

M. ALSPECTOR-KELLY

ON QUINE ON CARNAP ON ONTOLOGY

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Though no one has influenced my philosophical thought more than Carnap, an issue has persisted between us for years over questions of ontology and analyticity. These questions prove to be inter-related; their interrelations come out especially clearly in Carnap's paper "Empiricism, Semantics, and Ontology."

–W.V. Quine, "On Carnap's Views of Ontology"¹

I. INTRODUCTION

Rudolf Carnap's essay "Empiricism, Semantics, and Ontology"² ("ESO" from here on) is standardly taken to be the swan song of the positivists' revolt against metaphysics. Their disdain for the metaphysical, the story goes, was finally put to rest when W.V. Quine demonstrated that Carnap's last attempt to dodge metaphysical issues fails, and then showed that metaphysics has a legitimate place within a generally naturalistic framework. ESO is typically read in preparation for discussion of Quine's work, with the result that Quine's interpretation of Carnap's views is dominant.

Quine (and Carnap's other empiricist critics) assumed that Carnap wanted to avoid commitment to abstract entities, but without renouncing quantification over abstract entities or demonstrating their dispensibility. Quine took Carnap to be appealing to the analytic/synthetic distinction in order to avoid the charge of ontological commitment, a maneuver with which Quine, needless to say, was less than sympathetic.

I will argue that, given Quine's understanding of the phrase "ontological commitment", Carnap had no objection to ontological commitment to abstract entities. He was not, therefore, attempting



to reconcile nominalism with quantification over such entities. He did, however, object to his critics' suggestion that commitment to empiricism (or to any philosophical standpoint) requires nominalism. His rejection of external questions is a rejection of any *a priori* constraint on admissible ontologies for empirical science, particularly of the sort that Quine and Goodman affirmed as their reason for pursuing their nominalist project in "Steps Toward a Constructive Nominalism".³ ESO therefore expresses Carnap's rejection of the synthetic *a priori* rather than his endorsement of the analytic *a priori* as Quine thought. But the rejection of the synthetic *a priori* is just what Quine's naturalistic rejection of first philosophy involves. So Quine's and Carnap's views are much closer than Quine ever suspected. Unfortunately, Quine's misinterpretation of Carnap's views has led to a misunderstanding of the implications of Quine's own naturalistic turn for contemporary ontological inquiry.

In Section II, I sketch an interpretively neutral account of Carnap's claims in ESO, and present the overall form of Quine's interpretation and response. In Section III, I present Quine's interpretation of ESO in more detail and show that Quine took Carnap to be exempting his quantification over abstract entities from application of Quine's criterion of ontological commitment. In Section IV, I describe Quine's objections to Carnap's maneuver in more detail. In Section V, I identify Carnap's true motive in ESO and the moral he drew from his discussion of ontological disputes. I point out that Carnap's motive and moral are inconsistent with Quine's interpretation. I then explain how Carnap's rejection of external questions should be interpreted in light of Carnap's motive and moral. In Section VI, I show that Carnap's characterization of framework-choice as pragmatic amounts to a repudiation, not of commitment to abstracta, but of *a priori* constraints on ontology. I suggest that, suitably understood, Carnap's suggestion that framework choice is pragmatic is consonant with Quine's own pragmatism. Finally, in Section VII, I point out that Quine renounced his earlier appeal to nominalistic intuition. I suggest that in light of Quine's renunciation the residual dispute between Carnap and Quine is merely verbal. However, Quine's emphasis on the continuity of metaphysics in its *a priori* and naturalistic forms (in opposition to what he took to be Carnap's dodge of metaphysical issues) has led contemporary

ontologists to underestimate the deflationary impact of Quine's (and Carnap's) ontological naturalism.

II. THE RECEIVED VIEW

In ESO Carnap distinguished "internal" and "external" questions of existence. They are internal and external with respect to what he called a "linguistic framework." Linguistic frameworks introduce the linguistic resources needed for discourse concerning certain kinds of entities, such as numbers, material objects, properties, and events. What is required was the same for Carnap as for Quine: that a particular class of expressions be open to substitution by variables that can be bound by quantifiers.⁴ We are, for example, able to speak of numbers as objects when we allow substitution of numerals by variables that can then be bound by universal and existential quantifiers. Frameworks also discipline the assertions they make possible. To be proficient with the framework of events, for example, is not only to be able to form sentences that concern events; it is also to be able to recognize evidence for them.

When a question of existence is answered in accordance with the discipline the relevant framework imposes, the question is internal to the framework. Ontologists who ask questions of existence, however, consider that discipline to be irrelevant to the question they intend. Their question is external to the framework. At least, it is supposed to be. But it can't be, Carnap suggested, because questions of existence are meaningful only within a framework.⁵ In posing a question that is supposed to be both a question of existence and external to a framework, the questioner has set herself incompatible tasks. She poses, as Carnap tended to put it, a pseudo-question.

That is not to say that there are no legitimate external questions whatsoever. We can consider the advantages and disadvantages of quantifying into the position occupied by a certain class of expressions and propose that we do so (or not). But these issues concern how the language is best engineered; they are not, Carnap insisted, questions of what to believe there is.

According to Quine, Carnap drew his distinction between internal and external questions in order to downplay fundamental changes in ontology as subject to only pragmatic, not epistemic,

considerations. To endorse a particular framework does not therefore amount to taking a stand on an issue of fundamental ontology. Carnap's own quantification over abstract entities in his work in semantics would not, in particular, embroil him in the metaphysical nominalism/Platonism debate.

Quine's response was, in essence, to reject the pragmatic/epistemic distinction he took to be implicit in Carnap's distinction between internal and external questions. To decide to quantify into positions occupied by a particular class of expressions is tantamount to taking on ontological commitment to the entities thereby quantified over. Carnap's distinction between pragmatic framework-choices and epistemic existential issues is, Quine thought, of a piece with the general distinction between matters of language and matters of fact. But that distinction itself presupposes the analytic/synthetic distinction which Quine repudiates. Choosing a linguistic framework (an ontology, as Quine would say) is no more innocent of the question what to believe there is than is choosing whether to affirm the existence of brick houses on Elm Street.⁶ And belief in brick houses is no more insulated from broad-scale pragmatic concerns than is choice of framework.⁷

Quine sometimes said that he embraced a more thoroughgoing pragmatism than Carnap's, which Quine understood to be limited to framework-choice alone, a limitation made possible by the analytic/synthetic distinction.⁸ It would be equally true to say that Quine took himself to be embracing a more robust realism in opposition to Carnap's confinement of existential issues within frameworks. Quine did not so much object to the division between framework-choice on the one hand and intra-framework assertion on the other as to Carnap's claim that the first is a purely pragmatic issue and the second purely epistemic.

Questions of fundamental ontology survive in Quine's approach, not as the pursuit of the *a priori* metaphysics that agitated the positivists, but as the question whether quantification over a particular brand of entity is essential to empirical scientific inquiry. In Quine's hands the nominalism/Platonism debate is transformed into the question whether quantification over abstract entities can be eliminated from scientific discourse without harm to the scientific endeavor. In one fell swoop, Quine has undermined both Carnap's

mobilization of the pragmatic/epistemic distinction and his reason for mobilizing it. We cannot evade the ontological consequences of our quantificational behavior as Carnap suggests, and we have no reason to do so, now that Quine has shown us how to pursue questions of ontology from within a broadly empiricist naturalistic framework.

