing that it is such that the Admissions Committee has it members and nine is an odd number'.

[12] Note that there is no number z such that (e.g.) $5 = z \times 0$; therefore, '5 / 0' is an improper description.

[13] More exactly: if the expression 'y/z' in the sentence '$\forall x\, \forall y\, \forall z(x = y/z \rightarrow x$ is a number)' is replaced by 'the w such that (w is a number & $y = w \times z$)', the resulting sentence is an instance of a theorem of logic.

Note that neither of these pleonastic (as she calls them) conditional sentences implies the existence of entities of the kinds whose existence is implied by their consequents. Nevertheless, if these sentences are indeed analytic, then, since their common antecedent is true—since snow *is* white—, anyone who says, "There are no propositions" or "There are no properties" is wrong—and *trivially* wrong. (Here she follows Stephen Schiffer.[14]) Propositions and properties are thus "pleonastic entities," entities whose existence is guaranteed by the analyticity of the above two pleonastic sentences and the truth of their antecedents—since '$\exists x$ x is a proposition' and '$\exists x$ x is a property' follow logically from these sentences and the truth of their antecedents. If, therefore, "nominalism" entails the non-existence of propositions or properties, nominalism is trivially false. And if "realism" is by definition true if propositions or properties exist, realism is no more interesting a thesis than is 'If John is married, then John is not a bachelor'). If Thomasson is right, wise nominalists will not regard nominalism as a thesis about what there is but rather as a linguistic policy. Wise nominalists will state their position by saying something along the lines of

> For pragmatic[15] reasons, we will conduct all our discourse without the use of nouns or noun-phrases that purport to denote propositions or properties, and without the use of predicates that purport to have extensions comprising propositions or properties.

And the closest thing to a *substantive* thesis of realism would be a thesis of this sort:

> There are good pragmatic reasons for us to include nouns and noun-phrases that purport to denote propositions and properties in the lexicon of our language, and good pragmatic reasons for us to include predicates that purport to have extensions comprising propositions and properties in the lexicon of our language.

If the above "proposition" and "property" pleonastic conditionals are analytic, then, presumably the pleonastic conditional

> If the Admissions Committee has nine members, then the number nine = the number of members of the Admissions Committee

is also analytic and numbers are pleonastic entities: the closest one can come to "arithmetical nominalism" is to refuse—on pragmatic grounds—to use any arithmetical nominals (such as '(the number) nine' or 'the number of members of the Admissions Committee') and any arithmetical predicates (such as 'x is a natural number').

For my part, however, I see no reason to believe that "pleonastic conditionals" are analytic truths—and a reason to suppose that they are not.

Here is the reason for supposing that they are not. Consider the sentence 'If snow is white, then snow has the property of being white'. If this sentence is analytic, then—surely?—, for every closed term of English A and every monadic predicate of English

[14] See Schiffer (1996).

[15] Or perhaps for semantical reasons? I suppose that a philosopher might decline to use 'proposition' and 'property' on the ground that these words were meaningless; such a philosopher might compare 'If snow is white, then snow has the property of being white' to 'If snow is white, then snow is variably counter-tessalated' and 'There are no properties' to 'There are no variable counter-tessalates'.

F, the sentence ⌜If A is F, then A has the property of being F⌝ is analytic. But there are counterexamples to this generalization. Consider the predicate 'non-self-applicable'. An object is non-self-applicable just in the case that it is a property and it does not have itself. (For example, wisdom or the property of being wise is non-self-applicable, since it is not wise—and therefore does not have the property of being wise; but the property of being an abstract object is not non-self-applicable, since it has itself.) But the sentence

> If wisdom is non-self-applicable, then wisdom has the property of being non-self applicable.

is false and thus not analytic. It is false because its antecedent is true and its consequent false. Its consequent is false because (as the "property" version of Russell's Paradox shows) there is no such property as the property of being non-self-applicable.

Well, perhaps this "reason" turns on a mere technical trick, a trick that could be dealt with by some principled restriction on the terms and predicates quantified over in the general principle

> For every closed term of English A and every monadic predicate of English F, the sentence ⌜If A is F, then A has the property of being F⌝ is analytic.[16]

Even if such a principled restriction is possible, however, I continue to insist that I see no reason to suppose that *any* "pleonastic" conditional is analytic. (I do not, by the way, deny that at least some pleonastic conditionals are *true*; I am in fact happy to concede that the "proposition," "property," and "number" pleonastic conditionals are not only true but *necessarily* true.) I am willing to grant that there are analytic sentences in, so to speak, the semantical vicinity of these conditionals. It is at least extremely plausible to suppose that the following three sentences are analytic:

> If the proposition that snow is white exists and snow is white, then the proposition that snow is white is true

> If the property of being white exists and snow is white, then snow has the property of being white[17]

[16] Schiffer is fully aware of the problem posed by the falsity of such sentences and proposes a solution to it. (See Part IV of Schiffer.) I would summarize his solution as follows: the principle to which this note is attached *is*—in its full generality—a rule of English, or is at any rate endorsed by the rules of English. Therefore, the rules of English imply a contradiction. When this fact has become known to us, we need respond to this discovery only by taking care not to apply the rules in those cases in which they lead to a contradiction. Thomasson is also aware of the problem. Her solution is (in effect; I have translated it into it a form that applies to the principle to which this note is attached) to restrict the range of the variable 'A' to terms denoting concrete objects and the range of the variable 'F' to predicates whose extensions comprise only concrete objects. Her solution is thus both more precise and more stringent than Schiffer's. His solution implies the thesis that the sentence 'If wisdom is a possible property, then wisdom has the property of being a possible property' is analytic (it seems evident that that thesis does not imply a contradiction), and hers does not. Thomasson does not explain why she "draws the line" where she does: she does not explain why her restriction on the ranges of 'A' and 'F' should be regarded as a *principled* restriction. (See Thomasson, pp. 258 and 262.)

[17] Note that 'If the property of being non-self applicable exists and wisdom is non-self-applicable, then wisdom has the property of being non-self applicable' is true.

> If the number nine exists and the Admissions Committee has nine members, then the number nine = the number of members of the Admissions Committee.

I cannot see that Thomasson has (or that Schiffer has) provided any reason to suppose that sentences like 'If snow is white, then the proposition that snow is white is true' are analytic. For my part, I contend that it is only the corresponding "existentially loaded" sentences, sentences like 'If the proposition that snow is white exists and if snow is white, then the proposition that snow is white is true' that are analytic. And, of course, the existentially loaded sentences are as devoid of meta-ontological implications as they are of ontological implications.

4. If I find the idea of existential sentences that are analytic truths, puzzling I also find the idea of sentences that are true within a linguistic framework (or true only within or only relative to a certain linguistic framework) puzzling—if only because the idea of sentences true within a linguistic framework seems to presuppose that some existential sentences are *analytic* within that framework. For example, 'There are propositions that are logically deducible from the proposition that all Greeks are mortal' is, if I understand the idea of a linguistic framework at all, analytic within the "propositions" framework (but 'There are true empirical propositions that are logically deducible from the proposition that all Greeks are mortal' is true within, and only within, the "propositions" framework, but is not analytic within that framework).

