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Non-propositional analyses of belief.

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NON-PROPOSITIONAL ANALYSES OF BELIEF

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NON-PROPOSITIONAL ANALYSES OF BELIEF

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In this dissertation I will evaluate three principal kinds of non-propositional analyses of belief. The first kind is the sentential analysis, according to which belief sentences may be interpreted as relating people to sentences. A view of this sort has been defended by Rudolf Carnap in Meaning and Necessity.

The second kind of non-propositional analysis of belief to be discussed is the inscriptional (or utterance) analysis, according to which belief sentences may be interpretated as relating people to inscriptions or utterances. The views of this sort that I will criticize have been presented by Israel Scheffler in The Anatomy of Inquiry and by Donald Davidson in "On Saying That".

The third kind of non-propositional analysis is the non-relational analysis, according to which belief sentences are

not relational at all. I will discuss the versions of this view defended by W. V. O. Quine in Word and Object, A. N. Prior in Objects of Thought, and Jaakko Hintikka in "Semantics for Propositional Attitudes".

CONTENTS

Chapter I

PROPOSITIONS

In Chapters 3 and 14 of Some Main Problems of Philosophy[1] G. E. Moore discusses propositions.[2] In Chapter 3 he says that there "certainly are in the universe such things as propositions"[3] and he goes on to describe some of their more important characteristics. In Chapter 14 he comes to a different conclusion, namely, "that there simply are no such things as propositions."[4]

Many philosophers have been more sympathetic with Moore's later view, that there are no propositions, than with his earlier view, that there are. In large part the reason for the stronger appeal of the negative view is that neither Moore's nor anyone else's account of propositions leaves the reader certain that there are such things.

Moore's discussion of propositions may be summarized as follows:

(1) Propositions are not "any of those collections of words, which are one of the things that are commonly called propositions."[5] The word 'proposition' is sometimes used to mean 'sentence,' and Moore is here pointing out that he is not using the word in that way.

(2) Propositions, Moore says, are "the sort of thing which these collections of words express" or "what these words mean."[6]

The collections of words to which Moore refers are sentences, so propositions are the meanings of sentences, and sentences are said to express propositions.

Elsewhere Moore points out that not all sentences express propositions. For example, a sentence such as 'Close the door' does not express one. In general, it is only declarative sentences that express propositions.[7]

(3) When one sees or hears a sentence, and understands it, one "apprehends" the proposition expressed. A proposition, then, is "the sort of thing which is apprehended" when one understands a sentence.[8]

(4) One may simply apprehend a proposition without making any judgment about it, or one may adopt any of a number of attitudes toward it. Moore mentions only the possibilities of believing it and disbelieving it,[9] but there are several others that may be added to his list. One may doubt a proposition, know it, assert it, etc. All of these positions one may take or have with respect to a proposition are called "propositional attitudes."[10]

(5) Propositions "are a sort of thing which can properly be said to be <u>true</u> or false,"[11] although Moore admits that other things may also be said to be true or false, for example, beliefs (acts of believing) and sentences.

Moore has suggested elsewhere that propositions are the "primary" truth bearers. This means that the sense of 'true'

in which things other than propositions are true may be defined in terms of the sense in which propositions are true, but the propositional sense cannot be defined in terms of the other senses. Thus, a belief is true provided it is a belief in a true proposition; a sentence is true provided it expresses a true proposition.[12]

(6) In Chapter 14 of Some Main Problems of Philosophy Moore adds another item to this list of characteristics of propositions. It is that we can always form a name of a proposition by prefixing a sentence expressing that proposition with the word 'that'.[13] Thus, for example, the proposition that lions exist is named by the expression 'that lions exist'. Any expression consisting of 'that' followed by a sentence may be called a "that-clause".

Item (2) in this list of characteristics of propositions is a source of some difficulty. Richard Cartwright has argued persuasively that a sentence such as 'It is raining' is used to express different things on different occasions, but its meaning remains constant.[14] Thus, what a sentence means and what it expresses diverge, at least in some cases. Let us reserve 'proposition' for what is expressed by a sentence. We may leave open the question whether what is meant by a sentence and what is expressed by it ever coincide.

I can see no further inconsistencies in Moore's account

of propositions, but there is one respect in which it should be supplemented. It is generally said of propositions that they are abstract entities whose existence is necessary.[15] They are, therefore, not physical objects located at some particular place or time.

If Moore was right when he said that there are propositions, then a number of facts concerning belief and belief sentences seem subject to simple explanations. I will turn now to a discussion of how propositions can aid in these explanations.

The supposition that that-clauses are names of propositions seems to allow us to give an unproblematic account of the semantics of belief sentences. In a typical extensionsal semantics for a language, we show how the truth value of every sentence in the language is determined by the extensions of the expressions making up the sentence. The extension of a name is an object and the extension of an n-place predicate is a set of ordered n-tuples of objects. On the supposition that that-clauses are simple names, belief sentences may easily be incorporated in a language for which an extensional semantics may be given.

By saying that that-clauses are simple names, I intend to contrast them with complex names, which are names having meaningful parts and whose meaning (or extension) is somehow determined by the meaning (or extension) of these parts. For

example, one might say that 'the father of Nixon' is a complex name, whose extension is determined by the extensions of its meaningful parts, 'the father of' and 'Nixon'.

Suppose F is a function that assigns to each simple English expression its extension. It will thus assign to each simple name some object and to each n-place predicate some ordered n-tuple of objects. F('Moore'), then, will be the man, G. E. Moore, F('that lions exist') will be the proposition that lions exist, and F('believes') will be a set of ordered pairs of people and propositions such that the first member of each pair, the person, believes the second member, the proposition.

We are now in a position to specify the truth conditions for a typical belief sentence, e.g.,

1. Moore believes that lions exist.

The truth conditions will be stated by this principle:

2. 'Moore believes that lions exist' is true iff $\langle$F('Moore'), F('that lions exist')$\rangle \in$ F('believes').

(2) is simply an instance of a more general formula covering all belief sentences:

3. For any names α and $\ulcorner$that $\emptyset\urcorner$ $\ulcorner\alpha$ believes that $\emptyset\urcorner$ is true iff $\langle$F(α), F($\ulcorner$that $\emptyset\urcorner$)$\rangle \in$ F('believes').

(3) itself is simply an instance of a still more general formula that provides the truth conditions for all atomic sentences. Ignoring a problem about word order in English, we may state this general formula this way:

4. For any names $\alpha_1,\ldots,\alpha_n$ and any n-place predicate P, $\ulcorner P(\alpha_1\ldots\alpha_n)\urcorner$ is true iff $\langle F(\alpha_1)\ldots F(\alpha_n)\rangle \in F(P)$.

On this account of belief sentences, then, no special rules need be added to the truth definition to cover them.

Let us call the theory just sketched the "naive propositional view", or simply "(NPV)". (NPV) has a number of advantages. First, it seems clear that speakers of diverse languages may believe the same thing. If, for example, both Nixon and Brezhnev believe that detente is good, then they believe the same thing. Nothing about (NPV) is inconsistent with this fact. Although the two men would use different sentences to express their common belief, we may say that there is one proposition, namely, that detente is good, and that both Nixon and Brezhnev believe it.

Second, since propositions are abstract entities they are not dependent for their existence upon languages or language users. Therefore, even if no one expresses a proposition, it still may exist and be believed. This accords with the fact that some beliefs are never expressed. Thus the sentence 'Jones believes

something that never has been and never will be expressed' may be true. (NPV) accounts for this, since nothing prevents F('believes') from including an ordered pair consisting of Jones and some proposition that never has been and never will be expressed.

A third advantage of (NPV) is that it explains the invalidity of certain inferences. For example,

5. Plato believed that nine is greater than seven.

may be true despite the falsity of

6. Plato believed that the number of planets is greater than seven.

The fact that nine is the number of planets does not prevent (5) and (6) from differing in truth value. (NPV) provides a simple explanation of this: the that-clauses in (5) and (6) name different propositions. Plato believed one of them, but not the other. Hence, (5) and (6) have different truth values.

Although (NPV) has all these advantages, it is subject to some important criticisms. By treating that-clauses as simple names, it seems to ignore some extremely important facts about language.

Since any sentence can be preceded by 'that', and there are an infinite number of sentences, it follows that there are an infinite number of that-clauses. If each that-clause is a

simple name, there are an infinite number of simple names.

The view that English has an infinite number of simple names is an implausible one.[16] If it is true, it follows that no one could ever be capable of understanding all the atomic sentences of English, since no one could ever learn the entire primitive vocabulary. It seems clear, however, that the number of simple expressions is finite, and that it is possible for someone to master all of them, as well as all the rules for combining expressions, and thus be in a position to understand all the atomic sentences.

Independent of these general considerations are some more specific considerations about that-clauses that suggest that they are not simple names. It seems clear that anyone who understands a sentence is thereby able to understand a that-clause constructed out of it. For example, anyone who understands 'lions' and 'exist' and thus understands 'Lions exist' is thereby able to understand 'that lions exist'. No additional information is required to understand the that-clause, except possibly about the function of 'that'.

If that-clauses were simple names, however, understanding 'lions' and 'exist' would be of no more aid in understanding 'that lions exist' than understanding the words 'nix' and 'on' is in understanding 'Nixon'. This suggests that that-clauses are not simple names, but complex ones, whose meaning, or

denotation, somehow is determined by the meaning or denotation of its parts.

One additional problem with (NPV) is that it fails to account for points (2) and (6) in Moore's list of attributes of propositions. Point (2) was that sentences express propositions and (6) was that a that-clause names the proposition the sentence in it ordinarily expresses. But (NPV) says nothing about sentences expressing propositions. It attributes truth values to sentences, but in no way relates sentences to propositions. (Except in the roundabout way that sentences may contain names of propositions, and thus can be related to them in this way.)

There are, then, two problems with (NPV). One is that it treats that-clauses as simple names, but this seems implausible on general theoretical grounds, as well as being a factually incorrect treatment of that-clauses. The second problem is that it does not do justice to an intuition about that-clauses and propositions, namely, that any that-clause names the proposition ordinarily expressed by the sentence contained in it.

Gottlob Frege developed the basic ideas for a propositional theory that is superior to (NPV) with respect to the points just mentioned.[17] Frege's ideas were further developed by other philosophers, primarily Alonzo Church.[18] Frege's central idea is to assign to each meaningful expression

two semantic values instead of just one. In addition to its extension, each name, predicate, and sentence has a sense or intension as well. (The extension of a sentence is its truth value.) The introduction of senses provides the basis for a better theory than (NPV).

What follows is a highly simplified account of the Frege-Church propositional view (PV). Every primitive expression is assigned a sense as well as a reference. The reference of every primitive expression is exactly the same as its extension on (NPV).[19] That-clauses, however, are not counted among the primitive expressions. The sense of an expression is its meaning, or perhaps what it expresses. For a name, the sense is an individual concept, e.g., the sense of 'Moore' is the individual concept of Moore. For a predicate the sense is a property, e.g., the sense of 'is wise' is the property wisdom. For a sentence the sense turns out to be the proposition it expresses.

