

BRUCE N. WALLER

CARNAP AND QUINE ON THE DISTINCTION BETWEEN
EXTERNAL AND INTERNAL QUESTIONS*

(Received 10 February, 1977)

The purpose of this paper is to answer Quine's objections to Carnap's external/internal [e/i] questions distinction. Following a brief account of how Carnap draws the external/internal questions distinction, Quine's major argument against the e/i distinction per se will be considered, together with implications of that argument for the way in which the e/i distinction must be understood. Then more general Quinean criticisms of the e/i distinction (and related distinctions) will be examined, and the paper will conclude with some observations on the role of the distinction in a thoroughgoing empiricism.

In 'Empiricism, Semantics, and Ontology' Carnap maintains that we must distinguish between two kinds of existence questions: external questions are "questions concerning the existence or reality *of the system of entities as a whole*"; internal questions are "questions of the existence of certain entities ... within the [linguistic] framework".¹

External questions are practical, rather than theoretical or factual, questions. That is, an external question is a:

question of whether or not to accept the new linguistic forms. The acceptance cannot be judged as being either true or false because it is not an assertion. It can only be judged as being more or less expedient, fruitful, conducive to the aim for which the language is intended ... Thus it is clear that the acceptance of a linguistic framework must not be regarded as implying a metaphysical doctrine concerning the reality of the entities in question.²

To ask questions concerning the linguistic system or framework as if they were yes-no questions – as if they were questions concerning the existence of entities rather than the relative practicality of the language forms – is to ask concerning a system questions which can be meaningfully asked only within a system.

Quine's specific criticism of the e/i distinction – the heart of his 'On Carnap's Views on Ontology' – focuses on what Carnap claims is essential in the introduction of linguistic frameworks. In Carnap's account, the two essential steps in the introduction of linguistic frameworks are:

First, the introduction of a general term, a predicate of higher level, for the new kind of entities, permitting us to say of any particular entity that it belongs to this kind.... Second, the introduction of variables of the new type. The new entities are values of these variables...³

Carnap's description of the introduction of linguistic frameworks is the basis for Quine's specific criticism of the *e/i* distinction. Quine bases his criticism on what he claims is the distinction underlying the *e/i* distinction: what he calls the category/subclass [*c/s*] distinction. He argues that if one takes into account Carnap's description of the introduction of linguistic frameworks, then:

... Carnap's dichotomy of questions of existence is a dichotomy between questions of the form 'Are there so-and-sos?' where the so-and-sos purport to exhaust the range of a particular style of bound variables, and questions of the form 'Are there so-and-sos?' where the so-and-sos do not purport to exhaust the range of a particular style of bound variables. Let me call the former questions *category* questions, and the latter ones *subclass* questions.⁴

This *c/s* distinction, Quine claims, is related to Carnap's *e/i* distinction as follows:

The external questions are the category questions conceived as propounded before the adoption of a given language; and they are, Carnap holds, properly to be construed as questions of the desirability of a given language form. The internal questions comprise the subclass questions and, in addition, the category questions when these are construed as treated within an adopted language as questions having trivially analytic or contradictory answers.⁵

Quine then argues:

But now I want to examine the dichotomy which, as we see, underlies Carnap's distinction of external and internal, and which I am phrasing as the distinction between category questions and subclass questions. It is evident that the question whether there are numbers will be a category question only with respect to languages which appropriate a separate style of variables for the exclusive purpose of referring to numbers. If our language refers to numbers through variables which also take classes other than numbers as values, then the question whether there are numbers becomes a subclass question, on a par with the question whether there are primes over a hundred. ...

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.⁶

Quine's argument is not without blemish; nevertheless, it does establish that the *e/i* distinction, as Carnap draws it, leads to difficulties (or trivialities). An external question, for Carnap, is a question of the desirability of some

new linguistic framework. And a new linguistic framework, Carnap suggests, must involve a new general term, and a new style of variables. Thus Quine concludes — correctly, it seems, on the basis of what Carnap says — that an external question must involve the entire range of a particular style of bound variables. And Quine then shows that whether or not the entire range of a style of bound variables is involved can often be a rather trivial matter; and thus, whether or not a question fits this criterion for being external (or a category question) is also trivial.