What, after all, *is* a linguistic framework? And what is it to *introduce* one? (It seems to be an indispensable component of the position of Carnap and the neo-Carnapians that linguistic frameworks can be "introduced.") Let us consider the "numbers" framework, perhaps the most common supposed example of a Carnapian linguistic framework. Suppose one wished to "introduce" this framework. How would one do it? (I don't deny that Carnap has *addressed* this question; but his answer is so sketchy as to amount to mere hand-waving.[18]) Would one do it by saying something like, "Let the following system of axioms specify the properties of objects called 'numbers'," and then proceeding to write down, say, Peano's Axioms, followed by standard sets of axioms for negative integers, rational numbers, real numbers, complex numbers…? Let us suppose so. If one wishes to introduce the "numbers framework," one first writes the above introductory sentence ('Let the following system of axioms…') and goes on to write, perhaps,

A1 0 is a natural number
A2 For any natural number x, there is a unique natural number that is the successor of x.

and continues till one has written out all the requisite axioms (perhaps finishing by writing, 'And there are no other axioms'?).[19] Would doing all that have the result that

[18] See, for example, Sect. 2 ("Linguistic Frameworks") of Carnap (1950). (In Feigl, Sellars, & Lehrer, pp. 586–590). See, particularly, the sub-section "*The system of numbers*" (pp. 587–588).

[19] I concede that there would be more to specifying the framework than writing out a set of axioms. One would certainly have to say something about how to relate the objects so "introduced" to numerical adjectives, to the number-words that are used to state the results of counting and measuring: 'There are *five* sheep in the field', 'The area of Manhattan is 87.46 square kilometers'…I take it to be Carnap's position

the listed axioms and all their consequences were analytic "within the framework"? (Let the qualification 'within the framework' be invisibly present in the sequel wherever it is appropriate.) Would it have the consequence that '0 is a natural number' was analytic—and hence that its immediate logical consequence '$\exists x$ x is a natural number' was analytic? (I can't see how to avoid supposing that the formal logical consequences of an analytic sentence are analytic.) Well, suppose that one has introduced this framework very carefully—I mean in a precisely specified vocabulary with precisely stated formation rules and using quantifier logic with identity and definite descriptions as one's logical scaffolding and that one has attended to every logical nicety such a project might entail. Then, we have all been taught, supposing the framework axioms to be consistent—supposing that we cannot logically deduce *every* well-formed sentence of the framework language from the axioms specified by the framework rules—, there will be true sentences in the language one has introduced that cannot be formally deduced from the axioms. (When I speak of "true" sentences in this context, I mean sentences that are "true on their intended interpretation"—the interpretation according to which '0', or whatever symbol "plays the '0'-role" in the language of the framework, denotes 0[20] and the extension of 'is a natural number', or whatever symbol one uses…, is the set of natural numbers, and so on.)

Are *those* sentences analytic? If they are analytic, then there are analytic sentences of the language of the framework (sentences "about numbers") that are not analytic in virtue of their deducibility from the axioms that one specified when one introduced the framework—and that seems to contradict the *point* of "introducing" a "numbers" linguistic framework. (And if they are analytic but not analytic in virtue of following from the framework axioms, what *is* the source or basis or ground of their analyticity? You may well ask.) If they are not analytic, then it is false that, for any true sentence in the "pure" language of the framework,[21] that sentence is an analytic truth. Take for example, an undecidable sentence of the Peano-arithmetic fragment of the framework, one that has the same logical form as the undecidable sentence Gödel constructed. If '$\sim$' and '$\exists$' are, respectively, the negation sign and the existential quantifier in the language of the framework, then for some predicate **G** and any variable α of the framework language, that sentence is an alphabetic variant on $\ulcorner \sim \exists \alpha \mathbf{G} \alpha \urcorner$. Let **F** be the negation of **G**. Then, if the axioms are consistent, and if '$\forall$' is the universal quantifier in the framework language and 'x' is a variable of the framework language, $\ulcorner \forall x \mathbf{F} x \urcorner$ is a true sentence of the framework language.

Now let us pretend that where I write the symbol '**F**' in what follows, I write out the actual predicate that that symbol represents—in primitive notation. (I understand

Footnote 19 continued
that a person introducing the "numbers" framework would say things that implied that sentences like 'The number 5 = the number of sheep in the field if and only if there are five sheep in the field' were analytic within the framework.

[20] That is, denotes the object "introduced" by the framework-analyticity of sentences like, 'The number 0 = the number of sheep in the field if and only if there are no sheep in the field'.

[21] That is, in the language whose vocabulary is the vocabulary of the axioms. The language of the framework also includes empirical predicates and terms (see the previous two notes).

that Gödel's own Gödel predicate would have occupied hundreds of pages of text if it were expressed in primitive notation.) We mere human beings cannot grasp '**F**' ("on its intended interpretation") or hold it before our minds in the way we can grasp or hold before our minds the predicate 'number that is evenly divisible only by itself and 1'. But the Laplacian Reckoner could. She could understand the predicate '**F**' perfectly—and understand the meaning of the sentence '$\forall x$**F**x' as well as you and I can understand the meaning of the sentence '$\forall x$ x has a unique successor'—and yet not be able to determine, on the basis of that perfect understanding of the sentence '$\forall x$**F**x' whether it was true.[22] Well, it *is* true (if the framework axioms are consistent). Let's suppose that the framework axioms are consistent and that '$\forall x$**F**x' *is* true. To *see* that this sentence is true, however, the Reckoner would have to do what Gödel did and resort to meta-linguistic reasoning—reasoning that cannot be carried out within the framework.[23] (And even then she would know that '$\forall x$**F**x' was true only on the assumption that the rules specifying the framework were consistent.)

I do not see how to avoid the conclusion that there cannot be a (finitely specifiable) Carnapian "numbers" framework that determines the truth or falsity (as appropriate) of all pure sentences[24] in the language the framework, and I therefore find myself without any satisfactory answer to the question "What is the 'numbers' framework, and what would it be to 'introduce' it?" I am strongly inclined to think that the phrase 'Carnapian linguistic framework' has not been given a clear enough meaning for it to be capable of playing a useful role in meta-ontological debates. If this thesis that I am strongly inclined to accept is right, it has the following immediate consequence: Carnap's famous distinction between "internal" and "external" questions does not have a clear enough meaning for it to be capable of playing a useful role in meta-ontological debates.

Section 3 opened with the question whether Price and Thomasson would reply to the TYNQUA by saying that premise (2) of the TYNQUA ('The average density in grams per cubic centimeter of an object that has both a mass and a volume is equal to the ratio of its mass in grams to its volume in cubic centimeters') was true only within a certain linguistic framework. Whether either of them would say this or not, that is not a satisfactory reply to the TYNQUA, owing to the obscurity of the concept of a linguistic framework.

[22] For all she is the Laplacian Reckoner, she is not an *infinite* being: even she were able to determine the truth-value of any individual term of the infinite sequence, '**F**(0)', '**F**(1)', '**F**(2)', …(and no finite being would be), she would be unable to complete the "supertask" of determining the truth-value of every such sentence.