Quine's understanding of Carnap's motive and method are now taken as given, as is his refutation of them. It is assumed that Carnap was trying to disavow ontological commitment, that he assumed a distinction between pragmatic external questions and epistemic internal questions in order to do so, and that Quine has shown that distinction to be untenable. Nonetheless, I think that this understanding of Carnap is wrong. In particular, it has Carnap's motive almost precisely backwards, and one is unlikely to get his position right with such a mistaken account of his reason for advocating it. But before discussing Carnap, we need to get Quine's interpretation of Carnap more clearly in view.

III. QUINE'S CARNAP

In ESO, Quine thinks, Carnap appealed to an earlier doctrine from Carnap's *Logical Syntax of Language* (LSL from here on),⁹ the doctrine of universal words. Universal words are very general predicates: "number", "property", "proposition", "event", "material object", "sense-datum", and so on. According to the doctrine, there is a fundamental difference between the role that these general predicates play and that played by more specific predicates, such as "prime", "green", and "chair". Universal words, unlike their more specific cousins, are "quasi-syntactic." Assertions that employ them in predicate position, like "Three is a number," appear to describe a property of an object; but they are really disguised metalinguistic assertions concerning the underlying syntax of the language. "Three is a number," on this view, is perspicuously rendered as "'Three' is a number-word," which is not about a number but instead about the word "three", and serves to identify its syntactical category. The word "number" just delimits the range of values of the variable in a language that does not do so through syntactical structure, a function that would be just as well served in a formal language by a distinct

style of variable, as when we use the variable “n” to range over all and only numbers.¹⁰

Sentences that employ universal words are, as Carnap put it in LSL, “pseudo-object sentences in the material mode of speech.”¹¹ They are “pseudo-object” sentences because they misleadingly appear to refer to objects and to express factual commitments concerning them. They are in the “material mode”, because they are expressed in the object-language. To assert such a sentence is, then, not to stake a claim with respect to extra-linguistic reality. It is instead only to represent the syntactic structure of one’s language, or perhaps to express one’s intention to structure it in a particular way or recommend doing so. Having so structured the language, the material-mode sentence is analytic, since it only reflects linguistic structure.

Quine understands ESO to be Carnap’s attempt to apply the doctrine of universal words to ontological disputes.¹² While such assertions as “There was a meeting of the admissions committee last Tuesday” do concern a matter of empirical fact, “There are events” only appears to do so. Since “event” is a universal word (or, as Quine puts it, a “category” word), the assertion only represents the fact that one quantifies over, or is advocating quantification over, events in one’s language. It does not really represent an existential belief to the effect that there really are events.

As with pseudo-object sentences generally, the object-language or “internal” existential with universal word in predicate position is analytic, since it merely reflects the decision to quantify into positions occupied by certain expressions in the language. The metalinguistic or “external” rendering would explicitly state that a decision to structure our language in the appropriate way has been made (or that it is recommended). This indicates that such decisions are subject only to pragmatic reasoning. For what is warranted is an action rather than a belief – namely, that we structure the language in such a way – and actions are rationalized by pragmatic rather than epistemic considerations.

As Quine understands it, Carnap endorsed Quine’s criterion of ontological commitment, according to which you are ontologically committed to the entities that you quantify over unless you can show how such quantification can be dispensed with if push comes to

shove.¹³ Nonetheless, Carnap did not take himself to be committed to abstract entities, and so did not take himself to be a Platonist, despite the fact that he quantified over abstract entities. Nor did he have any plan to show that such quantification can be avoided. Instead, Carnap's claim, as Quine understood it, was that the range of the criterion of ontological commitment is restricted to only those assertions that involve non-universal words, since those with universal words are either analytic (as internal assertions) or pragmatic (as external assertions). Carnap could then cheerfully quantify over abstract entities, all the while denying that his doing so involves him in ontological commitment, simply because the sentence – “There are abstract entities” – that would express that commitment is either analytic, and so records no matter of fact, or pragmatic, and so concerns action rather than belief.

IV. LAZY NOMINALISM

Quine himself had nominalist sympathies. But he saw the defense of nominalism as hard work, requiring that we show that we can dispense with quantification over abstracta in scientific inquiry and the interpretation of scientific doctrine. He came sadly to the conclusion that the nominalist program cannot be completed, and that we are stuck with ontological commitment to abstract entities.¹⁴

And there was Carnap, suggesting that we can disown commitment to abstract entities, without all the hard work, by appeal to the doctrine of universal words and ultimately to the analytic/synthetic distinction. Quine certainly found Carnap's maneuver distasteful in its appeal to the analytic/synthetic distinction. But he objected to much more than merely the application of a distinction he repudiated.

Quine originally proposed the criterion of ontological commitment, in part, to ensure that we own up to the ontological consequences of what we say.¹⁵ Quine took Carnap to be suggesting that framework adoption is “a linguistic convention distinct somehow from serious views about reality.”¹⁶ This locates Carnap among those disreputable philosophers who have “thought to enjoy the systematic benefits of abstract objects without suffering the objects.”¹⁷ Siding with the Platonist in act and with the nominalist in motive,

Carnap hid behind the analytic/synthetic distinction instead of putting his money where his mouth was by demonstrating the tenability of a nominalist dispensability project. Carnap's commitment to nominalism was fine, Quine thought, but his indolence was not to be tolerated. And his lazy nominalism was all the more objectionable for its reliance on the discredited analytic/synthetic distinction.¹⁸

Quine attacks the doctrine of universal words in two ways. First, Quine endorses (what he calls) semantic ascent from the object-language to the metalanguage in order to get a clearer view of ontological disputes and not beg any questions.¹⁹ But he rejects Carnap's claim that the metalinguistic rendering of an object-language assertion somehow nullifies the commitments taken on at the object level. We can ascend and descend as we see fit. But doing so does not drain the original object-language assertion of content or commitment. The sentence "'Wombat' is true of some creatures in Tasmania" is committed to no less, Quine points out, than the sentence "There are Wombats in Tasmania."²⁰

In particular, whether a predicate is a so-called universal or category word turns only on how widely we choose to extend the range of values of our variables. The predicate "class" loses that status (becoming, as Quine puts it, a subclass term) just if we happen to widen the range of values to embrace both classes and physical objects. But this is a trivial matter of typographical convenience, incapable of grounding a fundamental division among questions of existence.²¹

Willingness to endorse quantification into positions occupied by abstract terms, therefore, involves no less commitment to abstract entities than does assertion of the existential "There are abstract entities." The domain of the criterion of ontological commitment knows no bounds.

Quine's second response is very quick. Whatever the fortunes of the category/subclass distinction, Carnap's position turns on the tenability of the analytic/synthetic distinction. Needless to say, Quine rejects that way out. "[I]f there is no proper distinction between analytic and synthetic," he says, "then no basis at all remains for the contrast which Carnap urges between ontological statements and empirical statements of existence."²²

In sum, the decision to quantify over abstract entities has obvious and foreseeable existential consequences, as does the decision to adopt any other linguistic framework. The decision to quantify over a particular entity is not, therefore, merely pragmatic. It leads to affirmation of existentials, and so answers to questions as to what there is. Carnap's willingness to quantify over such entities while denying commitment to them can therefore only exhibit a myopic tendency to ignore the doctrinal consequences of his own quantificational behavior.