Concerning the blemishes in Quine's argument: it is true that questions that do not "exhaust the range of a particular style of bound variables" cannot be external questions (as Carnap describes such questions and their concern with new linguistic frameworks). It is also obvious that such questions *are* subclass questions, since this is precisely Quine's criterion. But it seems very doubtful that — as Quine maintains — all questions which fit Quine's subclass criterion *also* fit Carnap's standard for internal questions. For failure to exhaust the range of a style of bound variables is both the necessary and sufficient condition for a question to be a Quinean subclass question; but it is merely a necessary (not sufficient) condition for its qualifying as an internal question. Carnap also requires that internal questions be answerable "either by purely logical methods or by empirical methods", in contrast to external questions which are practical questions concerning the desirability of revisions or additions to our language system.

Consider this example. Suppose that in a given language there is a general term 'property'; that in this language there is a particular style of variables which take only properties as values; and that by the rules of designation of this language, the values of this style of variables include only what Locke would classify as primary qualities — that is, the values include solidity, extension, etc., but do not include secondary qualities such as color and smell. Or to put it another way, the language includes a framework for 'properties' which is defined so as to include only primary properties; no framework is included for secondary properties. If we are considering the question of whether or not to admit colors into our language, there are several alternatives. One, we can decide that for our purposes admitting colors would result in a useless complication of the language. Or we might decide to admit colors, and then we are faced with another question: by what process shall we admit colors into the language? One way would be by introducing a new framework for colors, with 'color' as the new general term,

and a new style of variables which take as values specific color words; another method would be to introduce, say, 'qualities' as a new general term, with a new style of variables which take as values any of the secondary qualities, including colors; and still another possibility would be the introduction of colors as values of the previously included style of variables for 'properties', that is, simply to admit colors as values of the property variables which were previously introduced in introducing the properties (primary properties) framework into the language.⁷

In each of these possibilities, the question of whether to admit colors is a practical question of the value of admitting colors into our language; and in the cases in which it is decided to admit colors, it is the further practical question of what process of admitting colors would be most convenient, that is, which method would result in the most effective language for whatever purposes we have in mind. The crucial point – which makes this a counter-example to Quine's account of how the *c/s* and *e/i* distinctions are related – is that clearly in the last two methods of introducing colors into the language, color constants do not "exhaust the range of a particular style of bound variables"; but the questions are nonetheless practical, non-internal questions in both cases. They are subclass, but not internal, questions.

But whatever the problems with Quine's *c/s* based criticism, still the damage has been done to Carnap's characterization of external questions and of the *e/i* distinction. For if the concerns of external questions must exhaust the range of a particular style of bound variables, then qualifying as an external question is trivialized in the manner that Quine notes. So in keeping with the holistic dictum on which Quine and Carnap concur – when trouble strikes, adjustment may be made at various points in the system – it must be determined where revisions are desirable.

The root of Carnap's difficulty appears to be his assumption that the existing language (to which the new frameworks are being added) is a many-sorted language with type distinctions: the requirement of a general term of a *higher level* shows that it is a theory of types language; and the requirement of a *new type* of variables indicates that at the level of individuals the language is many-sorted. Thus Carnap's requirements for the introduction of new frameworks make the *e/i* distinction dependent on a compartmentalization of variables such as is found in Russell's theory of logical types. It is this presupposition that the overall structure of the language (into which new linguistic frameworks are added) will employ the theory of types and be many-sorted

that results in the flaw elaborated by Quine. For this presupposition unduly restricts the range of external questions, so that the trivialization noted by Quine results.

If the *e/i* distinction is to be, roughly, a distinction between practical questions of the value of certain language forms, and empirical or logical questions which take the language as given, then the description Carnap gives of the introduction of frameworks will not work. Consider again the color examples given above. All three practical questions suggested appear to be external questions concerning the value of a particular language structure; but obviously not all of them concern a new general term or the entirety of a new style of variables. And there is another severe problem for the *e/i* distinction if the theory of types must be presupposed: as Quine notes,⁸ the distinction is rendered useless for languages having no distinctions in styles of variables, as would be the case for languages based on the Zermelo tradition. The *difficulty* is not really with the *e/i* distinction, or with the notion of a framework; rather, it lies in undue requirements on the overall structure of the language.