[23] For example: "As has been shown, if the framework axioms are consistent, then neither '$\forall x$**F**x' nor its negation be deduced from those axioms. '$\forall x$**F**x' is, on its intended interpretation, either a true or a false statement about the natural numbers. If a universal statement in the framework language is a false statement about the natural numbers on its intended interpretation, its negation can be deduced from the framework axioms if they are true on their intended interpretations—since, in that case, for some numeral n, $\ulcorner\sim$ **F**$n\urcorner$ can be deduced from the axioms. Therefore, if the framework axioms true on their intended interpretation (and hence consistent), '$\forall x$**F**x' is, on its intended interpretation, a true statement about the natural numbers: every natural number has the property expressed on that interpretation by '**F**'."

[24] See note 21.

5. Is the problem with the TYNQUA, perhaps, that it is a version of the "Quine-Putnam[25] indispensability argument"? (Price thinks that this argument is incapable of supporting metaphysical conclusions.)

Price's critique of the indispensability argument employs the following formulation of the argument (which is due to Mark Colyvan[26]):

(P1) We ought to have ontological commitment to all and only the entities that are indispensable to our best scientific theories.
(P2) Mathematical entities are indispensable to our best scientific theories.
(C) We ought to have ontological commitment to mathematical entities.

I have two immediate problems with this argument. First, I am not sure what 'have ontological commitment to *F*s' means. I am going to assume that this phrase means 'affirm the existence of *F*s', which seems to be something like what is intended and which I *am* sure I understand.[27] Secondly, the 'and only' in (P1) seems to me to be obviously a mistake. It seems obvious that epic poems and bicycles and cavalry charges are not indispensable to our best scientific theories, but that is hardly a reason to refuse to affirm the existence of those items. In any case, the argument is valid if 'and only' is omitted. So we have

(P1′) We ought to affirm the existence of all the entities that are indispensable to our best scientific theories.
(P2) Mathematical entities are indispensable to our best scientific theories.
(C′) We ought to affirm the existence of mathematical entities.

An interesting argument, perhaps a good one, and no doubt one that Quine would approve of—but it's not the TYNQUA or anything remotely resembling it. Neither of the two premises of the TYNQUA is a grand statement about our best scientific theories. Nor does either of its premises say anything about what we ought to do or ought to affirm—they are, rather, statements about things that have masses and volumes and the numerical measures of those masses and volumes. If the two premises of the TYNQUA are true (and they certainly seem to be) and if the argument is valid (and it certainly is), then the TYNQUA is sound. I should have thought that one of the things we try to do in philosophy is to produce sound arguments for philosophical conclusions. (I do hope that no one will suppose that in saying this I have affirmed the trivially false thesis that every sound argument whose conclusion is a philosophical proposition is of philosophical interest.) Scientific theories, whatever else they may do, endorse propositions—the proposition that all type Ia supernovae have nearly the same absolute luminosity when they reach their brightest phase, for example, or the proposition that the half-life of a free neutron is about 10.8 min. The two premises of the TYNQUA are no doubt among the propositions that would be endorsed by our best scientific theories—but their having that feature (if they do) plays no role whatever in

[25] The Putnam of the "Quine-Putnam Indispensability Argument" is the Putnam of Putnam (1971). Putnam later disowned the philosophy of quantification presupposed by the argument.

[26] Colyvan (2015). This reference is to a later version of the article than the one Price cites, but the formulation of the argument is the same in both versions.

[27] See note 28.

the TYNQUA. It is probably also true that arguments much like the TYNQUA might be used to demonstrate that mathematical entities are indeed indispensable to our best scientific theories. But the fact that the TYNQUA (or some argument very much like it) might be employed for that purpose is not relevant to the question whether the argument is—in itself, as it stands—a good argument for the existence of numbers.

6. Might the neo-Carnapian contend that although the TYNQUA is a sound argument for the conclusion that there are numbers, it is not a *philosophical* argument (as I suggested it was in the preceding paragraph)—and, in particular, is not a *metaphysical* argument? Perhaps something Price has said in his critique of the indispensability argument is pertinent to this question, despite the fact that 'Numbers are indispensable to our best scientific theories' is not a premise of the TYNQUA. Price imagines scientists who accept both premises—(P1) and (P2)—of the indispensability argument and says of them:

> [They] are thus led to the conclusion, (C), that they ought to believe that there are mathematical entities.[28] But they believed that already, by assumption, if "ought" means something like "by the internal standards of science." So the statement could only take them somewhere new if there were some other standards—some other standpoint from which to evaluate the question as to whether there are mathematical entities. (p. 338)

Let us see whether we can modify this critique of the indispensability argument in such a way that the result applies to the TYNQUA. Here is my attempt to extract a critique of the TYNQUA from Price's critique of the indispensability argument. We imagine scientists who accept premises (1) and (2) of the TYNQUA (and such scientists are not at all hard to imagine; I expect any actual scientist would accept those premises) and we say of them:

> They are thus led to the conclusion that they ought to believe there are numbers. But *of course* they ought to believe that, since 'There are numbers' follows, by reasoning acceptable by the internal standards of science from propositions that, by the internal standards of science, ought to be believed. So the statement 'You ought to believe that there are numbers'[29] could only take them somewhere new if there were some other standards—some other standpoint from which to evaluate the question whether there are numbers.

But why should I, as metaphysician, be interested in taking scientists somewhere new? Suppose some metaphysical proposition can be deduced—by means of logical rules that scientists accept—from propositions that scientists endorse. If the metaphysicians who are *my* audience accept those propositions, those propositions that

[28] Note that Price, in reminding his readers of the content of (C), uses the phrase 'believe that there are mathematical entities'—as opposed to 'have ontological commitment to mathematical entities'. I can see no significant difference in meaning between 'believe that there are mathematical entities' and 'affirm the existence of mathematical entities'.

[29] Of course the conclusion of the TYNQUA is 'There are numbers' and not 'You ought to believe that there are numbers'—but let that go.

scientists endorse[30], why shouldn't I as metaphysician use them as premises in an argument for the truth of that metaphysical proposition? Why should I care whether scientists *also* accept those propositions? (If they are, say, geological propositions, and geologists accept them, that is no doubt is a good reason for metaphysicians to accept them, but that's an epistemological point: I would not use them as premises if I did not think that there was *some* good reason for metaphysicians to accept them. For that matter, why shouldn't I, as metaphysician, use as a premise in a metaphysical argument a proposition that I accept *only* on the basis of the testimony of specialists in a field whose business it is to endorse or refute propositions of that sort? If I think that a certain fact—the physicists *say* it's a fact and that's the only reason I have for thinking it's a fact—about kaon/anti-kaon oscillation has important implications for the metaphysics of time, why should I not use this fact as a premise in a metaphysical argument?)

"You're missing the point. If a proposition follows by scientifically acceptable reasoning from propositions endorsed by science, then that proposition is a scientific proposition, not a metaphysical proposition. If a proposition is really a metaphysical proposition, it must be a proposition whose truth or falsity can be determined only by standards external to those of science."