In order to keep this exposition as simple as possible, let us consider a language having only two names, 'Moore' and 'Russell', two predicates, 'is wise' and 'believes', and the word 'that'. Consider first the sentence:

7. Moore is wise.

Its truth conditions are exactly as would be expected. What is novel about (PV) is the introduction of senses. On Church's

reconstructions of Frege's theory, the sense of 'is wise', i.e., the property wisdom, is a function that maps individual concepts onto propositions. For example, it maps the concept of Moore onto the proposition that Moore is wise, the concept of Russell onto the proposition that Russell is wise. As a result, the sense of (7) is the proposition that Moore is wise.

In addition to proposing a second semantic value for expressions, Frege had another important insight. It was that in certain contexts, called "oblique contexts", words refer to something other than their usual referent. In particular, in contexts following the verbs expressing propositional attitudes, words refer to what they usually express.

Consider the sentence:

8. Russell believes that Moore is wise.

Frege's proposal is that in (8) 'Moore' and 'is wise' refer to what they usually express, and as a result 'Moore is wise' refers to, instead of expressing, the proposition that Moore is wise. We can assume that 'that Moore is wise' refers to this proposition as well, although this does not make clear what the import of 'that' is. Perhaps it is just to warn us that what follows refers to its usual sense. The rest of (8) is unproblematic. 'Russell' refers to Russell, and 'believes' refers to a set of ordered pairs. (8) is true if and only if

the set assigned to 'believes' includes the pair consisting of Russell and the proposition that Moore is wise.

Earlier I cited two problems with (NPV). One was that it incorrectly treated that-clauses as simple names. (PV) remedies this by making them complex names whose reference depends upon the reference of their parts.

The second problem with (NPV) was that it did not make that-clauses refer to the proposition ordinarily expressed by the sentences they contain. But (PV) has corrected this defect as well, making it a much better theory.

It must be admitted, however, that difficult problems arise in working out the details of the theory. Various technical problems arise when quantifiers, descriptions, and other expressions are introduced. Another problem that must be faced is a determination of the sense of expressions occurring in oblique contexts. Although these problems have not been completely resolved, Church has been able to develop some rather promising formulations of (PV). At the very least, then, (PV) seems to be a viable and attractive theory.

Many philosophers object to (PV) on more general grounds than that it has not been worked out in all its detail. Their objection is that it requires us to suppose that there are individual concepts, propositions, and other abstract objects, and these philosophers doubt that there are any such things.

Moore himself came to reject propositions. He rejects a theory something like (PV) on the grounds that

> ...if you consider what happens when a man entertains a false belief, it doesn't seem as if his belief consisted merely in his having a relation to some object which certainly is. It seems rather as if the thing he was believing, the object of his belief, were just the fact which certainly is not - which certainly is not, because his belief is false. This, of course, creates a difficulty, because if the object certainly is not - if there is no such thing, it is impossible for him or for anything else to have any kind of relation to it.[20]

Moore goes on to say that his own view

> ...may be expressed by saying that there simply are no such things as propositions. That belief does not consist, as the former theory held, in a relation between the believer, on the one hand, and another thing which may be called the proposition believed.[21]

Bertrand Russell shared Moore's misgivings about propositions. He wrote:

> Time was when I thought there were propositions, but it does not seem to me very plausible to say that in addition to facts there are also these curious shadowy things going about such as 'That to-day is Wednesday' when in fact it is Tuesday. I cannot believe they go about the real world. It is more than one can manage to believe, and I do think no person with a vivid sense of reality can imagine it.[22]

A number of other writers have shared Russell's and Moore's skepticism about propositions. Part of Russell's skepticism seems to be founded on his feeling that propositions

are "curious" entities, perhaps ones whose nature he does not fully understand. But such a feeling need not be a sound basis for doubting their existence. It would be like doubting the existence of electrons on the basis of an incomplete understanding of them. In general, if there is theoretical evidence for the existence of a certain kind of entity, it seems wrong for one to doubt its existence simply because he does not fully understand its nature.

Not all the objectors to propositions base their objections simply on bewilderment over what propositions are or simply on the feeling that there are no such things. Some have objected that no clear criterion for individuating propositions has been provided by their proponents. That is, we seem to lack an effective method for determining whether a proposition p and a proposition q are in fact the same proposition.[23]

Nevertheless, proponents of propositions, especially Church, are willing to defend them on the grounds that there is no acceptable, or even promising, alternative to theories like (PV).[24] The situation, as Church sees it, is that we must accept propositions unless some viable alternative is produced.

Numerous alternatives to (PV) have been proposed and some have been widely discussed in the literature. I think, however, that many of these theories have neither been clearly refuted nor shown to be acceptable, and that there is a need for further evaluation of them. Should one of them prove acceptable, it would provide the basis for a fairly powerful objection to (PV), namely, that (PV) is committed to the existence of more

entities than are required for an adequate account of belief. In the chapters that follow I will discuss several of the more interesting alternatives to (PV).

There are some methodological difficulties that will be found in the discussion that follows. In propounding the theories to be considered, some philosophers seem to be concerned with showing that beliefs may be expressed in artificial languages in which no reference is made to propositions. Others deal directly with English belief sentences. Of those who deal directly with English, some try to escape commitment to propositions by showing that none of the expressions in belief sentences are names of propositions. Others attempt to establish this conclusion by paraphrasing belief sentences into other sentences that, they claim, contain no references to propositions.

In all these cases there are some methodological considerations that bear upon the adequacy of the proposal. For example, when belief sentences are paraphrased into other sentences, an evaluation of the proposal requires a decision on the conditions of adequacy for paraphrases. Some philosophers require synonymy, some logical equivalence, and some have even weaker requirements.

For the most part I will try to avoid arguing against a proposal on methodological grounds alone. For example, against

a philosopher who holds a weak view of paraphrasing, I will not argue that the stronger view is correct, and that his account of belief sentences is incorrect, even though it satisfies his own standards. Instead, I will attempt to evaluate proposals on the standards of their proponents.

Sometimes, however, the philosopher's standards are not made clear, and in such cases I will have to impose my own. But at all times, I will try to be clear about exactly what methodological assumptions and standards are in use.

Finally, in some cases the theories to be discussed are not developed by their proponents in sufficient detail to make any evaluative judgments about them. In such cases I will try to develop the theory in a way that accords with the general aims of the defender of the theory. I will try to make clear what features of any theory were part of the original theory and what additions I have made.

FOOTNOTES - CHAPTER I

1. G. E. Moore, Some Main Problems of Philosophy, Collier Books, New York, 1962.

2. Moore also discussed propositions in various other writings. There are several entries on propositions in Moore's Commonplace Book", edited by Casimir Lewy, George Allen & Unwin. Ltd., London, 1962, and a discussion of propositions in Part II, Section III of his Lectures on Philosophy, edited by Casimir Lewy, George Allen & Unwin, Ltd., London, 1966.
   Moore's views on propositions have been discussed in a number of places. Perhaps the most extensive discussion is by A. J. Ayer in "Moore on Propositions and Facts" in G. E. Moore Essays in Retrospect, edited by Alice Ambrose and Morris Lazerowitz, George Allen & Unwin, Ltd., London, 1970, pp. 204-227.
   In "Propositions and Sentences", in The Problem of Universals, University of Notre Dame Press, 1956, Alonzo Church discusses the derivation of the word 'proposition' in the sense in which Moore seems to have used it.

3. Moore, Some Main Problems of Philosophy, op. cit., p. 71.

4. Ibid., p. 289.

5. Ibid., p. 72.

6. Ibid., p. 72. See also p. 282.

7. Moore discusses this point in the Commonplace Book, op. cit., pp. 356-358.

8. Moore, Some Main Problems of Philosophy, op. cit., p. 73.

9. Ibid., pp. 74-75.

10. Jaakko Hintikka in "Semantics for Propositional Attitudes", reprinted in Reference and Modality, edited by Leonard Linsky, Oxford University Press, London, 1971, attributes this use of 'propositional attitude' to Bertrand Russell in An Inquiry into Meaning and Truth, George Allen & Unwin, London, 1940.

11. Moore, Some Main Problems of Philosophy, op. cit., p. 77.

12. Moore seems to be making this point in Lectures on Philosophy, op. cit., pp. 132ff.

13. Moore, Some Main Problems of Philosophy, op. cit., p. 280 and p. 282.

14. Richard Cartwright, "Propositions" in Analytical Philosophy, edited by R. J. Butler, Basil Blackwell & Mott, Ltd., Oxford, 1962, pp. 92-95.

15. See Church, op. cit.

16. See Donald Davidson, "Theories of Meaning and Learnable Languages" in Logic, Methodology, and Philosophy of Science, Proceedings of the 1964 International Congress, edited by Yehoshua Bar-Hillel, Amsterdam, 1965, and "On Saying That", reprinted in Words and Objections, edited by Donald Davidson and Jaakko Hintikka, D. Reidel Publishing Company, Dordrecht-Holland, 1969, pp. 158-174.

17. Gottlob Frege, "On Sense and Reference" in Translations from the Philosophical Writings of Gottlob Frege, edited by Peter Geach and Max Black, Basil Blackwell, Oxford, 1970.

18. Alonzo Church, "A Formulation of the Logic of Sense and Denotation", abstract, The Journal of Symbolic Logic, 11, 1946, p. 31; "A Formulation of the Logic of Sense and Denotation" in Structure, Method, and Meaning, Essays in Honor of Henry M. Sheffer, New York, 1951; "Outline of a Revised Formulation of the Logic of Sense and Denotation (Part 1)" in Nous, Vol. VII, No. 1, March, 1973; and "Outline of a Revised Formulation of the Logic of Sense and Denotation (Part 2)" in Nous, Vol. VIII, No. 2, May, 1974.

19. Actually, predicates are usually said to have functions as their extensions in Fregean theories. The extension of 'is red', for example, would be a function that maps every red object onto the truth value true and every other object onto the truth value false. For our purposes, though, it will do no harm to let predicates refer to classes. Carnap, in Meaning and Necessity, Phoenix Books, Chicago, 1956, attributes a similar theory to Frege, pp. 118-129.

20. Moore, Some Main Problems of Philosophy, op. cit., pp. 286-287.

21. Ibid., p. 289.

22. Bertrand Russell, "The Philosophy of Logical Atomism" in Logic and Knowledge, edited by Robert Charles Marsh, Capricorn Books, New York, 1971, p. 223.

23. Contemporary critics of propositions who pursue this and related lines of reasoning are quite numerous. Perhaps the philosopher whose criticisms of propositions have been most influential is W. V. O. Quine. Quine's criticisms are scattered throughout his writings, but one of the most extensive discussions is in Philosophy of Logic, Prentice Hall, Englewood Cliffs, New Jersey, 1970, Chapter 1.