Carnap's presupposition that the languages in the study of which the *e/i* distinction is drawn – the languages to which the addition of new frameworks is considered – will be in accordance with the theory of types is illegitimate for other reasons as well. For the question of whether a language is to be based on the theory of types – or on a Zermelo style general variable theory, or on some other set theory – is itself a practical (an external) question, to be answered on the grounds of the usefulness of the different language possibilities. For example, questions such as: Are there variables which take as values both individuals and classes? Are there variables which take as values both classes and classes of classes? Are there variables which take as values some objects (of level zero) and not other objects of the same level (that is, assuming a type theory, should it be many-sorted)? are all external questions,⁹ the answers to which have a part in determining the form of the language. Even if one could effectively argue that languages in accordance with the theory of types are preferable – as Carnap sometimes attempts¹⁰ – the *e/i* distinction still would not be applicable to such basic questions as these.

So there are difficulties with Carnap's presupposition that the language into which new frameworks are added must accord with the theory of types, and this seems the most desirable point for revisions in an effort to save the

e/i distinction. When the dependence on the theory of types is eliminated the *e/i* distinction can be characterized as simply a distinction between: practical questions (of degree) concerning the value of certain linguistic rules or forms for particular purposes; and questions of what is (empirically or analytically) the case *given a certain language system*. The distinction itself is a straightforward one: it is no more than a distinction between questions concerning the practicality or desirability of certain language rules or forms, or of certain language additions, deletions, or revisions; and questions of an empirical or logical or language-analytic nature such as those we ask in science or in logic or in everyday life, questions which are asked *within* the language, which *pre-suppose* the language system, and do not themselves question the language.¹¹

But the *e/i* distinction is still exposed to at least three Quinean criticisms. The first leads into the second, and can be dealt with briefly. Quine believes that showing the inadequacy of the analytic/synthetic [*a/s*] distinction is sufficient for destroying the foundation of the *e/i* distinction, for he maintains that "...if there is no proper distinction between analytic and synthetic, then no basis at all remains for the contrast which Carnap urges between ontological statements and statements of existence".¹² This involves a mistaken view of the relation between the *a/s* and *e/i* distinctions. Given the *a/s* distinction, one could probably draw the *e/i* distinction with relative ease; but this procedure would place the cart before the horse. For (as Martin¹³ and Carnap¹⁴ have pointed out) one should speak of 'analytic for a given language' rather than of general analyticity; and what is analytic for a certain language depends on the answers given to the external questions asked in framing that language system.

The second Quinean argument which could be directed against the *e/i* distinction is not merely an attack on the *a/s* distinction; rather, it is an argument that *no* fact/convention distinction can be drawn, and this poses a more severe threat for the *e/i* distinction. For a statement of the differences between Quine and Carnap on this point, one might note Quine's concluding statement in 'Carnap and Logical Truth':

Now I am as impressed as anyone with the vastness of what language contributes to science and to one's view of the world; and in particular I grant that one's hypothesis as to what there is, e.g., as to there being universals, is at bottom just as arbitrary or pragmatic a matter as one's adoption of a new brand of set theory or even a new system of bookkeeping. Carnap in turn recognizes that such decisions, however conventional, "will nevertheless usually be influenced by theoretical knowledge". But what impresses me more than it does Carnap is how well this whole attitude is suited also to the

theoretical hypotheses of natural science itself, and how little basis there is for a distinction.

The lore of our fathers is a fabric of sentences. In our hands it develops and changes, through more or less arbitrary and deliberate revisions and additions of our own, more or less directly occasioned by the continuing stimulation of our sense organs. It is a pale grey lore, black with fact and white with convention. But I have found no substantial reasons for concluding that there are any quite black threads in it, nor any white ones.¹⁵

In *Word and Object*, Quine's claim that Carnap does believe in pure facts and pure conventions is stated even more clearly. Quine states that Carnap:

...holds that the philosophical questions of what there is [external questions] are questions of how we may most conveniently fashion our 'linguistic framework', and not, as in the case of the wombat or unicorn, questions [internal questions] about extra-linguistic reality.¹⁶

But Carnap's distinction is by no means so absolute; Carnap certainly is not supposing – in drawing his *e/i* distinction – that he can completely segregate all questions of pragmatic preference and convention from matters of absolute 'fact' which are somehow untainted by language issues. In Carnap's system of external and internal questions, the external questions are questions of, as Quine would say, 'convention'; that is, they are *practical* questions of selecting a conceptual-linguistic system which will be most effective for our purposes. But such practical questions are not answered in isolation from experience and theoretical considerations. For experience certainly influences the choice of a conceptual scheme-linguistic system, and if experience should reveal a selected system to be unwieldy and inefficient, then this would influence new and revised decisions on external questions.