Here, I think, we have reached the heart of the matter. Those who profess and call themselves metaphysicians disagree about the proper method of metaphysics. But the following is a (partial) statement of the method *I* have recommended (at any rate for "that part of metaphysics called ontology"[31]):

> Take those propositions that we, as metaphysicians, bring to our study of metaphysics—those propositions that we regarded as true before we took up metaphysics. (Among these propositions, will, of course be the propositions endorsed by the sciences—at least to the extent that we believe the things that scientists, speaking as specialists in their own disciplines, tell us. But we bring many propositions to our study of metaphysics that we did not learn from the sciences—that there is a color and there is a shape such that nothing of that color is of that shape, that there is more than one way to get from Chicago to Salt Lake City, that a gold statue can be melted down and the molten gold thus obtained recast in another form, that it is wrong to take pleasure in the sufferings of others….) Attempt to discover the metaphysical implications of these propositions—that is, investigate the question, 'What *metaphysical* propositions can be deduced, by uncontroversially valid logical reasoning, from the propositions we have brought to our study of metaphysics?'[32]

If the Interlocutor (whose position I take to be Price's position) is right, this method cannot lead those who employ it to metaphysical conclusions: any proposition that

[30] I won't mention the "rules" again. As far as I can see, the "rules" are simply the rules of logic and are not the special property of scientists.

[31] The quoted words are Quine's—see Quine (1948, p. 10).

[32] Obviously this cannot be a complete statement of a method to be followed in metaphysics or ontology. If for no other reason, it tells the reader nothing about how to *recognize* a logical consequence of some set of propositions we "bring to our study of metaphysics" as a metaphysical proposition.

follows logically from the propositions we metaphysicians bring to our study of metaphysics will, by definition, not count as a metaphysical proposition. Or at any rate, this follows from the Interlocutor's position unless the Interlocutor is willing to say something like this:

> If *p* is a logical consequence of such propositions as 'All type Ia supernovae have nearly the same absolute luminosity when they reach their brightest phase' and 'The half-life of a free neutron is about 10.8 min', it follows that *p* is not a metaphysical proposition. But if *p*is a logical consequence of such propositions as 'There is a color and there is a shape such that nothing of that color is of that shape' and 'There is more than one way to get from Chicago to Salt Lake City', it does *not* follow that *p* is not a metaphysical proposition.

I hope the imaginary Interlocutor will not make this imaginary statement, for it is a statement of a singularly arbitrary distinction. If propositions about supernovae and propositions about neutrons are propositions that we ought to believe because they have been endorsed by "the internal standards of science," then propositions about the colors and shapes of objects in our immediate environment and propositions about ways to get from one city to another are propositions that we ought to believe because they have been endorsed by "the internal standards of everyday life." (What do I mean by 'the internal standards of everyday life'? Well, what does Price mean by 'the internal standards of science'? I can no more give a general account of the phrase I have used than Price can of 'the internal standards of science', but I can point out that Google Maps will display alternative routes to someone who proposes to drive from one city to another—and that much lower-tech methods have sufficed in the past. And I can point out that Louise Nevelson's sculpture *Atmosphere and Environment XII* is not optical yellow and that nothing else is shaped remotely like *Atmosphere and Environment XII*.[33]) And I can think of no reason to suppose that "the internal standards of everyday life" are more closely connected with metaphysics than are the internal standards of science.

It seems to me that Price's arguments involve what I have in several places called "verbal essentialism." A philosophical argument is guilty of verbal essentialism—it is my position that verbal essentialism is an intellectual vice, and that it is therefore proper to say that an argument that displays or exhibits or involves it is *guilty* of it—just in the case that there is some philosophical term of art, some word or phrase, such that the argument could not be stated without using that word or phrase. Price's argument, I contend, could not be stated without using words like 'metaphysics' and 'metaphysical' and 'metaphysician' (and perhaps 'ontology' and 'ontological'). I say I have presented an argument for the existence of numbers. Price replies, "Ah, but your argument, the TYNQUA, is not a metaphysical argument. And, therefore, its conclusion—'There are numbers'; that is, the thesis that is expressed by this sentence if it validly follows from your premises—is not a metaphysical proposition."

Suppose I reply, "Well, all right. I'll give you the word 'metaphysical' and all other words derived from 'metaphysics'. And I'll give you 'ontology' and 'ontological' as

[33] I expect that "the internal standards of everyday life" are closely related to what Thomasson refers to as "the usual straightforward kinds of empirical checks." (Thomasson, p. 37).

well. That is to say, I'll stop using these words. I don't need them. I'll simply say that the TYNQUA is an argument for the existence of numbers, and the TYNQUA is a valid argument whose premises are (to say the least) very plausible. Therefore, if the TYNQUA is a sound argument, those philosophers who have denied the existence of mathematical entities are wrong—numbers being mathematical entities. And since mathematical entities are among those entities whose existence is denied by nominalists, the TYNQUA is an argument for the falsity of nominalism—and an argument for the truth of mathematical platonism.

I anticipate the following rejoinder, or a rejoinder very much to the same purpose.

"No, that won't do. The 'philosophers who deny the existence of mathematical entities' are, one and all, metaphysicians. And nominalism and mathematical platonism are metaphysical positions—positions that belong to 'that part of metaphysics called ontology'. And your TYNQUA is a scientific argument and is therefore not a metaphysical argument. (It's a scientific argument in the sense in which 'Queen Anne is dead; therefore, Queen Anne is not the present queen of England' is an historical argument. But don't bother sending a paper defending the thesis that no one who died in the eighteenth century is the present English monarch to *The English Historical Review*.) It follows that its conclusion is irrelevant to the debate between nominalists and platonists, which is a metaphysical debate. I don't say that in criticism of the TYNQUA, for metaphysics is, or should be, a thing of the past. The only thing I have to say against your position is that you are wrong to suppose that that the TYNQUA is a contribution to metaphysics or to ontology."

The point I am attempting to make is that my imaginary neo-Carnapian critic cannot get away from the word 'metaphysics'. (Let me call her Critica, to underscore the fact that I am not ascribing her position to Price.) Since Critica is unwilling to relinquish the word 'metaphysics' I'll give up giving it up and feel free to use it myself. Here is my reply to Critica's speech:

> Well, let us imagine a philosopher who *calls* herself a nominalist—Norma the nominalist. Norma *does* believe that the conclusion of the TYNQUA contradicts the position she calls 'nominalism', and she responds to the argument by producing a *paraphrase* of its second premise—a proposition that (she contends) "says everything *true* that is implied by (2)"[34] and which is such that the sentence (4) is not a correct rendering of the paraphrase into the canonical language of quantification—with the result that 'There are numbers' is not a logical consequence of (1) and her paraphrase of (2). Is *Norma* not engaged in metaphysics?

What will Critica say in response to the question, 'Is Norma not engaged in metaphysics?'? Obviously—unless she concedes defeat—, she must say that Norma is *not* engaged in metaphysics. But what *is* Norma engaged in if not metaphysics?

7. Carnap himself has said something that suggests an answer to this question.

[34] This claim for the paraphrase contains the germ of the way Norma would reply to the arguments of William P. Alston's classic paper Alston (1958): a philosophical paraphrase of a sentence need not have the same meaning as that sentence.