24. See, for example, Alonzo Church, "On Carnap's Analysis of Statements of Assertion and Blief" reprinted in Reference and Modality, op. cit.; and "The Need for Abstract Entities in Semantic Analysis" in Proceedings of the American Academy of Arts and Sciences, Vol. 80, No. 1, July, 1951; and "Propositions and Sentences", op. cit.

PART I

SENTENTIAL THEORIES

For those wishing to avoid commitment to propositions, a natural alternative to (PV) is to construe the objects of belief as sentences. Sentences are thought to be more concrete entities than propositions, and therefore sentential theories are favored over (PV) on ontological grounds. Rudolf Carnap has proposed two sentential theories and they will be discussed in the three chapters that make up Part I.

CHAPTER II

CARNAP

One of the most interesting and widely discussed accounts of belief sentences may be found in Rudolf Carnap's Meaning and Necessity.[1] Carnap's theory is that belief sentences may be analyzed by metalinguistic sentences expressing a certain relation between believers and sentences. Although he eventually rejects this theory,[2] I think a discussion of it will serve as a useful background for the theories to be discussed in later chapters.

I

A. Carnap's theory. Carnap begins his discussion of belief sentences in Meaning and Necessity by asking us to consider the sentence:

1. John believes that D.

'D' is an abbreviation of some sentence of an object language, S, that is "not a symbolic system but a part of the English language."[3] (1), apparently, is also an abbreviation of a sentence of S.

Discussion will be easier if we proceed in terms of a sample belief sentence instead of an abbreviation such as (1). Therefore, we will recast what Carnap said about (1) so that it applies to:

2. John believes that the earth is round.

We shall assume that (2) is a sentence of S.

Carnap's view is that (2) can be "interpreted" or "analyzed" in terms of John's dispositions to make affirmative responses to sentences. In part (B) of this section I will examine Carnap's view on the nature of the relation that must hold between (2) and a sentence that analyzes it. For now let us assume that any sentence that analyzes (2) must be logically equivalent to it.

Carnap notes that it will not do to analyze (2) by

3. John is disposed to respond affirmatively to 'The earth is round'.

There are at least two objections to the view that (2) may be analyzed by (3). First, as Carnap points out, since John might not understand English, it is possible that he is not disposed to respond affirmatively to 'The earth is round' although he does believe that the earth is round.[4]

Second, since 'The earth is round' can be a sentence of many different languages,[5] and it can have many different

meanings, John might use the sentence to mean something other than that the earth is round, and tend to respond affirmatively to it even though he does not believe that the earth is round. Thus, (2) and (3) clearly are not logically equivalent, and (2) cannot be analyzed by (3).

In order to meet these problems Carnap proposes a slightly more complicated formulation of his theory. It is that (2) is analyzed by:

4. John is disposed to respond affirmatively to some sentence T as a sentence of some language S' such that T in S' is synonymous with 'The earth is round' in S.

Carnap thinks that (4) overcomes the problems encountered by (3), and it seems to do just that. (4), unlike (3), allows John's responses to be to a sentence of any language at all. It does not require his responses to be to an English sentence.

Furthermore, the fact that the sentence to which he does tend to respond affirmatively may be part of several languages seems to be no problem. All that is relevant to the truth of (4) are his responses to the sentence as a part of a certain language.

This last point may not be as clear as it first appears. While it is easy enough to tell when a person is responding to a certain sentence, it is not as easy to tell whether or not he is responding to it as a part of a particular language. Suppose,

for example, that John is just learning English and tends to confuse the words 'flat' and 'round'.[6] Assume that he does not believe that the earth is round, i.e., that (2) is false, but that he tends to respond affirmatively to 'The earth is round', because he thinks that it means that the earth is flat. Should we say that he is disposed to respond affirmatively to this sentence as an English sentence?

It is not clear what the correct answer to this question is. On the one hand, John does speak English and does intend to be responding to the sentence as an English sentence. On the other hand, he doesn't understand the English sentence, and is taking it to mean something other than what it means in English. Perhaps, then, we should say that he is responding to it not as an English sentence, but as a sentence of his own version of English, English_j.

In order to avoid a clear counterexample to his theory, Carnap must take the latter alternative. Otherwise in the circumstances described, (2) is false although its proposed analysis, (4), would be true. Thus, Carnap must say that John is disposed to respond to 'The earth is round' not as a sentence of English, but as a sentence of English_j. In English_j 'The earth is round' means that the earth is flat and therefore is not synonymous with 'The earth is round' in English. So we may assume that John is not disposed to respond affirmatively

to any sentence in English$_j$ (or any other language) synonymous with 'The earth is round' in English. Therefore, (4) is false.

This view also has some troubling consequences for Carnap's theory. It requires him to say that there are an unusually large number of languages, probably one for each speaker and time. This shows that the term 'language' in Carnap's theory must be understood differently from the way in which it is ordinarily understood. But perhaps this fact, in itself, is not an objection to the theory.[7]

Although Carnap introduces the concept of synonymy into his analysis of (2) in order to permit John's response to be to sentences in languages other than S (English), it has an important consequence concerning the substitution of sentences of the same language in belief contexts. Suppose that the sentences 'The earth is round' and 'The world is round' are synonymous in S. If (4) is the analysis of (2), then the analysis of

5. John believes that the world is round

will be

6. John is disposed to respond affirmatively to some sentence T as a sentence of some language S' such that T in S' is synonymous with 'The world is round' in S.

It may easily be shown that (4) and (6) are logically

equivalent, and therefore, the sentences they allegedly analyze, (2) and (5), must be logically equivalent as well. Since 'The world is round' and 'The earth is round' are synonymous in S, if John is disposed to respond affirmatively to some sentence of some language synonymous with one of these sentences in S, it follows by transitivity of synonymy that he is disposed to respond affirmatively to some sentence of some language synonymous with the other sentence in S. So (4) and (6) are equivalent and, according to Carnap's theory, the English sentences (2) and (5) are equivalent.

On Carnap's theory, then, we may substitute for 'The earth is round' in (2) any sentence synonymous with it, and the resulting sentence will have the same truth value as (2). More generally, we may say that if ϕ and Ψ are synonymous English sentences, then Ψ may be substituted for ϕ in sentences of the form $\ulcorner$S believes that $\phi\urcorner$ without altering the truth value of the sentence. We may express this point by saying that on Carnap's theory synonymy is the criterion for substitution of sentences in belief contexts.[8]

Carnap goes on to offer an analysis of synonymy. It is that sentences are synonymous if and only if they are intensionally isomorphic.[9] Intensional isomorphism is defined with some precision, but I think we need not concern ourselves with this concept here. Many philosophers have criticized Carnap's

analysis of synonymy,[10] and Carnap seems to have abandoned it in his later writings.[11] But I think that a precise account of synonymy is not required for an evaluation of his proposal to analyze (2) by (4).

More generally, it seems that the question whether belief sentences may be analyzed in terms of a relation between believers and sentences is independent of the question of what the criterion for substitution of sentences in belief contexts is. Since the former question is the one I wish to explore here, I will confine my attention to it and will not discuss the latter question. I will assume, therefore, that we have a sufficiently clear notion of synonymy to understand sentences like (4) and (6) and that we understand (4) and (6) well enough to evaluate the proposal that they analyze (2) and (5) respectively. Before turning to an evaluation of this proposal, I will clarify a few points about the nature of Carnap's theory.

B. The nature of Carnap's theory. In various places Carnap describes the general nature of his theory, and some of these descriptions differ significantly from others. When he first presents the theory in Meaning and Necessity he says that his view is that a sentence such as (2) is a sentence of an object language, S, that may be "interpreted by the...semantical sentence" (4).[12] (4), then, would be a sentence in a

metalanguage, M, for S, and would provide the truth conditions for (2).

In other places, however, Carnap describes his theory in rather different terms. In his "Replies and Systematic Expositions" he says that on his theory "belief-sentences belong to the metalanguage M."[13] He adds, "I translate them [belief sentences] into metalanguage."[14]

Elsewhere Carnap says of a modified version of his theory that it has certain disadvantages, namely, "it abolishes the customary and convenient device of indirect discourse, it uses the metalanguage, and it becomes cumbersome in the case of iteration (e.g., 'James asserts that John believes that...' would be replaced by a sentence about a sentence about a sentence.)"[15]

These later remarks all suggest a second account of Carnap's theory. This second account is that he favored a formal reconstruction of English that consists of an object language, S, and a metalanguage, M, and perhaps additional meta-metalanguages

Belief would be expressed not in S, but only in M (and possibly higher). Thus, in order to express belief in this system, one would use metalinguistic sentences such as (4).

Furthermore, in Carnap's system indirect discourse and that-clauses would be abolished and therefore sentences like (2) would not occur anywhere in the system. Carnap's reason for banning indirect discourse is that he thinks it causes enormous

unnecessary complexity.[16]

The difference between these two interpretations of Carnap's theory is significant. On the first account belief is expressed by object language sentences such as (2), which will be interpreted by metalinguistic sentences such as (4). On the second account, (2) is simply banned from the object language and belief is expressed only in the metalanguage by sentences like (4).

I think that the textual evidence clearly supports the second account of Carnap's theory. In discussing Carnap's views Donald Davidson notes that there is an important difference between Carnap's treatment of modal sentences and his treatment of belief sentences.[17] Carnap gives a semantical account of modal sentences, explaining the rules of substitution for expressions in such sentences.[18] However, Davidson explains, Carnap's treatment of belief sentences is significantly different.

> [Carnap]...does not provide a semantical analysis of [belief sentences] in the sense of showing how out of the meanings of expressions of less than sentential scope the meanings of the sentences are constituted. Rather the analysis translates such sentences as wholes into other sentences to which, then, Carnap's full semantical analysis ...may be applied.[19]

In commenting on Davidson's paper Carnap raises no objection to this description of his method, and adds that a

direct semantical analysis of belief sentences would require a theory like (PV).[20] It seems clear, therefore, that we should understand Carnap's theory in the second of the two ways described above.

As I understand it, then, Carnap's proposal is that English belief sentences such as (2) will be expressed in a formal system in the metalanguage in terms of sentences like (4). Locutions such as (2) will not be admitted into the system at all.[21] It is this view that will be discussed in the remainder of this chapter.

This account of Carnap's theory leaves open one important matter. I have described the theory by saying that sentences of English will be expressed formally by certain sentences, but have not said what relation must hold between the original English sentence and its formal counterpart. Carnap seems to have thought that the sentences should be logically equivalent, but not synonymous.[22] Other philosophers, however, would demand synonymy. While there may be some serious problems with Carnap's weaker demands, I will ignore them here, and evaluate his theory in terms of his own standards.[23]

II

Objections to Carnap's theory. I believe that a few examples will

show that (2) and (4) are not logically equivalent and therefore that (4) is not a proper analysis of (2). The examples all make use of the fact that a person may not be disposed to respond affirmatively to sentences in a way that indicates his beliefs.