Quine's complaint is echoed repeatedly by commentators, even by those who are generally unsympathetic to Quine's interpretation of Carnap. Susan Haack,²³ Graham Bird,²⁴ and Stephen Yablo,²⁵ for example, all express doubts concerning Quine's understanding of Carnap. But they do not doubt Quine's understanding of Carnap's motive, that Carnap wanted to be a nominalist wearing Platonist clothing. According to Haack, Carnap believed that "one can accept the language without committing oneself to the entities it says exist."²⁶ And Yablo points out that Carnap himself said that acceptance of the 'thing' language (concerning what Quine called mid-sized dry goods) will lead, "on the basis of observations made, to the acceptance, belief, and assertion of certain statements,"²⁷ some of which are existentials. Existential assertions are, then, foreseeable, and sometimes immediate, consequences of the adoption of frameworks. How then, Yablo asks, could Carnap have claimed that the decision to accept a framework "does not imply any assertion of reality"?²⁸

As I said, I believe that this has Carnap's intent backwards. To see that this is so, we need to identify the motives that prompted Carnap to write ESO and the moral that he drew from it.

V. MOTIVE AND MORAL

In his autobiography, Carnap said that he wrote ESO in response to objections raised against his willingness to quantify over abstract entities in his work in semantics. These critics complained that reference to such entities amounts to an illegitimate hypostatization. According to Carnap, they considered such reference to be "either

meaningless or at least in need of proof that such entities ‘do actually exist’.”²⁹

The objection was all the more worrisome to Carnap for having been raised “not by metaphysicians, but by anti-metaphysical empiricists like Ernest Nagel, W. V. Quine, Nelson Goodman, and others,”³⁰ who believed that Carnap’s willingness to quantify over such entities violated his commitment to empiricism. Carnap was of course less than pleased to hear the charge that he had betrayed his commitment to empiricism, especially when he found it leveled at him by fellow empiricists.

Quine and Goodman famously expressed their nominalist convictions in “Steps Toward a Constructive Nominalism.” That paper opens with the announcement that Quine and Goodman “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.”³¹ Since they repudiate such things they “cannot use variables that call for abstract objects as values,”³² for doing so amounts to recognizing abstract entities and “[a]ny system that countenances abstract entities we deem unsatisfactory as a final philosophy.”³³ Their “fundamental” motive for such asceticism is “based on a philosophical intuition that cannot be justified by appeal to anything more ultimate.”³⁴ Since they are also committed to empirical science, and because empirical science, *prima facie* quantifies over abstract entities, they see their project as necessary.

Carnap identified these critics as his target in the first paragraph of ESO. “Empiricists”, he said, “are in general rather suspicious with respect to any kind of abstract entities like properties, classes, relations, numbers, propositions, etc. . . . As far as possible, they try to restrict themselves to what is sometimes called a nominalistic language, i.e., one not containing such references.”³⁵ However, such projects did not, in Carnap’s opinion, appear likely to succeed; “in physics,” he said, “it is more difficult to shun the suspected entities.”³⁶ So the empiricist is torn between the nominalistic consequences of his empiricism and his commitment to physical science. “[H]e will just speak about all these things like anybody else but with an uneasy conscience, like a man who in his everyday life

does with qualms many things which are not in accord with the high moral principles he professes on Sundays.”³⁷

Carnap did want to ease his critics’ uneasy conscience. But he did not intend to reassure them that speaking of abstracta during the week is not really the sin that it seems to be against the nominalist principles they profess on Sundays. He did not intend to *satisfy* their nominalist scruples, but rather to *overcome* them.³⁸ Appeals to philosophical intuition of the sort that Quine and Goodman expressed – an intuition that they took to legitimately direct the interpretation of scientific doctrine – looked to Carnap like just the sort of metaphysical intuition-mongering which the empiricist should repudiate.

[W]e have to recognize . . . that these terms [‘class’, ‘property’, ‘natural number’, etc.] have for centuries been in general use in mathematics and physics. Therefore, in our view, very strong reasons must be offered if such terms are to be condemned as incompatible with empiricism or as illegitimate and unscientific . . . What I have just said is, of course, not meant to be a theoretical argument for the legitimacy of abstract terms, but merely an explanation of my reaction to those objections [to the use of such terms] and of my impression that no sufficiently compelling reasons for them were given. Nevertheless, I thought that these objections deserved to be given careful and serious attention. This I did in my article “Empiricism, Semantics, and Ontology”.³⁹

Notice that Carnap denied that the objections his empiricist critics raised had “sufficient reasons for them.” He did *not* suggest that they are legitimate concerns that can be answered. ESO should not, therefore, be interpreted as an attempt to answer their objections, but rather as an attempt to show that the objections themselves are misplaced.

So Carnap’s critics accuse him of Platonistic commitments that a good empiricist would repudiate; and Carnap accuses them back of *a priori* metaphysical intuition-mongering in which no empiricist should indulge. “At the time,” Carnap noted of the dispute, “each of the two parties seemed to criticize the other for using bad metaphysics.”⁴⁰ ESO was Carnap’s attempt to explain why he thought a commitment to empiricism does not imply nominalism, and why the suggestion that it does itself constitutes metaphysical speculation that the empiricist should renounce.

ESO ends with the plea that we respect the scientist's freedom to determine what sorts of entities to quantify over in her work, without interference from philosophical circles.

The acceptance or rejection of abstract linguistic forms, just as the acceptance or rejection of any other linguistic forms in any branch of science, will finally be decided by their efficiency as instruments, the ratio of the results achieved to the amount and complexity of the efforts required. To decree dogmatic prohibitions of certain linguistic forms instead of testing them by their success or failure in practical use, is worse than futile; it is positively harmful because it may obstruct scientific progress. The history of science shows examples of such prohibitions based on prejudices deriving from religious, mythological, metaphysical, or other irrational sources, which slowed up the developments for shorter or longer periods of time. Let us learn the lessons of history. Let us grant to those who work in any special field of investigation the freedom to use any form of expression which seems useful to them; the work in the field will sooner or later lead to the elimination of those forms which have no useful function. *Let us be cautious in making assertions and critical in examining them, but tolerant in permitting linguistic forms.*⁴¹

The nominalist intuition of Carnap's fellow empiricist critics amounts to a metaphysical prejudice, one that threatens to stand in the way of scientific progress by constraining the categories of entity over which a scientist can legitimately quantify. That they are *empiricists* who suppose that ontological convictions can legitimately influence our approach to empirical science, and who moreover assume that such convictions are consonant with, or even result from, empiricism itself, is all the more disturbing. For Carnap, the attempt to derive ontological constraints from empiricism is itself the true sin; the spirit of tolerance to which such constraints are a threat is the essence of Carnap's empiricism.

To suggest with Quine, then, that Carnap actually *shared* his empiricist critics' nominalist conviction, and that he made a desperate attempt to reconcile that conviction with quantification over abstract entities, is to seriously misrepresent Carnap's intent. Carnap was exhorting his critics to leave off intuition-mongering and leave science alone in its determination of which entities to include among the values of its variables. His critics' distaste for abstract entities, not the abstract entities themselves, was Carnap's target. Far from attempting to disown commitment to abstracta, Carnap was disowning his critics' reasons for disowning commitment to abstracta.