> [I], like many other empiricists, regard the alleged questions and answers occurring in the traditional nominalism-realism controversy, concerning the ontological reality of universals or any other kind of entities, as pseudo-questions and pseudo-statements devoid of cognitive meaning. I agree, of course, with Quine that the problem of "Nominalism" as he interprets it[35] is a meaningful problem; it is the question of whether all natural science can be expressed in a nominalistic language, that is, one containing only individual variables whose values are concrete objects, not classes, properties, and the like. However, I am doubtful whether it is advisable to transfer to this new problem in logic or semantics the label 'nominalism' which stems from an old metaphysical problem.[36]

And the answer this passage suggests is that Norma's paraphrase project belongs not to metaphysics but to logic or semantics.[37] (The question whether "all natural science can be expressed in a nominalistic language" is essentially the question whether a certain paraphrase project is feasible—a paraphrase project of vast extent.) And there is certainly a sense in which Norma's paraphrase project does belong to logic or semantics as opposed to metaphysics. But if Norma is engaged in a project in logic or semantics, *why* is she engaged in it? Why, obviously, because she does not think that there *are* any things but concrete objects, because she thinks that there *are* no numbers—and no "classes, properties, and the like," either. You may want to tell me that Norma is my creation and that therefore my statements about her philosophical motivations are without evidential value. I have, however, based my statement of her motivations on those of real, non-fictional philosophers who have described themselves as 'nominalists'. Goodman and Quine's "Steps toward a Constructive Nominalism"[38] is essentially an extended exercise in nominalistic paraphrase. Let us, therefore, turn our attention to them. *Why* did they engage in this exercise in "logic or semantics"? The answer to this question is evident from what Quine has called the "appealingly forthright opening sentence" of their essay and the two sentences that follow it:

> We do not believe in abstract entities. No one supposes that abstract entities—classes, relations, properties, etc.—exist in space-time; but we mean more than this. We renounce them altogether.

Goodman and Quine have said, and therefore presumably believed (or believed in 1947), that that there are no abstract entities, that abstract entities do not exist.[39] And

[35] At this point in Carnap's text, there is a footnote citing p. 708 of Quine (1939).

[36] Carnap (1947–1956, p. 43). This passage is quoted in part by Thomasson, p 74.

[37] The medieval nominalists and realists, incidentally, would have classified '*nominalismus*' and '*realismus*' as names of positions in *logic*, not metaphysics. (And by 'logic' they meant something like what a present-day philosopher would call 'philosophical semantics'. See Parsons (2014).) C. S. Lewis, writing in that tradition, has said "The word *realism* has one meaning in logic, where its opposite is nominalism, and another in metaphysics, where its opposite is idealism." (Lewis 1961, p. 57)

[38] Goodman and Quine (1947).

[39] Quine later attempted to distance himself from this "position statement." He came very close to saying, "I didn't really mean it." See the "black rubric" added to the entry for "Steps toward a Constructive Nominalism" in the bibliography of Quine (1953), pp. 173–174. (It is there that the phrase 'its appealingly forthright opening sentence' occurs.)

it was for that reason, and that reason alone, that they undertook to provide a partial solution to "this new problem in logic or semantics."

If Goodman and Quine denied that there were abstract entities, did they also "deny the ontological reality" of abstract entities? Well, you could *say* that—but what would it mean? It could mean nothing other than "denied that there were abstract entities"—for the simple reason that there is nothing for the words 'deny the ontological reality of *F*s' *to* mean but 'deny that there are any *F*s'.

So, at any rate, *I* say. But if I am right about the meaning of 'the ontological reality of *F*s', what explains Carnap's decision to use the phrase 'the ontological reality of universals' in the passage I have quoted? Why did he say 'questions…concerning the ontological reality of universals' and not simply 'questions…concerning the existence of universals'?—or, even more simply, 'the question whether there are any universals'? He certainly meant his choice of words to suggest that the "new problem in logic or semantics" that Quine had proposed in his 1939 paper was entirely unrelated to the "old metaphysical problem" from which the term 'nominalism' "stems." But why did he suppose that the two problems—or the old pseudo-problem and the new problem—were entirely unrelated? Why would he be unwilling to say—as I presume he would—that the authors of "Steps toward a Constructive Nominalism" 'denied the ontological reality of abstract entities'?

Part of the reason may have been that he could find no plain words with which to describe the difference between the medieval logicians who denied the existence of universals and his contemporaries who denied the existence of abstract entities, and that he solved this problem—the problem of describing a difference he was certain must exist—by using unplain words to describe the position of the medievals.[40] If one searches for anything resembling an explicit defense of his choice of words, one will find it only in the following passage:

> [Consider the sentence 'there is an *m* between 7 and 13 which is prime'. This sentence] speaks of the existence of a prime number. However, the concept of existence here has nothing to do with the ontological concept of existence or reality. The sentence mentioned means just the same as 'it is not the case that for every *m* between 7 and 13, *m* is not prime'.[41]

But what does this passage mean? I can make nothing of it. It simply bewilders me. What *is* this distinction between the "ontological concept of existence or reality" and the concept of existence that is expressed by the phrase 'it is not the case that everything is not a…'?[42] Well, there's a *syntactical* difference, of course. Let's pose

[40] As Walter Raleigh (the twentieth-century critic, not the Elizabethan adventurer) said, "If you talk nonsense in Saxon you are found out at once; you have a competent judge in every hearer. But put it into Latin and the nonsense masquerades as profundity of abstract thought." (I have often seen this statement quoted, but I am unable to supply a citation.) Well, '*to on*' is Greek and '*existentia*' is Latin, but those inconvenient facts don't weaken the essential applicability of Raleigh's point to Carnap's choice of words. (And do we not have it on good authority that "the ontological question…can be put in three Anglo-Saxon monosyllables."?)

[41] Carnap (1947–1956, pp. 43–44).

[42] Thomasson quotes a longer passage of which it is a part (Thomasson, p. 68), and has gone so far as to italicize the sentence 'However, the concept of existence here has nothing to do with the ontological

the question this way. I'm a metaphysician. Speaking as metaphysician, I have affirmed the following two positions (this is not a made-up example; I am on record as endorsing both positions):

8. Fictional characters exist
9. Tables do not exist.[43]

Suppose I had said instead:

8′. It is not the case that everything is not a fictional character
9′. Everything is not a table.

There would no doubt have been certain rhetorical or pragmatic disadvantages in so expressing myself, but I should nevertheless have endorsed precisely the same ontological theses: Sentence (8) and sentence (8′) express the same proposition (thesis, philosophical position, doctrine…), and sentence (9) and sentence (9′) express the same proposition. (At any rate, the members of each pair come as close to expressing the same proposition as do 'The present king of France is bald' and 'Something is male and now reigns over France, and everything that is male and now reigns over France is identical with it, and it is bald'.) In short, the distinction Carnap is trying to make by opposing

> the concept of existence spoken of by the sentence 'There is an *m* between 7 and 13 which is prime'

and

> the ontological concept of existence or reality

does not exist.[44] I insist that ontology (that is, what Thomasson calls "hard" ontology) and, more generally metaphysics, could get by perfectly well no other existential idiom than 'it is not the case that everything is not [a]…'. Descartes could have said, "I think, therefore it is not the case that everything is not I." Aquinas could have said, "And therefore it is not the case that everything is not something that moves others and is itself unmoved." The Fool could have said in his heart, "It is not the case that it is not the case that everything is not God."