Suppose that John is a chronic liar who does believe that the earth is round.[24] Being a liar, John generally denies every sentence that he takes to express something he believes and affirms those sentences he thinks are false. Let us suppose that John speaks English and no other language, and that he properly understands the sentence 'The earth is round' in English. Given all these conditions (2) is true, but John is not disposed to respond affirmatively to 'The earth is round' as an English sentence, nor is he disposed to respond affirmatively to any sentence synonymous with 'The earth is round' in English. Hence, (4) is false and therefore does not properly analyze (2).

Other examples lead to the same conclusion. John might be unconvinced by Columbus' discoveries and remain a secret member of the Flat Earth society and advocate of the view that the earth is flat. Yet, because he is embarrassed to admit his peculiar views, he is disposed to respond affirmatively to 'The earth is round'. In this case, (4) is true but (2) is false.

These examples show that linguistic dispostions are not conclusive evidence for belief. While it may be that people

generally do tend to respond affirmatively to the sentences that they take to express their beliefs, they do not always have such tendencies. This may happen for a variety of reasons. A person may be inclined to lie, or may have something wrong with his ears so that he consistently mishears certain sounds or, more incredibly, may be afflicted with some rare disease that has as a symptom yelling 'No' whenever someone utters some particular sentence even though he believes what that sentence expresses.

A defender of Carnap's analysis might contend that none of these examples is counter to the proposed analysis. Consider the case of a liar who believes that the earth is round, but always denies it. One might argue, in Carnap's behalf, that such a person has two conflicting dispostions, one to respond affirmatively to 'The earth is round' and one to deny it. His belief accounts for the former disposition and his tendency to lie accounts for the latter. The reason he always responds negatively to 'The earth is round' is that the dispostion to lie is the stronger of the two and it overrides the disposition to tell the truth.

This defense of Carnap's analysis is inadequate. Although it may explain the cases in which (2) is true but (4) seems false - that is, the cases in which John has the belief but does not seem to have the disposition - the other cases, those in which (4) is true but (2) is false, are yet to be explained.

Postulating some overriding disposition is of no help here. He simply does have a disposition to respond affirmatively to 'The earth is round' as an English sentence but does not believe that the earth is round.

Another way to defend Carnap's theory is to suggest some minor changes and improvements in his analysis of (2). It is not clear, however, that any satisfactory modification of (4) can be constructed that does not make use of the expression 'believes' or some other expression that may only be understood in terms of belief. Let us consider one possibility, and let us replace (4) by

7. If John were completely honest then John would be disposed to respond affirmatively to some sentence T of some language S' such that T in S' is synonymous with 'The earth is round' in S.

There are at least two problems with (7). First, it is not clear that it overcomes all the objections like those raised against (4). Suppose John is completely honest, understands that 'The earth is round' means in English that the earth is round, but tends to mishear certain sounds and as a result tends to respond negatively to 'The earth is round' even though he believes that the earth is round. It seems that in such a case (2) is false but (7) is true.

Another problem with (7) is that in appealing to the

concept of honesty, we seem to make covert use of the concept of belief. For the antecedent of (7) seems to mean that John would be disposed to respond affirmatively to a sentence if and only if he believes that it is true. But if (7) is to be analyzed, ultimately, with reference to the concept of belief, the analysis would seem to be circular.[25]

Other attempts to repair Carnap's analysis lead to similar difficulties, but since Carnap eventually rejected this theory, I think we may overlook these other attempts here. Instead, I will turn in the next chapter to the theory that Carnap proposed when he abandoned this one.

III

It may be useful to conclude this chapter by pointing out an important difference between Carnap's theory and (PV). It is that, in a certain respect, Carnap's theory is more ambitious than (PV). According to (PV), belief sentences express a relation between believers and propositions, but no attempt was made in Chapter I to provide any analysis or explanation of that relation.

Carnap, however, proposes that belief be analyzed in terms of a relation true of believers, sentences and languages. It is

in the analysis of the relation that his theory goes wrong. However, no argument was given here against Carnap's weaker claim, i.e., that belief can be analyzed in terms of a relation true of believers, sentences and languages.

The theories to be considered in the next four chapters are more like (PV) than like Carnap's theory in this respect. That is, they are all proposals to the effect that belief may be analyzed in terms of a relation true of believers and certain other objects, such as sentences or inscriptions, but in no case is there any attempt to characterize this relation.

Because these theories do not contain any analysis of the relation in terms of which belief may be analyzed, they are more difficult to criticize than the theory discussed in this chapter. For we cannot object, as we did here, that analyzing belief in terms of some particular relation is not correct. Instead, it must be shown that there is no relation true of the specified kinds of objects that can be used to analyze belief. Although it is difficult to prove conclusively that there is no relation true of believers and sentences, or between sentences and inscriptions, such that belief may be analyzed in terms of it, I think that there are some compelling reasons for concluding that there is none and in the following chapters I will state these reasons.

FOOTNOTES - CHAPTER II

1. Rudolf Carnap, Meaning and Necessity, Phoenix Books, Chicago, 1956, pp. 53-62.

2. In Rudolf Carnap, "On Belief-Sentences", Supplement C to Meaning and Necessity, pp. 231-232.

3. Carnap, Meaning and Necessity, p. 53.

4. Ibid., pp. 54-55.

5. In Mental Acts, Routledge & Kegan Paul, London, 1957, Peter Geach argues that the same sentence can't be part of two languages. If Geach is right, then the example discussed in this paragraph does not constitute a problem for Carnap's analysis.

6. Barbara Partee discusses a similar example in connection with Carnap's analysis in her paper, "The Semantics of Belief-Sentences" in Approaches to Natural Language, edited by J. Moravscik and P. Suppes.

7. There is a danger that this consequence is more serious than I suggest here. The expression "John responds to 'The earth is round' as a sentence of English$_j$" might mean something like "There is a proposition p such that 'The earth is round' expresses p in English$_j$ and John responds affirmatively to 'The earth is round' and John believes that 'The earth is round' expresses the proposition that p". But on this understanding of Carnap's analysis, it is circular.

8. I think that the problem of finding the criterion for substitution of sentences in belief contexts for Carnap is analogous to the problem of finding a condition of identity of propositions for advocates of (PV). An advocate of (PV) might explain the equivalence of (2) and (5) by saying that the propositions mentioned in them are identical. Carnap explains their equivalence by pointing to the synonymy of the content sentences. These explanations are somewhat empty until a clear principle for individuating propositions is provided by the defender of (PV) and a clear analysis of synonymy is provided by Carnap. For the present purposes, however, I think we may be content with these explanations of the equivalence of (2) and (5). An adequate discussion

of the criterion for individuating propositions or of synonymy would require more space than can profitably be devoted to it here.

9. Carnap, Meaning and Necessity, pp. 56-59.

10. For discussion of Carnap's analysis of synonymy, see Alonzo Church, "Intensional Isomorphism and Identity of Belief", in Philosophical Studies 5, 1954, pp. 65-73; Leonard Linsky, "Some Notes on Carnap's Concept of Intensional Isomorphism and the Paradox of Analysis", in Philosophy of Science XVI, 1949, pp. 343-347 and Rudolf Carnap, "A Reply to Linsky", Philosophy of Science XVI, 1949, pp. 347-350; Benson Mates, "Synonymity", in Semantics and the Philosophy of Language, edited by Leonard Linsky, University of Illinois Press, Urbana, 1952, pp. 109-136; Arthur Pap, "Belief, Synonymity, and Analysis", in Philosophical Studies 6, 1955, pp. 11-15; Partee, op. cit.; Hilary Putnam, "Synonymity and the Analysis of Belief Sentences", in Analysis 14, 1954, pp. 114-122; Israel Scheffler, "On Synonymy and Indirect Discourse", in Philosophy of Science XXII, 1955, pp. 39-44; and Wilfrid Sellars, "Putnam on Synonymity and Belief" in Analysis 15, 1955, pp. 117-120.

11. In his discussion of belief and synonymy in "Replies and Systematic Expositions", in The Philosophy of Rudolf Carnap, edited by Paul Arthur Schilpp, Open Court Press, LaSalle, Illinois, 1967, Carnap makes no mention of intensional isomorphism.

12. Carnap, Meaning and Necessity, p. 61

13. Carnap, "Replies and Systematic Expositions ", p. 898.

14. Ibid., p. 912.

15. Carnap, "On Belief-Sentences", p. 232. Emphasis added.

16. See ibid., p. 232.

17. Donald Davidson, "The Method of Extension and Intension" in The Philosophy of Rudolf Carnap, pp. 346-349.

18. See Carnap, Meaning and Necessity, sections 11 and 12 and Chapter 5.

19. Davidson, op. cit., p. 346.

20. Carnap, "Replies and Systematic Expositions", p. 912.

21. Sentences such as (2) could be admitted into M as abbreviations of sentences like (4).

22. See Meaning and Necessity, pp. 63-64 and "Replies and Systematic Expositions", p. 945.

23. It seems to me that Carnap's standards for analysis are seen to be implausible when applied to analyses of necessary truths. On his view, '2 x 2 = 4" is a good analysis of '3 x 3 = 9'.

24. Partee makes this point, op. cit.

25. For discussion of a related point, see Roderick Chisholm's "A Note on Carnap's Meaning Analysis" in Philosophical Studies 6, 1955, pp. 87-89 and "A Note of Saying: A Reply to Mr. Landesman", Analysis 24, 1964, pp. 182-184.

CHAPTER III

CARNAP AND CHURCH

By the time Carnap came to write "On Belief-Sentences"[1] he no longer thought that belief sentences could be analyzed in terms of sentences about linguistic behavior. Nevertheless, he still thought that belief could be analyzed in terms of a triadic relation whose terms are believers, sentences, and languages. Carnap's theory in "On Belief-Sentences", and some criticisms Alonzo Church has made of it,[2] will be the topic of this chapter. Additional criticisms of this theory will be offered in Chapter 4.

I

A. Carnap's new theory. Carnap takes the dispute between himself and advocates of (PV) to be a dispute about the "best form for belief sentences in a formalized language of science."[3] In (PV) a belief sentence will be expressed in the formal language in the same way it is expressed in ordinary language. Thus,

1. John believes that the earth is round,

will be a sentence of the formal language as well as of English.