Having seen this, it also becomes obvious that there are ultimately no purely analytic or synthetic internal questions, either, according to Carnap's scheme. For the apparently 'purely analytic' (and trivial) answers to internal questions are based on a conceptual-linguistic system which is ordered by the 'conventions', the conceptual-linguistic-logical system selected in answer to the external questions. This is not to say that external and internal questions run together in an indistinguishable continuum – as Quine suggests. There are still external questions, answered on the basis of the practical desirability of language frameworks; and distinct from these, there are internal questions, which presuppose linguistic frameworks and – within the given language system – ask what is empirically or analytically the case. Such questions will not be answered in isolation from one another; but they are nonetheless quite different sorts of questions.¹⁷

It is obvious that the *e/i* distinction employs such notions as 'language rules', 'semantical rules', 'meaning postulates', etc.; and Quine's third criticism of the revised distinction might be that such notions are no clearer than the *e/i* distinction which they are supposed to elucidate. For Quine argues that 'meaning postulates' and 'semantical rules' and related concepts are such only due to their appearing on a "list with an appropriate heading".¹⁸

The answer to this line of criticism lies in the acceptance of Quine's claim: semantical rules *are* such only because that status is attributed to them.¹⁹ Language rules have no distinguishing marks and scars, there are no semantic facts which are inherently rules.

One could perhaps give general characterizations of the sorts of things to be found on the lists which will specify language rules; for example, one could say that for interpreted languages the list will include meaning postulates, and then refer to Carnap's explication of them.²⁰ But the difficulties of giving a general account of what might be included on the lists of language rules should not be a stumbling block. That one *can* give a list of formation and transformation rules, logic rules, perhaps other postulates, as the starting point of a language system seems clear enough: proposals of new formal language systems – whether as examples or for serious consideration – are certainly not infrequent. Because of the wide diversity of such rules from system to system it may be difficult to give general characterizations; and one can point out, as Quine does, that the rules are rules only by virtue of appearing on the lists: that they are not inherently suited to be rules. But that is granted; the fact remains that rules *can* be given.

But this calls up the basic issue, which has been threatening to emerge for some time: even if it is *possible* to draw an *e/i* distinction, what is the *value* of drawing it? Does it really serve any good purpose? Or does it in fact – as Quine claims – hinder rather than facilitate the philosopher's work?

A basic reason Quine gives for rejecting the *e/i* and *a/s* distinctions is that those 'conventions' which enter our linguistic system by stipulation and which therefore seem to have the strongest claim to the status of 'pure convention' do not *remain* conventions. They are usually assimilated and their 'pure convention' status is tainted by empirical fact. As Quine states in 'Carnap and Logical Truth':

Suppose a scientist introduces a new term, for a certain substance or force. He introduces it by an act either of legislative definition or of legislative postulation. Progressing, he evolves hypotheses regarding further traits of the named substance or force. Suppose

now that some such eventual hypothesis, well attested, identifies this substance or force with one named by a complex term built up of other portions of his scientific vocabulary. We all know that this new identity will figure in the ensuing developments quite on a par with the identity which first came of the act of legislative postulation. Revision, in the course of further progress, can touch any of these affirmations equally.²¹

What seems to bother Quine is the idea that in admitting the a/s (or e/i) distinction he is admitting statements that must forever and always be beyond question. As Putnam states: Quine refuses to admit analytic statements because "... Quine is convinced that it would block the scientific enterprise to declare any statement immune from revision".²²

There may be some partisans of the a/s and e/i distinctions who conceive of them as a means for stipulating eternal verities, locked away in a realm where 'no thief approaches nor moth destroys' and philosophers cannot cast doubt; but certainly Carnap's support of the e/i and a/s distinctions is not for that purpose. An analytic statement *can* be called 'immune from revision', but only very guardedly. For such statements — and the answers to external questions, on which they are based — are certainly not to be regarded as eternal truths, forever changeless; rather, they are merely 'postulates' or 'truths from (stipulative) definitions and laws of logic' for a *particular* conceptual-linguistic system. Analytic and 'ontological' truths are stipulative and unchanging only within a given system.

Do the e/i and a/s distinctions increase the danger of suffocation due to outdated postulates and definitions which cannot be revised? To the contrary — they serve to emphasize the tentative, hypothetical nature of all such conventions, postulates, definitions. Such conventions are true only in a certain system; they are anything but eternal truths. Accepting certain entities as possible designata (by answers to external questions), and admitting analytic statements (based on logical frameworks, or, for example, on the framework for the spatio-temporal coordinate system²³), does not lock them permanently into our thought; rather, it draws attention to the fact that they are fundamental for a particular system, but *only* relative to that system, and not absolutely. When the e/i and a/s distinctions are employed, then the various answers given to external questions — and the system in which they result — are always understood to be subject to change, are always in competition with alternative systems. Thus not even the most central element escapes scrutiny.