8. Nominalists like Goodman and Quine are therefore simply philosophers who deny the existence of abstract entities. That is, they deny that there are any. That is, they deny that 'At least one' is a correct answer to the question 'How many abstract entities

Footnote 42 continued
concept of existence or reality'; presumably, therefore, she attaches special importance to it. Immediately following her quotation of the passage, she speaks of "that (nonontological) concept of existence [that Carnap accepts]".

43 That is to say, I endorse the positions (propositions) the sentences (8) and (9) express in the context of utterance/inscription called "the ontology room." See van Inwagen (2014a).

44 I do not deny that many ontologists would reject the thesis that sentences like, e.g, 'Universals exist' or 'Universals have real existence' or 'Universals *really* exist' or 'Universals are among the constituents of reality' or 'Whatever else the world may contain, it contains universals' mean no more than (differ only in rhetorical force from) 'It is not the case that everything is not a universal'. Well, being an ontologist does inoculate one against meta-ontological error or semantical illusion.

are there?'. That is, they affirm that it is true of everything whatever that it is not an abstract entity.

And *why* do, or did, Goodman and Quine deny the existence of abstract entities? I cannot give a general answer to this question, but *Goodman* made it quite plain why *he* denied the existence of *sets* (or "classes," as he calls them):

> Use of the calculus of classes…opens the door to…an infinite multitude of…entities that are not individuals …
>
> Recognition of this fact will give pause to anyone who finds the notion of classes and other nonindividuals essentially incomprehensible. The nominalistically minded philosopher like myself will not willingly use apparatus that peoples his world with a host of ethereal, platonic, pseudo entities.[45]

And why does Goodman regard "nonindividuals" as incomprehensible? (I will not discuss the further description "ethereal, platonic, pseudo entities.") He so regards them because they violate a principle to which I will give the name 'the Distinction Principle':

> There can be "no distinction of entities without a distinction of content."[46]

For Goodman's discussion of the Distinction Principle and his reasons for supposing that sets violate it, see *The Structure of Appearance*, pp. 34–37. An example must suffice for our purposes. Consider the sets

{Goodman, Quine}

{{Goodman}, Quine}

{Goodman, {Quine}}

{{Goodman}, {Quine}}

{{Goodman, Quine}}

These are, or would be if there were such things, five distinct entities, all of which have the same "content"—to wit, Goodman and Quine. Sets, therefore, violate the Distinction Principle, and in consequence are, by Goodman's lights, incomprehensible.

Now what sort of principle is the Distinction Principle? I can say only that if it is not a metaphysical principle, I have entirely lost my grip on the concept of metaphysics (admittedly not an easy concept to retain one's grip on).[47] Since Goodman denies the existence of classes because their existence would violate a metaphysical principle he bears allegiance to, his denial of the existence of classes is a metaphysical thesis and he is a metaphysician. Generalizing this thesis: if a philosopher denies the existence of entities of any sort (affirms the thesis that everything is not an entity of that sort)

[45] Goodman (1956, pp. 35–36).

[46] Goodman, p. 36: "…the nominalist recognizes no distinction of entities without a distinction of content."

[47] I do not know how to define 'metaphysical principle'. But I insist that a metaphysical principle need not employ some recondite "ontological concept of existence or reality." Goodman's Distinction Principle, for example, could be formulated this way: $\forall x \forall y \sim (x \neq y \ \& \sim x$ and y differ in content).

because (or so that philosopher maintains) their existence would violate a certain—explicitly stated—metaphysical principle, that philosopher's denial of the existence of entities of that sort is a metaphysical thesis and that philosopher is a metaphysician.

There are many metaphysical principles other than Goodman's Distinction Principle that might lead (and have in fact led) philosophers to deny the existence of entities of some sort. If the "sort" is "abstract entity," one may cite:

> Everything that exists exists in space and time—and if there were abstract entities, they would not be spatio-temporal things.
>
> Everything that exists exists contingently—and if there were abstract entities, at least some of them would be necessarily existent
>
> Everything that exists possesses either the power to affect other things or (inclusive) to be affected by other things[48]—and if there were abstract entities, they would be neither agents nor patients.
>
> Reality is one; that is, the things that there are do not fall into two or more categories such that the members of one category are vastly, radically different kinds of thing from the members of every other category—and if there are abstract objects, then (since there are obviously concrete objects), things *do* fall into at least two radically different categories.[49]

And we may go further. If a philosopher A affirms (for whatever reason) the existence of things of a certain sort—call them Fs—such that another philosopher B has denied the existence of Fs on the ground that their existence would violate a metaphysical principle μ to which B bears allegiance, and if $A$is aware of B's denial and its grounds and is willing to engage dialectically with B(perhaps by denying μ; perhaps by denying that the existence of Fs would in fact violate μ), then A's affirmation that there are Fs is a metaphysical thesis and A is a metaphysician.

> It follows that a philosopher who satisfies the following condition:
>
> He or she affirms the existence of mathematical objects on the basis of arguments of the same general sort as the TYNQUA and is willing to engage dialectically with philosophers who deny the existence of mathematical objects on metaphysical grounds

is affirming a metaphysical thesis and is a metaphysician.[50]

9. But this way of understanding "affirms a metaphysical thesis" raises a question, a question that can be presented by reflection on a simple example. The example con-

[48] This principle is modeled on a principle affirmed by the Eleatic Stranger; see *Sophist*, 247E.

[49] This is a sort of summary of my defense of the thesis 'It would be better not to believe in abstract objects if we could get away with it' in the first section of Van Inwagen (2004). This essay is reprinted in Van Inwagen (2014b).

[50] I do not claim in this section to have presented an adequate characterization of what it is for a philosopher to affirm a metaphysical thesis. I claim only to have presented a sufficient condition for a philosopher's having affirmed a metaphysical thesis.

cerns the existence of *shadows*. If I may so express myself, shadows are among the many things that I, as metaphysician, deny the existence of. (I do not, of course, deny that there are occasions on which the interposition of an opaque object between a surface and a light-source prevents light from that source from falling on a certain portion of that surface.) My denial that shadows exist is, moreover, based on my conviction that the existence of shadows would violate a metaphysical principle I endorse. (What that metaphysical principle is is not important for our present purposes.) If what I have said in the previous section is correct, I am therefore affirming a metaphysical thesis when I deny that there are shadows.

Now suppose that Phyllis, a psychologist, has published a paper that includes the following sentence (this sentence, incidentally, is a "real" sentence; I have lifted it from a scientific paper on the perception of shadows):

> Opaque objects cast solid shadows, but translucent objects cast coloured or weak shadows.

We suppose that this sentence represents an assertion Phyllis has made, and not, say, an hypothesis that she means to investigate. And let us also suppose that she has actually bothered to write somewhere (again as a vehicle of assertion) the sentence 'There are opaque objects that cast shadows'. It is certainly a defensible position that the sentence 'There are shadows' follows logically from those two sentences and that Phyllis therefore, at least tacitly or implicitly, believes that shadows exist (that there are such items as shadows).