On Carnap's view belief sentences will be expressed in a different way in the formal language. His way "avoids indirect discourse; here a belief-sentence does not like [(1)] contain a partial sentence expressing the content of the belief, but instead the name of such a sentence."[4] (1), he says, will be expressed by:

2. John has the relation B to 'The earth is round' as a sentence of English.

Although (2) may be confirmed to some degree by sentences about John's observable behavior, it is not derivable from such sentences. Carnap expresses this point by saying that 'B' is a "theoretical construct".[5]

Carnap describes (2) as follows:

> The rules for 'B' would be such that [(2)] does not imply that John knows English or any language whatsoever. On the other hand, the reference to an English sentence in [(2)] may be replaced by a reference to any other synonymous sentence in any language; e.g., [(2)] is taken to be L-equivalent with:[6]

3. John has the relation B to 'Die Erde ist rund' as a sentence of German.

In evaluating the advantages and disadvantages of his theory, in comparison to (PV), Carnap says:

> ...[The sentential theory] has certain disadvantages; it

> abolishes the customary and convenient device of indirect discourse, it uses the metalanguage, and it becomes cumbersome in cases of iteration (e.g., "James asserts that John believes that..." would be replaced by a sentence about a sentence about a sentence). The main disadvantage of [(PV)] is the complexity of the language, whereas the language for the [sentential theory] may be extensional and therefore very simple. The introduction of logical modalities produces already considerable complications, but the use of indirect discourse increases them still more.[7]

A more general statement of Carnap's theory is that all English sentences of the form:

4. a believes that ϕ,

where ϕ is a sentence, may be replaced in the metalanguage, M, for the formalized language of science, by sentences of the form:

4. a has the relation B to ϕ as a sentence of English.

Carnap asserts that if anyone stands in relation B to a sentence ϕ of a language L, then he stands in the same relation to any sentence of any language that is synonymous with ϕ in L. This assertion may be expressed in terms of the following rule of M:

6. $(x)(\phi)(\Psi)(L)(L')$(If x has the relation B to ϕ as a sentence of L and ϕ in L is synonymous with Ψ in L', then x has the relation B to Ψ as a sentence of L').

It may be useful to compare this theory with Carnap's previous theory. On both theories Carnap favors eliminating typical English belief sentences from his formalized reconstruction of English, and replacing them with metalinguistic sentences. But the replacement sentences of these two theories are significantly different. Whereas the replacement sentences in the old theory are recognizable English sentences, the new replacements are not. That is, sentences of the form of (4) in Chapter II are English sentences that we do understand reasonably well, whereas sentences of the form of (5) are not English because 'B' is not a predicate in English.

Since 'B' is not a predicate in English, and sentences of the form of (5) are not English sentences, Carnap's new theory is difficult to evaluate. Consider, for example, the implication of Carnap's theory that (1) may be analyzed by (2). Since we do not know what 'B' means, and therefore do not know what (2) means, it is difficult to evaluate the claim that (1) may be analyzed by (2).

In effect, Carnap's new theory makes a more modest assertion than his old one. The new theory seems to assert no more than that there is some triadic relation, expressed by 'B', and holding of people, sentences, and languages, such that belief may be expressed in terms of it. In order to refute this theory, one must show that there is no such relation.

One might object that Carnap's theory, even if true, has little ontological significance.[8] For it may be true that there is some relation, B, holding of a person, sentence, and language such that belief sentences may be expressed in terms of it. But it may also be true that this relation obtains only if the person involved stands in some appropriate relation to a proposition. Thus, the truth of Carnap's theory need not imply that we can escape commitment to propositions.

Some may think that it is in fact the case that there is a relation of the kind required for the truth of Carnap's theory and that this relation can only obtain if there are propositions. For it would seem that belief sentences may be expressed in terms of the following triadic relation: __ believes the proposition expressed by __ in the language __. Thus, (1) would be equivalent to:

7. John believes the proposition expressed by 'The earth is round' in English.

Thus, it seems that we can analyze (1) by a sentence relating a person to a sentence and a language, and Carnap's theory appears to be true. But this triadic relation appears to obtain only if there is some proposition expressed in English by 'The earth is round' and John believes that proposition. So despite being true, Carnap's theory may be committed to exactly the same entities as (PV).[9]

What this shows, I believe, is that the truth of Carnap's theory would not show that there are no propositions or that we can avoid them in analyzing our language. Perhaps that conclusion can only be established by proving that the relation B is not like the one considered in (7). Therefore, even if no strong arguments against Carnap's theory are forthcoming, we should not conclude that there are no propositions or that (PV) is committed to more entities than Carnap's theory.

II

Some of the most interesting discussions of Carnap's theory of belief, and of sentential theories generally, are contained in Church's paper, "On Carnap's Analysis of Statements of Assertion and Belief", and the responses it has elicited from Hilary Putnam,[10] Donald Davidson,[11] and others.[12]

Church's brief paper contains several distinct, but related arguments against Carnap's proposal. While it may be that we should accept Church's criticisms only if we make certain methodological assumptions Carnap would not make, I think a thorough discussion of his arguments is well worthwhile. For one thing, it will help us clarify the nature of Carnap's proposal, as well as some others that will be examined later,

by bringing out some of the metatheoretical views it relies upon. Furthermore, a number of commentators have dealt with Church's objections too hastily, and missed their full force.

The methodological assumptions Church makes that Carnap does not share concern the nature of analysis. Church seems to think that an English sentence can only be expressed properly in a formal language by a sentence that is synonymous with it.[13] Carnap, however, thinks that an English sentence can be expressed properly in a formal language by a sentence that is logically equivalent but not synonymous with it.[14] Rather than try to settle this methodological difference, I will merely try to indicate all those points at which it becomes important.

Church's arguments are actually directed at an analysis of statements of assertion that he correctly believes to be similar to Carnap's analysis of belief sentences that was discussed in Chapter II. The main point of his arguments, however, is to show that there is an "insuperable objection" to all such "analyses that undertake to do away with propositions in favor of such more concrete things as sentences."[15] Thus, even though Church's arguments deal directly with an analysis other than Carnap's latest one, they are intended to apply to it. Moreover, they do pose an insuperable objection to this analysis if and only if they pose an insuperable objection to Carnap's analysis. Therefore, no harm will be done if we ignore the analysis of indirect discourse Church actually discusses, and

apply his arguments directly to Carnap's analysis of belief.

As I will formulate Church's arguments here, they will be directed at the view that the English sentence (1) may be analyzed by (2), which is a sentence of M. Church presents at least four arguments against this view. I will discuss three of them in this section. His fourth argument concerns iterated belief sentences, but it is not clear to me exactly what that argument is. I think that there is a problem in formulating such sentences on Carnap's theory, and will discuss it in Chapter IV.

A. Church's first argument. Church's first argument is contained in this passage:

> However, [(2)] is likewise unacceptable as an analysis of (1). For it is not even possible to infer (1) as a consequence of [(2)], on logical grounds alone - but only by making use of the item of factual information, not contained in [(2)], that ['The earth is round'] means in English that [the earth is round].[16]

In this argument Church seems to assume only that one sentence, S, can be an analysis of another, S', only if S implies S'.[17] He does not here rely upon his stronger assumption, that the sentences must be synonymous. With this assumption made explicit, we may formulate the argument this way:

ARGUMENT 1

(i) (S)(S')(If S is an analysis of S', then S implies S')
(ii) If (2) is an analysis of (1), then (2) implies (1)

(iii) (2) does not imply (1)
(iv) (2) is not an analysis of (1)

The crucial premise in Argument 1 is (iii). Church's only defense of it is his claim that in order to infer (1) from (2) we need the additional premise:

8. 'The earth is round' means in English that the earth is round.

Church thinks that (8) is contingent and not implied by (2). Thus, since the contingent premise (8) is required to derive (1) from (2), (2) by itself does not imply (1).[18]

In a recent discussion of Church's paper, R. J. Haack argues that sentences such as (8) are not contingent.[19] He claims that the fact that the 'The earth is round' might have meant, for example, that the earth is flat, does not imply that (8) is contingent. For, he claims, if 'The earth is round' were to change its meaning, then (8) would also change its meaning, and remain true.

Haack's reasoning is seriously defective. His argument seems to be that (8) is not contingent because in all circumstances, the sentence, as used by speakers in those circumstances, would be true. There are two things wrong with this argument. First the premise is simply false. People can use (8) to express anything they like, and some may use it to express falsehoods. So there are circumstances in which (8),

as used by speakers, in those circumstances, is false.

Second, the argument is invalid. To say of a sentence that it is necessarily true is to say that, given the meaning it actually has, it is true relative to every possible circumstance. It does not mean that in every possible circumstance it has a meaning such that it is true in those circumstances on that meaning. How others might use the sentence has nothing to do with its contingency as used by us. So, even if, for some inexplicable reason, everyone had to use (8) to express a truth, it would not follow that, as used by us, it is a necessary truth.

Of course the failure of Haack's argument for the necessity of (8) does not show that (8) is contingent. Although it would be desirable to have some argument for that conclusion, Church himself never offers one. However, G. E. Moore once proposed an argument like Argument 1 in certain respects, and he gave two reasons for thinking that sentences such as (8) are contingent.[20]

The sentence Moore discusses is:

9. The sentence 'At least one person is a King of France' means that at least one person is a King of France.

Moore's first reason for thinking that (9) is contingent is that it means the same as:

10. Les mots 'At least one person is a King of France' veulat dire qu'une personne au moins est un roi de France.

(10), he thinks, is quite obviously contingent, so (9) must be contingent as well.

It seems to me, however, that (10) is no more obviously contingent than (9) is. Perhaps (9) is more obviously true to a speaker of English than (10) is, but that doesn't even suggest that either is contingent. Appeal to (10), then, does not show that (9) is contingent.

Moore's example may be used to make a similar, but somewhat stronger argument for the contingency of sentences like (9). If (9) and (10) are necessary truths, then so is:

11. The sentence 'Une personne au moins est un roi de France' means that at least one person is a King of France.

(9) and (11) imply

12. The sentence 'Une personne au moins est un roi de France' means the same as 'At least one person is a King of France.'

If (9) and (11) are both necessary, then, since they imply (12), (12) is also necessary. But (12), it seems to me, is surely not necessary. It seems that it is a contingent matter of fact that the two sentences mentioned in (12) mean the same. Therefore, (9) and (11) are not both necessarily true. But if one of them is not necessary, then neither of them is.

Moore's second reason for thinking that (9) is contingent is that 'At least one person is a King of France' might have meant

something entirely different than it does. This, I think, is true. But it also leads us to see an important difference between (8) and (9). For it is true that 'At least one person is a King of France' might have meant something different from what it does mean (in English). It might be or have been a sentence in some other language. But what is less clear is that it could have meant something other than it does mean in English and still have been English. For (8) to be contingent and required in the derivation of (1) from (2), it must be that sentences could have different meanings in English than they actually have.

Church says that in his argument he "assumes that the word 'English' in English ... has a sense ... something like 'the language which was current in Great Britain and the United States in A.D. 1949'."[21] He observes that one might consider taking the sense of 'English' in English to be 'the language for which such and such semantical rules hold'. If 'English' is defined in this second way, he thinks that the objection that (1) is not a consequence of (2) "would disappear."[22]

Church's point seems to be this. If 'English' is defined in terms of its semantical rules, then (8) means the same as something like

13. 'The earth is round' means in the language in which 'The earth is round' means that the earth is round and ... that the earth is round

What is omitted from (13) is a specification of all the other sentences of English and their meanings. (Since the number of English sentences is infinite, a more plausible reading of (8) would replace the specification of the meaning of each sentence with a specification of the meaning of each primitive symbol plus the rules for determining the meaning of sentences from the meanings of the primitive symbols.)