We must now return to Quine's point that statements that are analytic (that are based on stipulative definitions) may become synthetic when a

scientist relates what is named by that (stipulative) term to "... a complex term built up of other portions of his scientific vocabulary". Now certainly this can and does happen, and no doubt it *would* retard scientific progress if such a procedure were proscribed. But exactly what has happened in such cases? Quine might say that an element near the heart of the language-science system has moved somewhat closer (or has been more directly linked) to the experiential periphery; or more precisely, a certain term — originally gaining most of its content from its relation to other terms in the system and serving mainly to order such (more directly observational) terms — has gained a more directly observational content. Carnap would say, on the other hand, that a new system has been formed; it is perhaps in most respects very similar to the system in which the term in question is given stipulatively; but it is nonetheless a new and somewhat different system, with some differences among analytic and synthetic statements. Herbert Bohnert argues for this position (Carnap agrees with his arguments²⁴) as follows:

What can it be to disconfirm or revise a *definition* (on any grounds)? I submit that it can not be done. Every definition of a term in a language *L* figures indirectly in the basic formational and transformational rules constituting that language. To give a certain sign-design a different definition than that already given to it in language *L* is to move to a new language *L'*. ... It may seem odd that the actual, widespread practice of giving the same sign-design different definitions in different contexts would have to be regarded as the creating of new languages, but this way of speaking seems at least as simple as any other consistent alternative.²⁵

Now it is not that one account is correct and the other mistaken, as both Quine and Bohnert suggest; it is rather that Carnap's (and Bohnert's) account employs the e/i and a/s distinctions, and Quine's does not. The question is, which is preferable? (A metaexternal question?)

Apparently in such cases as the one above, Carnap's system (with the e/i and a/s distinctions) is more complex. It involves the development of a new system, whereas Quine simply makes a few revisions in the 'continuum'. But this apparent difference in degree of complexity may be more apparent than real; for Quine's system would have to undergo change just as Carnap's would, and as Quine would agree, the effects of the change would reverberate throughout the system.

So measuring the complexity of the process of making revisions or additions to systems employing the e/i and a/s distinctions, and comparing the result to the complexity of a similar process for a Quinean continuum system, is one task for those attempting to adjudicate the issue of the pragmatic value

of the *e/i* distinction. For those who undertake this task, the problem will be exacerbated by the fact that complexity and simplicity are, as Quine states, "... quite capable of presenting a double or multiple standard".²⁶ And while I shall carefully avoid going into this in any detail, I should like to indicate one possibility: perhaps it is here that the differences between Quine and Carnap on questions of ontology, ontological methodology, and specifically on the *e/i* distinction, can be finally reduced to zero. For the goals of Quine and Carnap *may* differ enough to result in different choices — Quine perhaps seeking to explicate and clarify the actual process by which practicing scientists revise the scientific language system; and Carnap perhaps being more concerned with the formulation of a more rigorous scientific language system which would reveal more clearly its inner workings and the exact effects of each change or influence.²⁷ One might find the 'simpler' language structure better for achieving his goals, and the other find the greater complexity more fruitful for his purposes.

University of North Carolina at Chapel Hill

NOTES

* Thanks to Harold Morick, Kenneth Stern, Robert Meyers, William Grimes, Richard Grandy, and Donald Meyer for very helpful comments on earlier drafts.

¹ Rudolf Carnap, 'Empiricism, Semantics, and Ontology', *Meaning and Necessity: A Study in Semantics and Modal Logic* (2nd ed. rev.; The University of Chicago Press, Chicago, 1958), p. 206.

² *Ibid.*, p. 214.

³ *Ibid.*, p. 213.

⁴ Willard Van Orman Quine, 'On Carnap's Views on Ontology', *Philosophical Studies* 2 (1951). Page references as reprinted in *The Ways of Paradox and Other Essays* (Random House, Inc., New York, 1966), p. 131.

⁵ *Ibid.*, p. 130.

⁶ *Ibid.*, pp. 130–1.

⁷ This last method is not merely the addition of color words; it also involves specifying their place in the language system.

⁸ Quine, p. 132.

⁹ Or more accurately, are generally asked as external questions; they *may* also be asked as internal questions.