So understood, the fundamental feature of external questions, and one that Carnap emphasized, is that they are posed, and answered, *prior to* acceptance of the framework.⁴² His empiricist critics know, for example, that when one is engaged in mathematics, denial of “There is an even prime” evinces mathematical incompetence rather than ontological restraint. But that, of course, is not taken to decide the ontological issue, which concerns the fidelity of quantification over numbers to reality. It is because the empiricist-nominalist is convinced that there could not *really* be abstract entities, perhaps on the basis of a fundamental intuition like Quine and Goodman’s, that she concludes that mathematics cannot be taken at ontological face value.

Carnap’s empiricist critics keep company with those philosophers who “believe that only after making sure that there really is a system of entities of the kind in question are we justified in accepting the framework by incorporating the linguistic forms into our language.”⁴³ After all, they might say, the issue concerns the range of values of our variables. Surely we should ensure that they range only over what there is, or what we could know there is, and this question is prior to and independent of any assessment of the contribution mathematics makes to the conduct of empirical science.

This, Carnap insisted, puts the cart before the horse. The question whether we should quantify over numbers does not initiate an inquiry into whether numbers exist. It initiates, rather, an inquiry into whether quantification over numbers contributes to the conduct of scientific inquiry. Quantification over mathematical entities facilitates inference, simplifies axiomatization, allows for considerable increase in the precision of empirical prediction and control, and so on. Whether these considerations, taken altogether, tell in favour of quantification over mathematical entities, or whether they can be satisfied with a more austere ontology, is an open question. But if they favour quantification over mathematical entities, we will come to affirm mathematical existentials. And *that* is where the question whether there are numbers finds a legitimate answer. It is an answer to a question of existence. But it is not an answer that decides the legitimacy of quantification over numbers. It is the product of a process that begins with the question whether quantification over numbers benefits science.

Carnap dismissed the ontologist's question because he thought that its answer would have to be synthetic and *a priori*, not because he thought that it would always receive an analytic answer. The question that Carnap rejected is one whose answer is supposed to determine the legitimacy of the introduction of the framework, whatever the contribution the framework might make to empirical science and whatever specific evidence might be given for particular assertions within the framework. To put the question beyond the pale of empirical science in this way is, for Carnap, tantamount to trafficking in metaphysical prejudice under the guise of synthetic *a priori* inquiry.

Carnap's nominalist empiricist critics were unwittingly engaged in the same illicit commerce. They did not take the sentence "There are no abstract entities" to be true in virtue of meaning alone. But to infer this sentence from empiricism does not turn the sentence into an empirical judgment warranted on the basis of empirical scientific inquiry. After all, it was precisely because of his critics' nominalist convictions that they sought to *revise* scientific doctrine in nominalistic terms. Of course, they hoped that reconciliation between their conviction and scientific doctrine would ensue. Nevertheless, their project constitutes an attempt to fit the scientific image into their larger ontological frame; it is not part of the empirical scientific image itself. These critics have, with considerable irony, drawn a synthetic *a priori* conviction from their commitment to empiricism. And that is the last thing an empiricist should be doing.

The analytic/synthetic distinction does show up in ESO, as the distinction between logical and empirical frameworks; the framework of numbers is an example of the first, the framework of 'things' (material objects) an example of the second. Assertions in logical frameworks are, Carnap thought, analytic, whatever the generality of the sortal might be. And assertions in empirical frameworks are synthetic, whatever their generality might be. Quine's interpretation has Carnap claiming that a sentence turns analytic when the sortal's scope widens far enough for it to count as a universal word. But Quine was wrong.

Nevertheless, Carnap *did* think that mathematical existentials are analytic, and Quine did disagree, and that is a fundamental difference between them. But Carnap did *not* claim that these sentences

are analytic in order to avoid ontological commitment. He did not object to the ontologist's demand that the answers to her questions of existence be synthetic. Ontologists ask such questions about factual frameworks as well. And Carnap continued to disparage those questions, even while holding that the answers to the corresponding internal questions *are* synthetic.

Carnap's repudiation of external questions applies to analytic and factual frameworks equally. The role of the analytic/synthetic distinction in ESO is independent of the internal/external distinction and of Carnap's repudiation of external questions. Quine understood their (apparent) disagreement over ontology to be a manifestation of their disagreement as to the viability of the analytic/synthetic distinction. But his mistake was to see Carnap's views as flowing from Carnap's acceptance of the *analytic* a priori which Quine opposed and not from Carnap's rejection of the *synthetic* a priori which Quine endorsed.⁴⁴

VI. PRAGMATIC AND EPISTEMIC

Carnap said that framework-choice is a pragmatic matter of language engineering. Adopting a framework, he said, "does not need any theoretical justification because it does not imply any assertion of reality."⁴⁵ "Above all", he insisted, "it must not be interpreted as referring to an assumption, belief or assertion of 'the reality of the entities'."⁴⁶

Quine understood him to be claiming that quantification over abstract entities is not an acknowledgment that such entities exist. In response, Quine emphasized the impact that framework-choice has on the corpus of belief: it plays a substantial role in determining what existentials will be affirmed within it. Framework-choice therefore has consequences for what to believe there is. And since an epistemic reason is a reason that is relevant to the question what to believe, those reasons that are relevant to choice of framework are also epistemic.

But this misses the point. When Carnap denied that framework choice reflects a belief as to the "reality of the entities," he was denying that framework-choice is made *in light of* already-formed views concerning what there is; he was not denying that it has *implica-*

tions for what there is. He simply did not care what the implications were, and was exhorting his fellow empiricists to adopt the same tolerant attitude. The already-formed views concerning what there is, to which framework choice is thought to be held accountable, are answers to external questions. The doctrinal implications of framework choice are answers to internal questions. And Carnap's position was that external questions are incoherent, and that the only answers to questions of existence are internal answers.

It does not, in fact, make sense to ascribe to Carnap the position that the decision to quantify over abstract entities is *merely* pragmatic in a sense that vitiates the ontological commitments that flow from the internal existentials. Quine suggests that Carnap called framework choice pragmatic in order to disarm those existentials because he was unwilling to endorse commitment to them. But Carnap's supposed aversion to abstract entities would amount to an existential judgement, delivered, now, from the external standpoint. Carnap could not, in that case, maintain that existential issues only coherently arise within frameworks. But that they *do* coherently arise only within frameworks is Carnap's whole point.

When Carnap characterized the reasons that figure in framework choice as pragmatic, he was not attempting to wash his hands of the foreseeable ontological consequences of such choices. Admittedly, he was not very happy with the terms "ontology" and "ontological commitment"; as we will see, he could not help noticing their first-philosophical overtones. But insofar as such terms are divested of their first-philosophical origins, he would have had no problem with the suggestion that he is ontologically committed to abstracta. In fact, his entire purpose was to suggest that there is no specifically philosophical reason for being concerned with such commitment, and that his empiricist nominalist critics were wrong in thinking that there is.

Perhaps Quine's accusation that Carnap was trying to dodge ontological commitment does not stick. Nevertheless, it might be objected that Carnap *did* characterize the reasons for framework choice as pragmatic. And Quine *did* characterize those reasons as evidential. Surely this is still a difference between them. And surely Quine was right to reject Carnap's characterization of those reasons

as merely pragmatic, in light of their role in determining the content of the corpus of belief.