Furthermore, if 'English' is defined in this way, (2) would mean something like:

14. John has the relation B to 'The earth is round' as a sentence of the language in which 'The earth is round' means that the earth is round and...

(What is omitted from (14) is a specification of the meanings of all the other sentences of English.)

It does seem that (14) implies (1), so if (2) and (14) mean the same, then (2) implies (1). Indeed, we may conclude that (2) implies (1) even if (2) and (14) are logically equivalent but not synonymous. (2) and (14) are logically equivalent provided 'English' necessarily has the same extension as the description of the language having all the rules of English. Thus, Argument 1 turns upon whether or not 'English' is equivalent to such a description. If it is, then premise (iii) is false and the argument is unsound. If 'English' is not equivalent to such a description, but rather to something like

'the language current in the United States and Great Britain in A.D. 1949', then (iii) is true, and the argument is sound.

I think that it is clear that English could have had different semantical rules than it has, and therefore that 'English' is not logically equivalent to a description of the language having all the rules English actually has. As we will see, Carnap seems to agree with this. Thus, I would say that (iii) is true and that Argument 1 is sound. However, it is difficult to prove that English could have been different, so perhaps we should not conclude that Argument 1 presents a decisive objection to Carnap's theory.

Before moving on to Church's second argument, I would like to examine a comment that Carnap makes on Argument 1. In "On Belief-Sentences" he says that the argument "does not apply to my analysis because...[it] does not refer to historically given languages, but rather to semantical systems, which are defined by their rules."[23] I find this comment extremely puzzling, even though a number of commentators on Church's arguments have accepted it.[24] Apparently, Carnap thinks that Argument 1 poses a good objection to the claim that an English sentence such as (1) can be analyzed by (2). His own analysis, however, is not intended to be applied to English sentences, but to sentences in artificial semantical systems.

There are a few things that are important to note about

this comment. First, Carnap's comment may have been at variance with his previous exposition. He introduces his discussion of belief sentences in Meaning and Necessity by saying, "we take here, as our object language S, not a symbolic system, but a part of the English language."[25]

Second, all the examples he gives to illustrate his analysis are in terms of sentences in natural languages.[26] So there is good reason to think that when he wrote all the articles containing these examples, he did intend the analysis to apply to natural languages.

To be fair, I should note that he does make reference to the rules of the object language S. So it is possible that he thinks there is a part of English which includes belief sentences, for which semantical rules can be specified. Perhaps, he regards this part of English as a formal system.

The problem with this view is that Carnap never develops a system with sentences like (1). In fact, as I mentioned in Chapter II, he thinks any system admitting such sentences to be needlessly complex and prefers his own system in which sentences like (1) are "replaced by" sentences like (2).[27]

Finally, if we do not regard Carnap's theory to be that English sentences like (1) may be expressed formally by (2), it is not at all clear what we should take his theory to be. If it only applies to formal systems, what does it say about them?

What formal systems does it apply to?

Since Carnap never provides any answers to these questions, I think it is best to interpret his theory in the way suggested here, and ignore his comment to the effect that his analysis does not apply to English.

B. Church's second argument. Church's first argument against Carnap's theory relies on a disputable assumption about the meaning of the word 'English' and for that reason it may not constitute a decisive objection. We will turn now to his second objection, which makes use of the "translation test" first discussed by Langford.[28]

Church's argument is contained in this passage:

> Following a suggestion of Langford we may bring out more sharply the inadequacy of [(2)] in an analysis of (1) by translating into another language, say German, and observing that the two translated statements would obviously convey different meanings to a German (whom we may suppose to have no knowledge of English). The German translation of (1) is [(1') (Johann glaubt, die Erde is rund)]. In translating [(2)], of course, 'English" must be translated as 'Englisch' (not as 'Deutsch') and ['The earth is round'] must be translated as ['The earth is round'] not as ['Die Erde is rund'].[29]

This argument makes reference to sentences (1) and (2) and their German translations. The translation of (1) is:

1'. Johann glaubt, die Erde ist rund.

The translation of (2) would seem to be:

2'. Johann hat das Verhältnes B zu dem Satz 'The earth is round' auf Englisch.

In the argument Church assumes that if (2) is an analysis of (1) then the two sentences "convey the same meaning". I assume that this means that they mean the same or, in other words, are synonymous. Since the translations of (1) and (2) are synonymous with (1) and (2) respectively, all four sentences, (1), (1'), (2), and (2'), should be synonymous. But (1') and (2'), Church thinks, are not synonymous since they convey different meanings to a German who does not know English.

We can formulate this argument as follows:

ARGUMENT 2

(i) (S)(S')(If S is an analysis of S', then S and S' are synonymous)
(ii) If (2) is an analysis of (1), then (2) and (1) are synonymous
(iii) (1) and (1') are synonymous
(iv) (2) and (2') are synonymous
(v) If (2) is an analysis of (1), then (1') and (2') are synonymous
(vi) (1') and (2') are not synonymous
(vii) (2) is not an analysis of (1)

The two crucial premises of Argument 2 are (i) and (vi). Church thinks that (vi) turns on the same issue raised in connection with Argument 1, namely, the contingency of sentences like:

8. 'The earth is round' means in English that the earth is round.

Apparently, his reason for thinking this is that if (8) is necessarily true, then (2') and (1') are synonymous. If, on the other hand, (8) is contingent, then (2') and (1') are not synonymous.

Church's contention that Argument 2 turns on this point is surprising. He seems to think that Arguments 1 and 2 are roughly the same, the main difference being that Argument 2 makes use of translation in an effort to be more compelling.

However, there is, or at least there seems to be, a significant difference between the two arguments. According to Argument 1, (2) does not satisfy the conditions for being an analysis of (1) because it is not logically equivalent to (1). According to Argument 2, (2) does not satisfy the conditions for being an analysis of (1) because it is not synonymous with (1).

Church holds, I believe, that logically equivalent sentences may have, or convey, different meanings, so it seems that in Argument 2 he places a stronger requirement on analyses than he does in Argument 1. It may turn out that (2) and (1) are logically equivalent, but not synonymous. In that case, Argument 1 would be unsound but Argument 2 would be sound. It seems, then, that it is a mistake for him to think that these

two arguments are roughly the same.

Clearly, the different methodological assumptions of Carnap and Church mentioned at the beginning of this section are of great importance in Argument 2. For Carnap would reject premise (i) on the grounds that it places too strong a requirement on analyses. So he would reject this argument no matter what we say about (vi).

It is important to note that Carnap agrees that (1) and (2) are not synonymous and therefore that he must appeal to his own weaker view of analysis in order to respond to Argument 2.[30] Anyone favoring a stronger view of analysis cannot consistently maintain Carnap's theory of belief.

However, since Argument 2 turns on this methodological point, I will not discuss it further. I think that there are some questions that may be raised about Church's claims on the synonymy or non-synonymy of certain sentences, but similar issues arise in connection with Argument 3, and I will discuss them in considering that argument.

C. Church's third argument. We can turn now to Church's third argument. He describes one that does not turn on the contingency of sentences such as (8).

The argument is contained in this passage:

> Analogous to the proposal, for English, to analyse (1) as [(2)], we have, for German, the proposal to analyse (1) as...[(2") which is 'Johann hat das Verhältens B zu dem Satz 'Die Erde ist rund' auf Deutsch'].
>
> Because of the exact parallelism between them, the two proposals stand or fall together. Yet [(2")] in German and [(2)] in English are not in any acceptable sense translations of each other.[31]

As I understand it, the point of this argument is not just to show that (1) and (2) are not synonymous, but to demonstrate a different defect in Carnap's proposal. The idea is that if Carnap's proposal were correct, then when it is applied to the German translation of (1), it should result in a sentence which is the German translation of (2). What we get, however, is (2") which is not a translation of (2), since it refers to a different sentence than (2) does.

We can formulate the argument this way:

ARGUMENT 3

(i) (S)(S')(A)(A')(If S and S' are synonymous and A and A' are analyses of S and S' respectively, then A and A' are synonymous)
(ii) If (1) and (1') are synonymous and (2) and (2") are analyses of (1) and (1') respectively, then (2) and (2") are synonymous
(iii) (1) and (1') are synonymous
(iv) (2) and (2") are not synonymous
(v) (2) and (2") are not the analyses of (1) and (1') respectively
(vi) If (2) and (2") are not the analyses of (1) and (1') respectively, then (2) is not the analysis of (1)
(vii) (2) is not the analysis of (1)

I will consider two objections to Argument 3. The first is that premise (iv) is false because (2) and (2") are translations of one another, and therefore are synonymous. A number of philosophers have pointed out that it is not clear that (2) and (2") are not acceptable translations of one another, and if translatability is a mark of synonymy, then it is not clear that they are not synonymous.[32] In many circumstances the appropriate translation of a quoted sentence will be the translation of that sentence. For example, in translating a novel in which there is a great deal of quoted dialogue, one would translate the words inside the quotes, rather than leave them in their original language. Similarly, then, perhaps one should translate the quoted sentences in (2) and (2") and shift the reference to a language. So, perhaps (2) and (2") are acceptable translations.

It is surely true that in some cases the correct translation of a sentence containing quoted expressions would be one in which the quoted expressions are translated rather than left in their original language. There are, however, cases in which the quoted material surely should not be translated,[33] e.g., in

11. 'Grass is green' is an English sentence.

In translating (11) into German, for example, one would not

translate 'Grass is green' into its German equivalent. In order to decide whether or not (2) and (2") are correct translations, we would have to decide whether these sentences are more appropriately translated like sentences in a novel, or like (11).

Both sides in this dispute seem to assume that (2) and (2") are synonymous if and only if they properly translate one another. Since they have differing views about proper translation, they come to different conclusions on the synonymy of (2) and (2"). I think, however, that this shared assumption may be false and that it may be the source of some confusion.[34] Whether (2) and (2") are cotranslations seems to be a pragmatic matter depending upon the context and purposes of the translation. But I would say that (2) and (2") clearly are not synonymous. One asserts that John stands in a certain relation to an English sentence and the other asserts that he stands in the same relation to a different sentence of a different language. Since they are about different objects, (2) and (2") are not synonymous. I think, therefore, that this objection to Argument 3 fails.

Donald Davidson has raised another objection to Argument 3.[35] He argues that the demand that (2) and (2") be synonymous is unreasonable since Carnap holds that a sentence need only be logically equivalent to a sentence that analyzes it. Thus, Davidson would say that (i) is unreasonable in view of Carnap's position on analysis.