¹⁰ Rudolf Carnap, *Introduction to Symbolic Logic and its Applications* (Dover Publications, Inc., New York, 1958), p. 84.

¹¹ This is in fact what Carnap emphasizes in the brief characterization he gives of the *e/i* distinction in the 'Philosophical Problems' section of his autobiography (in the Schilpp volume); Rudolf Carnap, 'Intellectual Autobiography', *The Philosophy of*

Rudolf Carnap, ed. by Paul Arthur Schilpp, Vol. XI of *The Library of Living Philosophers* (The Open Court Publ. Co., La Salle, Illinois, 1963), p. 66.

¹² Quine, p. 134.

¹³ R. M. Martin, 'On "Analytic"', *Philosophical Studies* 3 (1952).

¹⁴ Rudolf Carnap, 'Meaning Postulates', *Meaning and Necessity: A Study in Semantics and Modal Logic* (2nd ed. rev.; The University of Chicago Press, Chicago, 1958); and Rudolf Carnap, 'Meaning and Synonymy in Natural Language', *Meaning and Necessity: A Study in Semantics and Modal Logic* (2nd ed. rev., The University of Chicago Press, Chicago, 1958).

¹⁵ Willard Van Orman Quine, 'Carnap and Logical Truth', *The Ways of Paradox and Other Essays* (Random House, Inc., New York, 1966), p. 125.

¹⁶ Willard Van Orman Quine, *Word and Object* (The MIT Press, Cambridge, Mass., 1964), p. 271.

¹⁷ The details of how internal factual questions are related to external questions are complex and important; but full consideration of the problem reaches well beyond the range of this effort at answering objections to the e/i distinction. Just as important – and even more formidable – is the issue of how external questions concerning linguistic frameworks are related to questions of scientific theory. For example, Carnap's account of the choice of a language-system of science (including the choice of the syntactical structure of the system of physical laws, "... as for instance the question whether fundamental physical laws have the type of deterministic laws or that or merely statistical laws" [Rudolf Carnap, 'Philosophy and Logical Syntax', as reprinted in *Readings in Twentieth Century Philosophy*, ed. by William P. Alston and George Nakhnikian, Free Press of Glencoe, New York, 1963, p. 454]) certainly has important similarities to his later account of how external questions concerning linguistic frameworks are answered. For an interesting recent discussion of Carnap's position on the relation between language and theory, see James W. Cornman, *The Monist* 59 (1976), especially pages 368ff.

¹⁸ Willard Van Orman Quine, 'Two Dogmas of Empiricism', *From a Logical Point of View* (2nd ed. rev.; Harper & Row, Publishers, New York, 1963), pp. 34ff.

¹⁹ See Rudolf Carnap, 'Replies and Systematic Expositions', *The Philosophy of Rudolf Carnap*, ed. by Paul Arthur Schilpp, Vol. XI of *The Library of Living Philosophers* (The Open Court Publ. Co., La Salle, Illinois, 1963), p. 918. Quine's objection is answered in more detail in Herbert Bohnert, 'Carnap's Theory of Definition and Analyticity', *The Philosophy of Rudolf Carnap*, ed. by Paul Arthur Schilpp, Vol. XI of *The Library of Living Philosophers* (The Open Court Publ. Co., La Salle, Illinois, 1963), p. 426.

²⁰ Carnap, 'Meaning Postulates'.

²¹ Quine, 'Carnap and Logical Truth', pp. 124–5.

²² Hilary Putnam, 'The Analytic and the Synthetic', *Minnesota Studies in the Philosophy of Science*, Vol III, H. Feigl and G. Maxwell, eds. (University of Minnesota Press, Minneapolis, 1966), p. 383.

²³ Carnap, 'Empiricism, Semantics, and Ontology', p. 213.

²⁴ Carnap states: "I am in agreement with most points in Bohnert's discussions, in particular, with his arguments against Quine's objections to analyticity ...". Carnap, 'Replies and Systematic Expositions'. p. 922.

²⁵ Bohnert, p. 426.

²⁶ Willard Van Orman Quine, 'On What There Is', *The Review of Metaphysics* (1948). Page references as reprinted in *From a Logical Point of View* (2nd ed. rev.; Harper & Row, Publishers, New York, 1963), p. 17.

²⁷ It should be noted that even if one does accept the e/i distinction, this need not involve accepting Carnap's account of the relation between external questions and ontology; for example, see Cornman, especially pages 369–370.