As Yablo puts the criticism on Quine's behalf, Carnap fell prey to a false dichotomy. He took the options to be either endorsement of ontological insight constraining framework choices, or recognition of the pragmatic character of the considerations that weigh in for such choices. Since Carnap rejected the first option, and since pragmatic considerations rationalize change in action or policy, Carnap denied that framework choice constitutes a change in doctrine.⁴⁷

"This", Yablo says, "is where push famously comes to shove."

Efficiency and the rest are *not* for Quine 'practical considerations', not if that is meant to imply a lack of evidential relevance. They are exactly the sorts of factors that scientists point to as favoring one theory over another, hence as supporting this or that view of the world.⁴⁸

Yablo then cites Quine: "Carnap maintains that ontological questions. . . are questions not of fact but of choosing a convenient conceptual scheme or framework for science; and with this I agree only if the same be conceded for every scientific hypothesis."⁴⁹

Quine's argument, in effect, is that we can no more view framework choice as merely pragmatic, and therefore as evidentially irrelevant, than we can view the reasons that scientists adduce for their hypotheses as evidentially irrelevant. Carnap will certainly not want to deny the evidential relevance of scientific theorizing. So he has no choice but to regard those reasons as evidential for whatever they rationalize, even when what they rationalize is choice of framework.

Whatever effect this parity-of-reasoning argument might have on Carnap, it does not license the conclusion that such reasons *are* evidential. Indeed, the concession that Quine demands would initially suggest a far more pessimistic conclusion. Carnap was right to recognize that choice of basic ontology is guided by considerations that lack evidential relevance. But he did not recognize the extent to which such epistemically irrelevant considerations have infiltrated scientific theorizing. It turns out that every scientific hypothesis – not just basic ontology – is subject to the malign influence of merely practical considerations irrelevant to its truth!

The optimistic conclusion that Quine wants to draw requires a missing premise: that simplicity, conservatism, inferential tractabil-

ity, and the rest, *do* really increase the likelihood that the claims they are taken to support are true, whatever those claims might be. And one might be skeptical. Such considerations, after all, often wear their practical benefits on their sleeves: simple theories are easier to keep track of, conservatism indulges a kind of theoretical laziness, inferential tractability makes for easier derivation of consequences, and so on. As Yablo says, Quine will point out that these are the sort of factors that scientists point to as favoring one theory over another, “hence as supporting this or that view of the world.” But this does nothing to determine whether the support in question is pragmatic or epistemic. Why should we not think that it is the practical benefits these considerations confer on the believer, not their relevance to the truth of the belief, that accounts for their role in determining scientific doctrine?

Quine will at this point appeal to his naturalism. He might ask us to consider what answering this question would require. Certainly the local evidence that might be appealed to in support of particular claims – calculation for the existence of primes, observation for the existence of brick houses, and the like – would be dismissed out of hand. For the question is precisely whether such supposed evidence really *is* evidence, rather than merely an elaborate game the playing of which is motivated by the practical benefits accruing to the players but unrelated to the truth. And it will do no good to reiterate the very considerations at issue – simplicity, conservatism, and so on – that motivate the playing. It is precisely the epistemic status of such considerations that is at stake. But nothing else figures into scientific theorizing itself. So the question could only be answered by conducting a super-scientific inquiry into the epistemic credentials of scientific method. And the dream of such an inquiry is what Quine insists must be renounced as a philosophical fantasy.⁵⁰

So when Quine says that the reasons relevant to framework choice are evidential, he certainly does not mean to suggest that he has conducted such an inquiry, and reports the happy news that those reasons live up to their epistemic pretensions and so are not merely pragmatic. *That* application of the pragmatic/epistemic distinction, Quine would say, or at least should say, goes by the board with the naturalistic turn, since it presupposes a first-philosophical epistemological project that Quine rejects as incoherent.

Now back to Carnap. When Carnap said that the reasons relevant to framework choice are pragmatic, he certainly did not mean to suggest that *he* had conducted such an inquiry, and reports the *unhappy* news that those reasons *failed* to live up to their epistemic pretensions and so are merely pragmatic. *That* application of the pragmatic/epistemic distinction, Carnap would say, or at least should say, goes by the board with the repudiation of the external question of existence.

The issue is whether a substantial part of scientific discourse – that part concerning numbers, say – amounts to a merely discursive game the playing of which is motivated on merely pragmatic grounds irrelevant to the truth of the assertions made in play, or whether the “evidence” for existential assertions within the game is really evidence for the existence of the entities. And that is just a variant of the very external question concerning the fidelity of the framework as a whole to reality that Carnap rejected as unacceptably metaphysical on the basis of its detachment from, and irrelevance to, the empirical scientific endeavor.⁵¹ Carnap was certainly not suggesting that the epistemic status of the framework itself, and therefore of the existentials within it, is sadly unresolved by the merely pragmatic considerations that determine whether the framework is adopted. His characterization of framework-choice as pragmatic was precisely meant to oppose the idea that any such external assessment of the legitimacy of the framework is possible. It even precludes an assessment of the reasons that govern framework choice as *merely* pragmatic and therefore inadequate from an external epistemological point of view.

Quine *did* call framework-choice epistemic, but only because he was emphasizing its role in the evolution of the corpus of belief. Carnap *did* call framework-choice pragmatic, but only because he was emphasizing the freedom of science to consider the virtues of such a choice unencumbered by metaphysical prejudice. Perhaps it would be more accurate to say on behalf of both that the pragmatic/epistemic distinction does not apply to the reasons that determine framework-choice, since its application would presuppose the legitimacy of a first-philosophical, non-empirical project that they both reject.

But insofar as the pragmatic/epistemic distinction *is* forced on the reasons for framework-choice, I think it is Carnap's emphasis of the pragmatic dimension of such decision-making that looks more reasonable from the point of view of Quine's own naturalistic orientation. In calling those reasons epistemic, Quine is in danger of appearing to suggest that there must be something more to recommend such choices than the considerations that are typically appealed to in making them. In so doing, he threatens his own naturalism.

Quine, it seems, agreed.

[I]t is meaningless, I suggest, to inquire into the absolute correctness of a conceptual scheme as a mirror of reality. Our standard for appraising basic changes in conceptual scheme must be, not a realistic standard of correspondence to reality, but a pragmatic standard. Concepts are language, and the purpose of concepts and of language is efficiency in communication and prediction. Such is the ultimate duty of language, science, and philosophy, and it is in relation to that duty that a conceptual scheme has finally to be appraised.⁵²

If this passage is to be read in a way that does not conflict with Quine's insistence that simplicity, conservatism, and so on are evidential and not merely pragmatic, then we should be equally charitable in our reading of Carnap when *he* says that such reasons are pragmatic while recognizing their impact on the corpus of belief. I suggest that we be charitable in our reading of both.

Carnap can be rightly accused of attempting to dodge ontological commitment only if 'ontological' and 'first-philosophical' are taken to be synonymous. Assuming with Quine that opposition to first philosophy does not invalidate the notion of ontological commitment, there is no real contradiction in maintaining that framework-choice is both evidential and pragmatic as Quine and Carnap intended these claims to be understood. It is evidential in the sense that it plays a legitimate role in determining what existentials we affirm and therefore what we believe there is. And it is pragmatic in the sense that it is not answerable to an independent investigation into the correspondence between framework (ontology, conceptual scheme) and reality, an inquiry both have rejected as intolerably first-philosophical. Carnap would no more need to deny that it is evidential in the former sense than Quine needs to deny than it is pragmatic in the latter sense.