I think that (i) may well be mistaken, for a reason similar to, but not identical with the one Davidson suggests. (i) does not imply that a sentence must be synonymous with its analysis. (i) should be distinguished from another principle quite like it:

(i') (S)(S')(A)(A')(If S and S' are synonymous and A and A' the analyses of S and S' respectively, then S and A and S' and A' are all synonymous)

(i') is similar to the principle Church appeals to in Argument 2, and it is one Carnap would reject. (i), however, is somewhat different. What it requires is, roughly, that sentences which analyze synonymous sentences be synonymous themselves. This requirement might hold even if a sentence need not be synonymous with a sentence that analyzes it.

The following situation might be analogous to the one under consideration. Suppose we have a valid argument with only one premise, P, and the conclusion, C. Now, since the argument is valid P implies C, although they need not be synonymous. If we were to construct the same argument in another language, we would want the new premise, P', to be synonymous with P, and the new conclusion, C', to be synonymous with C. Again, however, it is not required that C' be synonymous with P'.

Similarly, in the case of analysis, we might say that if A is the analysis of S, and S' is synonymous with S, then the

analysis of S', A', should be synonymous with A. This does not imply that A and S or A' and S' are also synonymous.

Thus, simply pointing out that Carnap holds a weaker view of analysis than Church holds does not show that it is unreasonable to appeal to (i). (i) does not imply that Carnap's view of analysis is wrong.

However, (i) may well be objectionable. Carnap can argue that a given sentence may have several non-synonymous analyses. There is, then, no such thing as <u>the</u> analysis of a particular sentence. The conclusion of Argument 3 can be accepted by Carnap: his claim is that (2) is an analysis of (1), not that it is the only one.

We might try to revise Argument 3 to conclude that (2) is not even an analysis of (1). In order to do that we might replace (i) by:

(i") (S)(S')(A)(A')(If S and S' are synonymous and A and A' are analyses of S and S' respectively, then A and A' are synonymous)

But (i") is clearly false, given the possibility of multiple non-synonymous analyses of a given sentence. Thus, (i") will not help to repair Argument 3.

There is only one other way I can see to repair this argument. Church says that the proposal that (2") is an analysis of (1') is "analogous" to the proposal that (2) is an analysis of

(1). In commenting on the argument, Putnam says that these two analyses are "constructed along the same lines".[36] Perhaps we can say that analyses constructed along the same lines from synonymous sentences should be synonymous. Thus, we would use as our first premise:

(i''') (S)(S')(A)(A')(If S and S' are synonymous and A and A' are analyses of S and S' constructed along the same lines, then A and A' are synonymous)

We could then construct an argument like Argument 3, but use (i''') instead of (i) as the first premise. Some other changes would have to be made, but we can overlook them here, since (i''') seems unsatisfactory.

It is, first of all, not at all clear when two analyses are constructed along the same lines. But even if we do admit that there is some sense to this concept, it is not clear why we should think that (i''') is true. If one sentence may have several non-synonymous analyses, why should not some of them be constructed along the same lines? Since we have no argument in favor of (i'''), I think we must reject any argument that makes use of it.

Church's third argument thus seems less successful than the previous two. Although neither Argument 1 nor Argument 2 proves that Carnap's theory is wrong, they do force any defender of the theory to hold two controversial views. First, that sentences in

English necessarily mean whatever they do, in fact, mean; and second, that analysis should be construed in a weak fashion requiring only that a sentence be logically equivalent to a sentence that analyzes it. Argument 3, however, has no interesting consequences like these.

Church offers a fourth argument against Carnap's view, concerning iterated belief sentences, but it is not clear to me exactly what his argument is. I think there is a problem in formulating such sentences on Carnap's theory, although I am not sure that the problem I see is the same as the one Church sees. In the next chapter I will discuss three objections to Carnap's theory, one of which concerns the formulation of iterated belief sentences.

FOOTNOTES - CHAPTER III

1. Rudolf Carnap, "On Belief-Sentences", Supplement C to Meaning and Necessity, Phoenix Books, Chicago, 1956, pp. 230-232.

2. In Alonzo Church, "On Carnap's Analysis of Statements of Assertion and Belief", reprinted in Reference and Modality, edited by Leonard Linsky, Oxford University Press, London, 1971, pp. 168-170.

3. Carnap, op. cit., p. 231.

4. Ibid., p. 231.

5. Ibid., p. 230.

6. Ibid., pp. 231-232.

7. Ibid., p. 232.

8. This point is similar in many respects to a point made by Herbert Heidelberger in a discussion of a theory of belief proposed by Israel Scheffler. Scheffler's theory, and Heidelberger's criticisms of it, will be discussed in Chapter V.

9. One might suggest that by rewriting (7) as:
   7'. John believes-the-proposition-expressed-in-English-by 'The earth is round',
   the appearance that there is a singular term referring to a proposition is removed. The predicate in (7'), however, has what may be called an implicit reference to a proposition. Because of this, (7') does imply the existence of a proposition. For a more complete discussion of this point, see Chapter V.

10. Hilary Putnam, "Synonymity and the Analysis of Belief-Sentences", in Analysis 14, 1954, pp. 114-122.

11. Donald Davidson, "The Method of Extension and Intension", in The Philosophy of Rudolf Carnap, edited by Paul Arthur Schilpp, Open Court Press, LaSalle, Illinois, 1963, pp. 331-349.

12. See especially, R. J. Haack, "Translation, Analysis and Ontology", in The Review of Metaphysics XXVII, No. 2, pp. 298-317.

13. This view seems to be implicit in Church's paper, although it must be admitted that he never states it explicitly.

14. See, for example, Carnap's "Replies and Systematic Expositions", in The Philosophy of Rudolf Carnap, p. 894.

15. Church, op. cit., p. 168.

16. Ibid., p. 169.

17. 'Implies' must be understood informally here, since the sentences being considered are in different languages.

18. It is important to realize that Church's argument succeeds only if (8) is contingent and is not implied by (2). That is, it succeeds only if (8) is required for the derivation of (1) from (2). (8) might be contingent, but not required for the derivation, because it is implied by (2). One reason (8) might be contingent is that it implies the existence of a sentence and a language, which might not have existed, but (2) has this implication as well. However, for the present discussion, I will assume that sentences and language exist necessarily, and therefore that (2) does not imply (1) only if (8) is contingent because 'The earth is round' could have had a different meaning in English. In Chapter IV I will discuss the existence of sentences, and some related issues in Carnap's theory, in particular, whether (1) implies (2).

19. Haack, op. cit., pp. 312-313.

20. G. E. Moore, "Russell's Theory of Descriptions", in Philosophical Papers, Collier Books, New York, 1962, pp. 149-192, see especially pp. 170-172.

21. Church, op. cit., p. 170.

22. Ibid., p. 170.

23. Carnap, "On Belief-Sentences", p. 230.

24. For example, Putnam, op. cit., p. 114.

25. Carnap, Meaning and Necessity, p. 53.

26. See ibid., p. 54 and p. 62, and "On Belief-Sentences", pp. 231-232.

27. See "On Belief-Sentences", p. 232.

28. C. H. Langford, "The Nature of Analysis in Moore's Philosophy", in The Journal of Symbolic Logic 2, 1933.

29. Church, op. cit., p. 169.

30. Carnap still held, in "On Belief-Sentences", that synonymy may be explicated in terms of intensional isomorphism. Clearly, (1) and (2) are not intensionally isomorphic.

31. Church, op. cit., p. 170.

32. See Peter Geach, Mental Acts, Routledge & Kegan Paul, London, 1957; and Haack, op. cit., pp. 306-307.

33. Haack cites this example, op. cit., p. 306.

34. A similar point is made by Herbert Heidelberger in his "Review of Dummett", forthcoming in Metaphilosophy.

35. Davidson, op. cit., p. 344.

36. Putnam, op. cit., p. 115.

CHAPTER IV

OBJECTIONS TO CARNAP'S THEORY

In this chapter I will discuss three objections to Carnap's theory of belief sentences. The first is that there is no way to properly express iterated belief sentences in his theory. The second is that his analysis of belief sentences fails unless sentences are taken to be abstract objects such as properties or universals. The third objection, and the most serious one, is that his theory fails to deal adequately with a problem caused by the existence of ambiguous sentences.

I

Iterated belief sentences. In addition to an account of typical belief sentences such as:

1. Kissinger believes that detente is good

an adequate theory of belief sentences ought to provide some account of iterated belief sentences, such as:

2. Brezhnev believes that Kissinger believes that detente is good.

Carnap says that on his theory a sentence like (2) "would be replaced by a sentence about a sentence about a sentence".[1]

Although Carnap never says what sentences would replace sentences like (2), I think his view can be reconstructed in the following way. The embedded belief sentence should be analyzed first, and then his analysis applied to the resulting sentence. In the case of (2) his analysis should first be applied to the content sentence, yielding:

3. Brezhnev believes that Kissinger has the relation B to 'Detente is good' as a sentence of English.

Next, his analysis is applied to (3), yielding:

4. Brezhnev has the relation B to 'Kissinger has the relation B to "Detente is good" as a sentence of English' as a sentence of M.

(4), I believe, is the sentence about a sentence about a sentence that would replace (2).

Let us assume for the moment the adequacy of Carnap's analysis of (3), i.e., that (3) and (4) are equivalent. I think it can be shown that (4) is not a correct analysis of (2). For (3) and (4) imply that Brezhnev has a belief concerning a certain English sentence, but (2) has no such implication. (2) is consistent with Brezhnev's having no knowledge of English, and his having no beliefs on the relations Kissinger has to any English sentence. So (3) and (4) attribute to Brezhnev a belief

(2) does not attribute to him. (3) and (4), then, are not equivalent to (2), and therefore Carnap's analysis of (2) is incorrect.

Davidson notes that Carnap's analysis of sentences like (2) is subject to this objection, and correctly locates the source of the problem.[2] It is that in transforming (2) to (3) we replace the occurrence of (1) in (2) by:

5. Kissinger has the relation B to 'Detente is good' as a sentence in English

But, on Carnap's view of analysis, (1) and (5) are logically equivalent but not synonymous. The substitution of logically equivalent sentences in belief contexts is, as Carnap notes,[3] not always truth preserving. Thus (2) and (3) are not logically equivalent, and consequently (2) and (4) are not logically equivalent.