Let us further suppose that Phyllis has no interest in metaphysics or indeed in any part of philosophy—that she in fact regards philosophy in general and metaphysics in particular as colossal wastes of time. She would, therefore, most decidedly *not* be "willing to engage dialectically with philosophers who deny the existence of [shadows] on metaphysical grounds." But we have said that in denying that there are shadows, I was affirming a metaphysical thesis. And I have put forward a general thesis that implies that a philosopher who *was* willing to engage dialectically with me on the question of the existence of shadows, and who asserted, in opposition to my position, that there were indeed shadows would be affirming a metaphysical thesis. (Roy Sorensen is an actual example of such a philosopher.[51]) It follows (does it not?) that 'There are shadows' is a metaphysical thesis, and that, therefore, Phyllis, for all her contempt for metaphysics, tacitly accepts a metaphysical thesis. (Not an impossible or even a pragmatically inconsistent position: Phyllis may believe that although she does accept a few metaphysical theses, those theses are so obviously true that any dispute about them would be a colossal waste of time—a position that bears obvious affinities to the positions of many philosophers who defend "deflationary" views of metaphysics.)

A shadow-denying metaphysician who adopted an "error theory" of "shadow-sentences" (who maintained that all shadow-sentences were false or vacuously true) would probably respond to this question by saying something along the lines of, "Well, of course it follows: Phyllis, at least tacitly, accepts a metaphysical thesis—one that

51 Sorensen (2007).

is, of course, false." I want to propose an alternative to an error theory of shadow-sentences for shadow-deniers, an alternative according to which Phyllis's assertions "about shadows" are not false metaphysical theses—according to which those assertions are both true (at least those of her assertions we have mentioned; perhaps she has made other assertions about shadows that are false) and are not metaphysical theses.

I want to propose an understanding of shadow-sentences that implies that my denial that there are shadows is consistent with Phyllis's statements about shadows—and, in particular, with her statement that there are opaque objects that cast shadows and her statement that opaque objects cast solid shadows. But is it not simply *evident* that my denial and her affirmations are inconsistent?

In my view, it is not evident. We must keep it in mind that, in the final analysis, it is pairs of propositions and not pairs of sentences to which the concept of mutual inconsistency applies. If one person has said, "The accident victim was lying on the pavement," and another (in the same place, at the same time, referring to the same victim) has said, "The accident victim was not lying on the pavement" it does not follow that they have made mutually contradictory assertions—for it may be that the propositions expressed by the sentences they have uttered are not logical contradictories or even contraries. (The example is from Geach: Americans and Britons use 'pavement' in different senses.)

The very general point illustrated by the "pavement" example may be applied to the question whether my denial that there are shadows and Phyllis's assertions about shadows contradict each other, despite the fact that it pretty obviously cannot be answered simply by reflection on the meaning of particular words.

Think of matters this way. I deny that shadows exist, but if I encounter the following two sentences in the course of taking a true-false test (designed, let us say, to determine how much philosophers know about science),

> The edge of the shadow of the earth on the moon during a partial eclipse of the moon is always an arc of a circle

> Opaque objects cast solid shadows, but translucent objects cast colored or weak shadows,

I shall mark them both 'T'. (And I shall not mark the second sentence 'T' on the legalistic ground that it is vacuously true—having, perhaps perversely, read its first conjunct as '$\forall x \forall y$ (x is an opaque object & y is a shadow & x casts y. $\rightarrow$ x is solid)' and its second conjunct on the same model.)

But *why* shall I mark them both 'T' if I deny the existence of shadows? Well, there is obviously something *right* about these two sentences. I can't treat them and sentences like 'The shadow of the Washington Monument is always circular' and 'Opaque objects cast pale green shadows' in the same way. There are "good" shadow-sentences (like the two offset sentences) and "bad" shadow-sentences (like the two mentioned in the preceding sentence). I mark the offset sentences 'T' because I regard them both as "good" shadow sentences. But that explanation immediately raises the question, What is the right way for a shadow-denier like myself to understand the concepts of "good" and "bad" shadow sentences?

That, I would say, depends on the shadow-denier's meta-ontology. A shadow-denier who, like me, is a neo-Quinean, will address the problem of distinguishing "good" and "bad" shadow-sentences by attempting to produce *paraphrases* of shadow-sentences. The object of the attempt will be to produce paraphrases of shadow-sentences that have (at least) the following three properties: (i) the paraphrases do not even *seem* to imply the existence of shadows; (ii) the paraphrases of all "good" shadow sentences are true and the paraphrases of all "bad" shadow sentences are false, and (iii) each paraphrase would be a "serviceable replacement" for its original in our everyday discussions of situations involving light-sources and illumined surfaces and opaque and translucent objects.[52] ('There are occasions on which the interposition of an opaque object between a surface and a light-source prevents light from that source from falling on a certain portion of that surface' is a promising "root idea" on which to base such a paraphrase project for shadow-sentences.)

Now suppose that I have actually carried out such a paraphrase project: for each shadow-sentence I have shown how to find a "shadow-neutral" paraphrase of that sentence. ("Neutral" because the paraphrase of, e.g. 'There are objects that cast shadows' will not imply the falsity of '$\exists x$ x is a shadow'; it will simply not imply the truth of that existential statement.) And let us suppose that all competent judges agree that my paraphrases have the properties (i), (ii), and (iii) mentioned in the preceding paragraph. (Note that their having these three properties does not imply that there is even one case in which a shadow-sentence and its shadow-neutral paraphrase have the same meaning.)

Suppose further that S is "my" shadow-neutral paraphrase of 'There are opaque objects that cast shadows'. (I'm asking you to suppose that where I have written 'S' I have actually written the hypothetical shadow-neutral paraphrase of 'There are opaque objects that cast shadows'. And let us also suppose that the following sentence in "the canonical notation of quantification," '$\exists x \exists y$ (x is an opaque object & y is a shadow & x casts y)' entails the *metaphysical* thesis that there are shadows—for if that sentence doesn't entail that metaphysical thesis, I don't know what sentence would.)

I think that the following position *vis-à-vis* shadow-sentences is at least worthy of serious consideration: the proposition that Phyllis asserts by uttering the sentence 'There are opaque objects that cast shadows' is, or is at least equivalent to (is at least true in the same possible worlds as), the proposition,

(10) $\exists x \exists y$ (x is an opaque object & y is a shadow & $x$casts y) $\vee S$.

Or suppose that S is only one among many possible shadow-neutral paraphrases of 'There are opaque objects that cast shadows': $S, S_1, S_2, S_3, \ldots S_k$ that one shadow-denying metaphysician or another might devise. Then—perhaps—the proposition that Phyllis asserts is or is equivalent to:

(10$^+$) $\exists x \exists y$ (x is an opaque object & y is a shadow & x casts y) $\vee S \vee S_1 \vee S_2 \vee S_3 \vee \ldots \vee S_k$.