Notwithstanding their apparent disagreement over the status of framework-choice, I suggest that Quine's naturalistic reorientation of ontological issues and Carnap's repudiation of external questions are the same basic maneuver: the repudiation of the first-philosophical pretensions of traditional metaphysics and epistemology and the determination to protect the freedom of scientific inquiry from metaphysical prejudice masked as ontological insight. We will soon find reinforcement for discerning this common ground between them.

VII. NATURALISM AND THE NOMINALIST PROJECT

Carnap commented on Quine and Goodman's nominalist project in *Meaning and Necessity*:

I agree, of course, with Quine that the problem of "Nominalism" as he interprets it 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.⁵³

Carnap explained his dissatisfaction with such terms as 'nominalism', 'ontology', and 'ontological commitment' in the same section. "I should prefer," he said, "not to use the word '*ontology*' for the recognition of entities by the admission of variables. This use seems to me to be at least misleading; it might be understood as implying that the decision to use certain kinds of variables must be based on ontological, metaphysical convictions."⁵⁴ The sort of convictions he had in mind are those that motivated Quine and Goodman's nominalist project. Carnap endorsed the project itself,⁵⁵ but only so long as the play of such convictions is barred from the scene.

As I mentioned earlier, Quine himself gave up the project, convinced that it cannot be completed. But, more importantly, he also renounced the philosophical intuition that he and Goodman had expressed as their reason for pursuit of the project.⁵⁶ At least he did so officially, although he has always surveyed the difficulties attending the nominalist project with regret. But such sentiment plays no

role in the process by which Quine has told us that we are to determine our ontological commitments. Instead of asking, first, what there really is or could really be, and then shaping scientific doctrine in order to conform to that determination, we first ask what the best scientific doctrine is to date, and then determine what that doctrine says there is by asking what entities must exist for it to be true. The first move is naturalism. Scientific inquiry being the best, and indeed the only, epistemological game in town, we can do no better than endorse its results with no more reservation than scientific fallibility in general allows. The second move is the application of his criterion of ontological commitment.⁵⁷

Quine described the nominalist project within this naturalistic orientation as follows.

As a thesis in the philosophy of science, nominalism can be formulated thus: it is possible to set up a nominalistic language in which all of natural science can be expressed. The nominalist, so interpreted, claims that a language adequate to all scientific purposes can be framed in such a way that its variables admit only of concrete objects, individuals, as values – hence only proper names of concrete objects as substituends.⁵⁸

This thesis, and the corresponding nominalist project, is what Carnap said is meaningful and worth pursuing. It concerns, as Carnap said, whether natural science can be expressed in a nominalistic language. If *this* is what the nominalistic thesis comes to “as a thesis in the philosophy of science”, then Carnap would be perfectly happy with it. What he objected to was Quine and Goodman’s suggestion that the project is reasonably motivated by a prior *existential* conviction that “[a]ny system that countenances abstract entities . . . [is] unsatisfactory as a final philosophy.”

Quine now agrees that the answer to the question whether we are to believe in the existence of abstract entities is one to which we come as a product of this process, not a constraint on it in light of philosophical intuition. And he concedes that this naturalistic rendering of nominalism undermines his and Goodman’s earlier declaration of nominalistic insight.

[T]he question whether to treat [a word] as a term is the question whether to give it general access to positions appropriate to general terms Whether to do so may reasonably be decided by considerations of systematic efficacy, utility for theory. But if nominalism and realism are to be adjudicated on such grounds,

nominalism's claims dwindle. The reason for admitting numbers as objects is precisely their efficacy in organizing and expediting the sciences.⁵⁹

Carnap was right to reject first philosophy, Quine thought, but Carnap's pathetic attempt to dodge ontological commitment is quite unnecessary now that Quine has shown that ontological questions of existence can find a home in the naturalistic framework. Quine did not consider the revival of ontological inquiry in naturalistic guise to be a reversion to traditional metaphysics because he did not consider the first-philosophical aspect of ontology to be essential to it. As he said in "On What There Is", he is after all "no champion of traditional metaphysics."⁶⁰ But he had not really given new meaning to terms like 'ontology' since "the sense in which I use this crusty old word was nuclear to its usage all along."⁶¹

But Carnap was not trying to dodge ontological commitment to abstracta. Quine's interpretation of Carnap's view of ontological existentials – that they are analytic shadows in the object language of metalinguistic attributions of syntactic structure – originates in a misconception of Carnap's intent. And this opens the possibility that the remaining dispute between them was merely verbal. Unlike Quine, Carnap felt that the terms 'ontology', 'nominalism' and so on are so closely wedded to the first-philosophical metaphysical project that to suggest that ontological issues somehow survive the naturalistic turn is seriously misleading.⁶² But their difference of opinion as to the recommended use of these terms only reflects their distinct rhetorical circumstances. No significant disagreement with respect to what happens to first-philosophical metaphysics, and how existential queries are answered, appears to remain.

Carnap himself always suspected that their dispute over ontological issues might be merely verbal.⁶³ After all, Quine *echoed* Carnap's plea for tolerance of frameworks (or ontologies): "The question what ontology actually to adopt", Quine said in "On What There Is", "still stands open, and the obvious counsel is tolerance and an experimental spirit."⁶⁴

Carnap was very encouraged by this comment. In a letter to Quine, he suggested that they had independently come to the same position on ontological issues.

I read with great interest your paper "On What There Is". I was very glad to find at the end your plea for "tolerance and experimental spirit". This is exactly the

same attitude for which I plead in my paper (and which I expressed almost in the same terms, even before having read yours).⁶⁵

Carnap was enthusiastic enough to cite Quine's comment directly in ESO⁶⁶ and allude to it later in his autobiography.⁶⁷ He was, I think, mystified by Quine's adamant opposition to his views; and perhaps he was right to be so.

The attitude toward ontological questions of existence that Quine and Carnap may well have shared is not, however, standardly taken to be Quine's contribution. Quine and Goodman's rejection of any system that countenances abstract entities as "unsatisfactory as a final philosophy" was echoed recently by Hartry Field. Field also denies "that it is legitimate to use terms that purport to refer to such entities, or variables that purport to range over such entities, in our ultimate account of what the world is really like."⁶⁸ But since he is committed to scientific doctrine as telling us what the world really *is* like, and since the latter doctrine, as it stands, includes abstract existentials, Field needs to show that scientific doctrine can be rewritten without quantification over abstracta in order to avoid what he calls "intellectual doublethink."⁶⁹

Carnap would object to Field's suggestion that we are reasonably motivated to explore the nominalist project in light of a prior conviction as to what there is and therefore that demonstration of the dispensability of abstracta constitutes an *argument* in favour of that prior conviction. Quine's renunciation of his and Goodman's earlier declaration of philosophical insight suggests that he would share Carnap's rejection of the sort of conviction that motivates Field, even while Field ascribes to Quine the recognition of the role of dispensability arguments in defending such convictions. And Field is not alone. Dispensability arguments are now standard weapons in the defense of various ontological convictions, and Quine is typically praised for advocating their use.