I am proposing that the natural-language sentence 'There are opaque objects that cast shadows' is one of the "good" shadow-sentences in virtue of the fact that at least one

[52] This is not meant to be an exhaustive list of the features I believe a good philosophical paraphrase should have.

of the disjuncts of (10^+) is true. ("At least one": *all* the shadow-neutral paraphrases will be logically consistent with the "shadow non-neutral" proposition that is the first disjunct of (10^+), and, since 'There are opaque objects that cast shadows' is a "good" shadow sentence, all its shadow-neutral paraphrases must be true[53] and hence mutually consistent. In fact, the only disjunct of (10^+) that has any chance of being false is its first. Its "advantage" over the shadow-neutral disjuncts is that, if it *is* true, then there's no point in attending to any of them.)

We are supposing, that is, that when Phyllis utters the sentence 'There are opaque objects that cast shadows' (as the vehicle of an assertion) the assertion she makes is metaphysically neutral, is logically consistent with '$\exists x \exists y$ (x is an opaque object & y is a shadow & x casts y)' *and* with all possible shadow-neutral paraphrases of her sentence. (Remember that we have simply *assumed*, for the sake of the example, that there *is* at least one shadow-neutral paraphrase of 'There are opaque objects that cast shadows'. If in fact there are none, her assertion is not metaphysically neutral—owing simply to the fact that neutrality implies the existence at least two things to be neutral *between*.)[54]

I claim, therefore, to have presented a—well, let's call it a model—for understanding how it might be that various of our everyday assertions that superficially appear to imply the existence of objects or entities or items of a certain description are consistent with the metaphysical thesis that no entities of that description exist. It is important to realize that the model does not imply that this will inevitably be the case. The model implies that the theses that Phyllis's shadow-sentences express are metaphysically neutral only if there are possible shadow-neutral paraphrases of those sentences. The model implies that the thesis expressed (in everyday, non-philosophical contexts) by the famous sentence 'Some zoölogical species are cross-fertile' is consistent with the metaphysical thesis of nominalism only if that sentence has at least one "species-neutral" paraphrase. And the model implies that the thesis expressed by 'There is a sequence of one trillion consecutive natural numbers that contains no prime' is consistent with the metaphysical thesis of nominalism only if that sentence has a "number-neutral" paraphrase. It is, in my view, entirely plausible to suppose that all shadow-sentences have shadow-neutral paraphrases, and entirely plausible to suppose that all species-sentences have species-neutral paraphrases. I find it entirely *implausible* to suppose that all number-sentences have number-neutral paraphrases. I therefore find it entirely plausible to suppose that what the mathematicians tell us about numbers is inconsistent with the metaphysical thesis of nominalism. If this implies, as I believe it does, that mathematicians *qua* mathematicians "at least tacitly" accept various metaphysical theses, I see no reason to be unhappy with this consequence of my position.[55]

[53] A metaphysician might *offer* a false shadow-neutral sentence as a shadow-neutral paraphrase of 'There are opaque objects that cast shadows' but that proposition would not *be* a shadow-neutral paraphrase of the "everyday" sentence: the everyday sentence is a "good" shadow-sentence, and a shadow-neutral sentence is a shadow-neutral paraphrase of a "good" shadow-sentence only if it is true.

[54] For a much more elaborate treatment of the questions discussed in this section, see van Inwagen (2014a).

[55] I am grateful to Amie L. Thomasson and three referees for *Synthese* for extremely helpful comments on drafts of this paper.

References

Alston, W. P. (1958). Ontological commitments. *Philosophical Studies*, *9*, 8–17.

Carnap, R. (1947, enlarged edition 1956). *Meaning and necessity: A study in semantics and modal logic*. Chicago: The University of Chicago Press.

Carnap, R. (1950). Empiricism, semantics, and ontology. *Revue Internationale de Philosophie*, *4*, 20–40.

Colyvan, M. (2015). Indispensability arguments in the philosophy of mathematics. In *The Stanford encyclopedia of philosophy*. http://plato.stanford.edu/archives/spr2015/entries/mathphil-indis/.

Feigl, H., Sellars, W., & Lehrer, K. (Eds.). (1972). *New readings in philosophical analysis*. New York: Appleton-Century-Crofts.

Goodman, N. (1956). *The structure of appearance* (2nd ed.). Indianapolis: Bobbs Merrill.

Goodman, N., & Quine, W. V. (1947). Steps toward a constructive nominalism. *The Journal of Symbolic Logic*, *12*(4), 105–122.

Hirsch, E. (2011). *Quantifier variance and realism: Essays in metaontology*. Oxford: Oxford University Press.

Lewis, C. S. (1961). *An experiment in criticism*. Cambridge: Cambridge University Press.

Parsons, T. (2014). *Articulating medieval logic*. Oxford: Oxford University Press.

Price, H. (2009). Metaphysics after Carnap: The ghost who walks? In D. J. Chalmers, R. Wasserman, & D. Manley (Eds.), *Metametaphysics: New essays on the foundations of ontology* (pp. 320–346). Oxford: Oxford University Press.

Putnam, H. (1971). *Philosophy of logic*. New York: Harper Torchbooks.

Putnam, H. (2004). *Ethics without ontology*. Cambridge, MA: Harvard University Press.

Quine, W. V. (1939). Designation and existence. *The Journal of Philosophy*, *36*, 702–709.

Quine, W. V. (1948). On what there is. *The Review of Metaphysics, 2*, 21–38. Reprinted in Quine (1953), pp. 1–19.

Quine, W. V. (1951). On Carnap's views on ontology. *Philosophical Studies*, *2*, 65–72.

Quine, W. V. (1953). *From a logical point of view*. Cambridge, MA: Harvard University Press.

Schaffer, J. (2009). On what grounds what. In D. J. Chalmers, D. Manley, & K. Wasserman (Eds.), *Metametaphysics: New essays on the foundations of ontology* (pp. 347–383). Oxford: Oxford University Press.

Schiffer, S. (1996). Language-created language-independent entities. *Philosophical Topics*, *24*, 149–167.

Sorensen, R. (2007). *Seeing dark things: The philosophy of shadows*. Oxford: Oxford University Press.

Thomasson, A. (2015). *Ontology made easy*. Oxford: Oxford University Press.

Van Inwagen, P. (1998). Meta-ontology. *Erkenntnis*, *48*, 233–250.

Van Inwagen, P. (2001). *Ontology, identity, and modality: Essays in metaphysics*. Cambridge: Cambridge University Press.

Van Inwagen, P. (2004). A theory of properties. In D. Zimmmerman (Ed.), *Oxford studies in metaphysics* (Vol. 1, pp. 107–138). Oxford: Oxford University Press. Reprinted in Van Inwagen (2014b), pp. 153–182

Van Inwagen, P. (2009). Listening to Clifford's ghost. In A. O'Hear (Ed.), *Conceptions of philosophy: Royal Institute of Philosophy supplement 65* (pp. 15–35). Cambridge: Cambridge University Press.

van Inwagen, P. (Ed.). (2014a). Inside and outside the ontology room. In *Existence: Essays in ontology* (pp. 1–14). Cambridge: Cambridge University Press.

Van Inwagen, P. (2014b). *Existence: Essays in ontology*. Cambridge: Cambridge University Press.