Suppose that Quine does share Carnap's repudiation of traditional metaphysics, understood as the influence of prior ontological convictions on our attitude to, and interpretation of, scientific doctrine. Then it appears that his misinterpretation of Carnap's position resulted in his overemphasizing the continuity of metaphysics in its classical and modern guise. This in turn led to misinterpretation of his own attitude toward the fate of traditional metaphysics: instead

of rejecting such prior convictions as irrelevant to the development of scientific doctrine, he is seen to have provided the means by which such convictions can be defended, namely, by the proffering of dispensability arguments. If this is right, then Quine's misinterpretation of his mentor's position on ontology condemned his own to being misunderstood because of his preoccupation with the one issue – the cogency of the analytic/synthetic distinction – that separated them. A tragic play of misunderstanding would then appear to have taken place at the center of the transition from positivist to post-positivist analytic philosophy, one which persists in the current perception of Quine as having rescued ontological inquiry from Carnap's anti-metaphysical dogmatism.

NOTES

¹ *The Ways of Paradox and Other Essays*, Revised and Enlarged Edition (Cambridge: Harvard University Press, 1966), p. 203.

² *Revue Internationale de Philosophie* 4 (1950), pp. 20–40, revised and reprinted as Supplement A in Rudolf Carnap, *Meaning and Necessity: A Study in Semantics and Modal Logic*, 2nd Ed. (Chicago: University of Chicago Press, 1956). Subsequent references are to the latter.

³ W.V. Quine and Nelson Goodman, "Steps Toward a Constructive Nominalism", *Journal of Symbolic Logic* 12 (1947).

⁴ "W.V. Quine was the first to recognize the importance of the introduction of variables as indicating the acceptance of entities." ESO, fn. 3, p. 214.

⁵ "Internal questions and possible answers to them are formulated with the help of the new forms of expressions. The answers may be found either by purely logical methods or by empirical methods, depending upon whether the framework is a logical or factual one. An external question is of a problematic character which is in need of closer examination." ESO, p. 206.

⁶ See "Two Dogmas of Empiricism", in Quine, *From a Logical Point of View*, 2nd Ed. (Cambridge: Harvard University Press, 1953), p. 46.

⁷ "Consider the question whether to countenance classes as entities. This, as I have argued elsewhere, is the question whether to quantify with respect to variables which take classes as values. Now Carnap has maintained that this is a question not of matters of fact but of choosing a convenient language form, a convenient conceptual scheme or framework for science. With this I agree, but only on the proviso that the same be conceded regarding scientific hypotheses generally. Carnap has recognized that he is able to preserve a double standard for ontological questions and scientific hypotheses only by assuming an absolute

distinction between the analytic and the synthetic; and I need not say again that this is a distinction I reject." Quine, "Two Dogmas of Empiricism", p. 45.

⁸ "Carnap, Lewis, and others take a pragmatic stand on the question of choosing between language forms, scientific frameworks; but their pragmatism leaves off at the imagined boundary between the analytic and the synthetic. In repudiating such a boundary I espouse a more thorough pragmatism." Quine, "Two Dogmas of Empiricism", p. 46.

⁹ London: Kegan Paul Trench, Trubner & Co., 1937, esp. Part V, "Philosophy and Syntax". (English translation and revision of *Logische Syntax der Sprache*, originally published in 1934.)

¹⁰ Carnap, *The Logical Syntax of Language*, pp. 294–295.

¹¹ Carnap, *The Logical Syntax of Language*, Part V.

¹² "What typifies the metaphysical cases is rather, according to an early doctrine of Carnap's, the use of category words, or *Allwörter*. It is meaningful to ask whether there are prime numbers between 10 and 20, but meaningless to ask in general whether there are numbers . . ." Quine, "Existence and Quantification", in his *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), p. 91.

¹³ "If I understand correctly, Carnap accepts my standard for judging whether a given theory accepts given alleged entities. The test is whether the variables of quantification have to include those entities in their range in order to make the theory true. Allow, of course, for a shudder between the word 'ontological' and the word 'commitment'." Quine, "On Carnap's Views of Ontology", p. 206.

¹⁴ "As seen, we can go far with physical objects. They are not, however, known to suffice . . . we do need to add *abstract* objects, if we are to accommodate science as currently constituted . . . Our tentative ontology for science, our tentative range of values for the variables of quantification, comes therefore to this: physical objects, classes of them, classes in turn of the elements of this combined domain, and so on up." Quine, "Scope and Language of Science", in *Ways of Paradox and Other Essays*, p. 244.

¹⁵ "We find philosophers allowing themselves not only abstract terms but even pretty unmistakable quantifications over abstract objects . . . and still blandly disavowing, within the paragraph, any claim that there are such objects . . . In our canonical notation of quantification, then, we find the restoration of law and order." Quine, *Word and Object*, pp. 241–242.

¹⁶ Quine, *Word and Object*, p. 275.

¹⁷ Quine, *Word and Object*, p. 275.

¹⁸ "In the foregoing paragraphs it has been urged that general terms have the virtue . . . of letting us avoid or at least postpone the recognition of abstract entities as values of our variables of quantification. Some logicians, however, attach little value to such avoidance or postponement. This attitude might be explained in some cases by a Platonic predilection for abstract objects; not so in other cases, however, notably Carnap's. His attitude is rather that quantification over abstract objects is a linguistic convention devoid of ontological commitment; see

his ‘Empiricism, semantics, and ontology’.” Quine, *Methods of Logic*, 3rd Ed. (New York: Holt, Reinhart and Winston, 1972), p. 221. One can well imagine what Quine – for whom ontological commitment just *is* a matter of what one quantifies over – would think of this attitude.

¹⁹ Quine, *Word and Object*, pp. 271–273.

²⁰ Quine, *Word and Object*, p. 272.

²¹ “Even the question whether there are classes, or whether there are physical objects, becomes a subclass question if our language uses a single style of variables to range over both sorts of entities. Whether the statement that there are physical objects and the statement that there are black swans should be put on the same side of the dichotomy, or on opposite sides, comes to depend on the rather trivial consideration of whether we use one style of variables or two for physical objects and classes.” Quine, “On Carnap’s Views on Ontology”, p. 208.

²² Quine, “On Carnap’s Views on Ontology”, p. 211.

²³ “Some Preliminaries to Ontology”, *Journal of Philosophical Logic* 5 (1976), pp. 457–474.

²⁴ “Carnap and Quine: Internal and External Questions”, *Erkenntnis* 42 (1995), pp. 41–64.

²⁵ “Does Ontology Rest on a Mistake?”, *Aristotelian Society Supplementary Volume* 1998, pp. 229–262.

²⁶ Haack, “Some Preliminaries to Ontology”, p. 463.

²⁷ ESO, p. 208.

²⁸ Yablo, “Does Ontology Rest on a Mistake?”, p. 238.

²⁹ Rudolf Carnap, “Intellectual Autobiography”, in *The Philosophy of Rudolf Carnap* (Vol. XI of *The Library of Living Philosophers*), Paul Arthur Schilpp, ed. (La Salle: Open Court, 1963), p. 65.

³⁰ Carnap, “Intellectual Autobiography”, p. 65.

³¹ W.V. Quine and Nelson Goodman, “Steps Toward a Constructive Nominalism”, p. 105.

³² Quine and Goodman, p. 105.

³³ Quine and Goodman, p. 105.

³⁴ Quine and Goodman, p. 106. They continue: “It is fortified, moreover, by certain *a posteriori* considerations.” It would seem that the preceding intuition is *a priori*. And, since Quine is a co-author, it is not analytic. It is also worth noting an indication that their distaste for abstracta has empiricist origins: “[E]ven when a brand of empiricism is maintained which acknowledges repeatable sensory qualities as well as sensory events, the philosophy of mathematics still faces essentially the same problem that it does when all universals are abandoned. Mere sensory qualities afford no adequate basis for the unlimited universe of numbers, functions, and other classes claimed as values of the variables of classical mathematics” (pp. 105–106).

³⁵ ESO, p. 205.

³⁶ ESO, p. 205.

³⁷ ESO, p. 205.

³⁸ “It is hoped that the clarification of the issue will be useful to those who would like to accept abstract entities in their work in mathematics, semantics, or any other field; it may help them to overcome nominalistic scruples.” ESO, pp. 205–206.

³⁹ Carnap, “Intellectual Autobiography”, p. 66.

⁴⁰ Carnap, “Intellectual Autobiography”, p. 65.

⁴¹ ESO, p. 221.

⁴² “Many philosophers regard a question of this kind [whether to admit a framework] as an ontological question which must be raised and answered *before* the introduction of the new language forms.” ESO, p. 214.

⁴³ ESO, p. 217.

⁴⁴ “Here is an important question which you must answer in order to make your conception clearly understandable: What is the nature of questions like: ‘Are there classes (properties, propositions, real numbers, etc.)?’ and of the true answers to them? You call them ontological & even frankly metaphysical. I suppose this means you regard them neither as analytic (purely logical) nor as empirical. Are they then synthetic *a priori*, so that you abandon empiricism? Or what else? More specifically, what is the method of establishing their truth? Supposedly neither purely log. analysis nor the scientific method of confirmation by observation. Perhaps Kant’s transcendental analysis or Husserl’s ‘Wesensschau’?” *Dear Carnap, Dear Van: The Quine-Carnap Correspondence and Related Work*, Richard Creath, ed. (Berkeley: University of California Press, 1990), Carnap to Quine, 1945-10-23, p. 387. Quine responded that he was “not satisfied that a clear general distinction has yet been drawn between analytic and synthetic.” Creath, *Dear Carnap, Dear Van*, Quine to Carnap, 1947-5-1, p. 409. But this is beside the point of Carnap’s question. Carnap was worried that calling such issues ontological “and even frankly metaphysical” looks like an endorsement of synthetic *a priori*, first-philosophical inquiry, and he wanted to know if this was what Quine took himself to be doing. If Quine had assured Carnap that he did not mean to suggest that the synthetic *a priori* metaphysical project should be reinstated, instead of focusing his sights on Carnap’s mention of analyticity, perhaps reconciliation between them would have ensued.

⁴⁵ ESO, p. 214.

⁴⁶ ESO, p. 214.

⁴⁷ Yablo, “Does Ontology Rest on a Mistake?”, p. 239.

⁴⁸ Yablo, “Does Ontology Rest on a Mistake?”, p. 239.

⁴⁹ Quine, “On Carnap’s Views of Ontology”, p. 211.

⁵⁰ “To call a posit a posit is not to patronize it Nor let us look down on the standpoint of the theory as make-believe What reality is like is the business of scientists, in the broadest sense, painstakingly to surmise; and what there is, what is real, is part of that question. The question how we know what there is is simply part of the question . . . of the evidence for truth about the world. The

last arbiter is so-called scientific method, however amorphous.” Quine, *Word and Object*, pp. 22–23.

⁵¹ “I maintained that what was needed for science was merely the acceptance of a realistic language, but that the thesis of the reality of the external world was an empty addition to the system of science.” Carnap, “Intellectual Autobiography”, p. 46.

⁵² Quine, “Identity, Ostension and Hypostasis”, *From a Logical Point of View*, p. 79.

⁵³ Carnap, *Meaning and Necessity*, p. 43.

⁵⁴ Carnap, *Meaning and Necessity*, p. 43.

⁵⁵ “It would be important to investigate what can and what cannot be expressed in a nominalistic language of a specified form, and, in particular, whether and how sentences of certain kinds containing abstract variables are translatable into sentences of the nominalistic language. Interesting results have emerged from investigations by Quine, Tarski, Goodman, Richard Martin, and others.” Carnap, “Replies and Systematic Expositions”, in Schilpp, *The Philosophy of Rudolf Carnap*, p. 872.

⁵⁶ “True, my 1947 paper with Goodman opened on a nominalist declaration; readers cannot be blamed [for assuming that Quine was always a nominalist]. For consistency with my general attitude early and late, that sentence needs demotion to the status of a mere statement of conditions for the construction in hand.” Quine, *Word and Object*, p. 243, fn 5.

⁵⁷ See, for example, “Existence and Quantification”.

⁵⁸ Quine, “Designation and Existence”, *Journal of Philosophy* 36 (1939), pp. 701–709.

⁵⁹ Quine, *Word and Object*, pp. 236–237. “Steps Toward a Constructive Nominalism” was published eight years *after* “Designation and Existence”. Quine seems not to have yet recognized the “dwindling” role of intuition in naturalized ontology when he co-authored “Steps”.

⁶⁰ Quine, “On Carnap’s Views of Ontology”, p. 204.

⁶¹ Quine, “On Carnap’s Views of Ontology”, p. 204.

⁶² “Your word ‘ontology’ definitely suggests Ib [the sense of ‘exist’ in its non-scientific, metaphysical sense]. If you do not mean this, I should advise strongly against its use. Or, at the least, you should add a remark to the effect that it is meant in the sense of Ia [use of ‘exist’ in its ordinary, scientific sense] . . .” Creath, *Dear Carnap, Dear Van*, Carnap to Quine, 1945-10-12, p. 385.

⁶³ “Quine has repeatedly pointed out the important fact that, if we wish to find out what kind of entities somebody recognizes, we have to look more at the variables he uses than the closed compound expressions . . . I am essentially in agreement . . . But . . . I wish to indicate a doubt concerning Quine’s *formulation*; I am not quite clear whether the point raised is not perhaps of a merely terminological nature.” Carnap, *Meaning and Necessity*, p. 42.

⁶⁴ Quine, “On What There Is”, p. 19.

⁶⁵ Creath, *Dear Carnap, Dear Van*, Carnap to Quine, 1949-8-15, p. 415.

⁶⁶ “With respect to the basic attitude to take in choosing a language form (an ‘ontology’ in Quine’s terminology, which seems to me misleading), there appears now to be agreement between us: ‘the obvious counsel is tolerance and an experimental spirit’” ESO, fn. 5, p. 215.

⁶⁷ “I have the impression that, among empiricists today, there is no longer strong opposition to abstract entities, either in semantics or in any field of mathematics or empirical science. In particular, Quine has recently taken a tolerant, pragmatistic attitude which seems close to my position.” Carnap, “Intellectual Autobiography”, p. 67.

⁶⁸ Field, *Science Without Numbers: A Defense of Nominalism* (Princeton: Princeton University Press, 1980), p. 1.

⁶⁹ Field, *Science Without Numbers*, p. 2.

*5199 Woodlands Drive
Bloomfield Hills
MI 48302
USA*