Davidson goes on to argue that a "simple and plausible convention would save Carnap's analysis of sentences like [(2)] from...[this] line of attack: in cases of iteration, the analysis is always applied to the larger context first."[4] In accord with this suggestion we would analyze (2) not by (3) or (4) but by:

6. Brezhnev has the relation B to 'Kissinger believes that detente is good' as a sentence of English

Davidson adds, "The words enclosed in quotation marks in

[(6)] are now ineligible for further analysis since they merely help form, with the aid of the quotation marks, the name of a sentence. [(6)] thus constitutes the complete analysis of [(2)] in accord with Carnap's method."[5]

Although I have no decisive objections to this proposal, I think that there are some problems caused by bringing the embedded belief sentence in (2) into (6) unanalyzed and inside quotation marks. First, it is a rule of Carnap's system that if a person has relation B to a sentence S in L, and S in L is synonymous with S' in L', then that person has relation B to S' in L'. In order to apply this rule to (6) Carnap must have an account of synonymy applicable to the sentence mentioned in it, i.e., (1). But in order to have an account of synonymy applicable to (1), it seems that he must give a semantical account of (1), and not just of the sentence that he uses to analyze (1), i.e., (5). However, Carnap thinks that including sentences like (1) in a language for which a semantical analysis is given leads to "the greatest complexity".[6]

A second problem with Davidson's suggestion is that it seems to render invalid some intuitively valid inferences. For example, from (2) and

7. Mao believes that Kissinger believes that detente is good

I believe that we may infer

8. There is something such that both Brezhnev and Mao believe that Kissinger believes it

This inference seems to involve an existential generalization on the final that-clauses in (2) and (7). Such a generalization would not be permitted in Carnap's analyses of (2) and (7), since on his formulations the that-clauses would be inside quotation marks.

Thus, bringing embedded belief sentences into the metalanguage inside quotation marks has a second disadvantage: it prevents all logical operations from being performed on them, yet some logical operations on embedded belief sentences seem proper.

It seems, then, that there is some difficulty in expressing iterated belief sentences in Carnap's system. I think it would be extravagant to claim that this constitutes a decisive objection to his theory since, for one thing, it remains possible that some more satisfactory way to express such sentences in his theory will be developed. Moreover, iterated belief sentences may pose problems for (PV) as well and Carnap's theory may be no less successful in dealing with them than (PV) is.[7]

II

The existence of sentences. Few writers on sentential theories

seem to devote much attention to an account of sentences, and Carnap seems to say nothing at all on the topic. However, I think that important problems arise for Carnap's theory, and sentential theories generally, unless sentences are assumed to be necessarily existent objects, perhaps properties such as being such and such a shape. Since sentential theories are often advocated in an effort to avoid commitment to any entities of this sort, this is an unwelcome conclusion for sentential theorists.

The problem can best be formulated in terms of Carnap's analysis of a typical belief sentence, e.g.,

9. John has the relation B to 'The earth is round' as a sentence of English

which analyzes

10. John believes that the earth is round.

If Carnap's theory were correct, then (9) and (10) would be logically equivalent. But it seems that they are not, since (9) implies the existence of the sentence 'The earth is round', whereas (10) does not.[8] Moreover, (9) implies the existence of the English language, whereas (10) does not, so we have an additional reason to doubt that (9) and (10) are logically equivalent. Perhaps we can say that English exists provided the sentences in it exist, and consider only the question of the

existence of sentences. If we discover that (10) does imply the existence of the sentence, then we may assume that it implies the existence of the language as well.

If (10) does not imply that the sentence 'The earth is round' exists, then there are circumstances in which (10) is true but 'The earth is round' does not exist. It may seem clear that there are such circumstances. For example, John might exist and believe that the earth is round in some world in which English is not spoken or written at all. The sentence 'The earth is round' would not seem to exist in such a world, despite the truth of (10). Hence (10) does not imply the existence of a sentence, whereas (9) does. Therefore, (9) and (10) are not logically equivalent, and (9) is not a proper analysis of (10). Let us call this 'the existence of sentences objection' to Carnap's theory.

In order to evaluate this objection, we must come to some decision on the nature of sentences. For if sentences are necessarily existent objects, then the objection fails. If on the other hand, it is true that John can believe that the earth is round without 'the earth is round' existing, then the objection succeeds.

In Word & Object[9] W. V. O. Quine discusses three possible accounts of sentences. He writes,

> Prima facie...a sentence is not an event of utterance but a linguistic form that may be uttered often, once,

> or never; and ... its existence is not compromised by failure of utterance. But we must not accept this answer without considering more precisely what these linguistic forms are. If a sentence were taken as the class of its utterances, then all unuttered sentences would be reduced to one, viz., the null class. They might as well not exist as far as propositions are concerned, for all distinction lapses among them. Nor should I like to take a sentence as an attribute of utterances; for, I shall argue for dropping attributes. But there is another way of taking sentences and other linguistic forms that leaves their existence uncompromised by failure of utterance. We can take each linguistic form as the sequence ... of its successive character as a class of utterance events, there being here no risk of non-utterance.[10]

Let us look at each of these accounts in some more detail.

(I) The first account Quine mentions is that a sentence is the class of all its utterances. This means, I believe, that a sentence is a class of all utterances sounding a certain way. Although Quine does not say this, it is reasonable to assume that the class also includes all inscriptions of the appropriate shape. Since utterances and inscriptions are probably best construed as events, a sentence, on view (I), is a class of utterance-events and inscription-events. In what follows reference to inscriptions will be omitted, but can be added in obvious ways.

The details of this view may be developed in various ways, depending upon how we count utterances. For example, we may say that an utterance of 'I don't believe that money grows on trees' contains an utterance of 'Money grows on trees' and an utterance of 'Money grows', or we may not. It is not clear that one view

is better than the other.

Another respect in which developments of view (I) may differ also concerns what is to be counted as an utterance of a particular sentence. If we assume that similar sounding utterances may occur in two or more languages, then we may say that all such utterances belong in one class and that this class is a single sentence, or we may say that all utterances belonging to one language constitute one sentence and all those belonging to another language constitute another sentence.

Our decision on this alternative is slightly more important than our decision on the previous one. For if a sentence is a class of all utterances that sound alike of a certain language, then the same sentence cannot be part of more than one language. This would make expressions like "The earth is round" ambiguous, possibly denoting any of several different sentences. Which one it denotes can be specified by following it with a reference to a language. On the other view of sentences, when a sentence is the class of all appropriate sounding utterances, "The earth is round" is not ambiguous, but the sentence it denotes is ambiguous, in that it can have any of several different meanings. Again, reference to a lnaguage can resolve any problems caused by this ambiguity.[11]

It is somewhat difficult to evaluate the existence of sentences objection, given view (I) of sentences. This view

seems to imply that expressions like "The earth is round" are like definite descriptions, naming different objects in different possible worlds. It will, apparently, name the null class in worlds in which there are no utterances of the appropriate kind. Therefore, there are no worlds in which (10) is true and (9) is false simply because 'The earth is round' does not exist.[12]

It is clear, however, that view (I) of sentences is unsatisfactory for Carnap. It has the consequence, as Quine notes, that all sentences that are unuttered in a world are identical in that world. If ϕ and Ψ are both English sentences that have not been uttered, then ϕ and Ψ are identical with the null class. Hence, if someone stands in relation B to ϕ as an English sentence, then he stands in relation B to Ψ as an English sentence. Carnap's theory would thus analyze $\ulcorner$S believes that $\phi\urcorner$ and $\ulcorner$S believes that $\Psi\urcorner$ in such a way that they are equivalent, for all unuttered ϕ and Ψ. That result, however, is clearly unsatisfactory, since S might believe only some of the things that go unuttered. View (I) of sentences, then, must be rejected.

(II) The second view of sentences that Quine mentions is that they are attributes or properties. The most plausible view along these lines is that a sentence is the property of sounding such and such a way (or being shaped such and such a way). Properties, like propositions, are said to exist necessarily, so there would be no worlds in which 'The earth is round' fails

to exist. Hence, the existence of sentences objection to Carnap's theory fails, given view (II) of sentences.

Quine rejects this account of sentences because it requires the existence of properties, which he finds as offensive as propositions. Carnap may not have regarded the existence of properties as such an objectionable requirement, and thus may have accepted view (II). But many philosophers who reject (PV) do so for reasons like Quine's, and thus cannot accept this account of sentences.

(III) The final account of sentences Quine mentions is that they are ordered sets of characters or phonemes. Characters and phonemes, on this view, are sets of utterances or inscriptions. The letter 'a', for example, would be the set of all inscriptions looking like this: a. A written sentence-type would be the ordered set of each of its characters. An utterance-type of a sentence might be the ordered set of the phonemes making up the sentence, a phoneme being the set of all utterances of a given kind.

Quine contends that on this view there is "no risk of non-utterance". His point is that every English character and phoneme has been inscribed or uttered, so no character or phoneme is identical with the null set, and they are all properly individuated. Therefore, each intuitively diverse sentence will be identified with a diverse ordered set of characters or phonemes, and sentences will be properly individuated.

However, when we turn out attention to other possible worlds, we will find some in which English is not written or spoken at all, and each character and phoneme is identical with the null class. Each English sentence, then, will be an ordered set, each member of which is the null class. So sentences having the same number of characters or phonemes will be identical. Relative to such worlds, if a person has relation B to ϕ as a sentence of English and ϕ and Ψ have the same number of characters or phonemes, then that person has relation B to Ψ in English. Thus, if ϕ and Ψ have the same number of characters or phonemes, then $\ulcorner$S believes that $\phi\urcorner$ and $\ulcorner$S believes that $\Psi\urcorner$ are analyzed by sentences that are equivalent in worlds in which English is not used. But this seems incorrect, since these two sentences may have different truth values relative to such worlds.

On Quine's third account of sentences, the existence of sentences objection fails. In every world every sentence is identical with some set, possibly an ordered set each member of which is the null set. Therefore, there are no worlds in which (10) is true and (9) is false simply because the sentence 'The earth is round' does not exist. However, as we have just seen, there is a problem regarding the individuation of sentences similar to the problem that arose in account (I).

I conclude that although the existence of sentences objection fails on each of these three accounts of sentences,

other serious problems arise. Accounts (I) and (III) yield improper individuations of sentences, while account (II) implies the existence of properties, which is inconsistent with the nominalist leanings of many sentential theorists. However, it seems to be the only acceptable account of sentences available to them.

III

The ambiguity problem. On Carnap's theory, belief sentences are analyzed in terms of a triadic relation true of believers, sentences and language. The reason Carnap does not analyze belief in terms of a dyadic relation true of believers and sentences is that a sentence can occur in more than one language and thus have more than one meaning. Consequently, if belief were analyzed in terms of a dyadic relation, we would be unable to distinguish between a person's having that relation to a sentence as it occurs in one language and his having it to that sentence in another language. Thus, it seems that the dyadic relation view implies that if a person believes what a sentence expresses in one language, he believes what it expresses in another language.

The problem with the dyadic relation view may be put in a slightly different way. Suppose belief were analyzed in terms

of a dyadic relation, B, true of believers and sentences. Then the sentence

11. Jones believes that the earth is round

would be analyzed by

12. Jones has relation B to 'The earth is round'

There are two reasons why this view is unacceptable. First, there should be a synonymy rule in the language in which (12) occurs to the effect that if a person has the relation B to one sentence, then he has B to every sentence synonymous with that one. But, since the same sentence may occur in many different languages and have many different meanings, synonymy only makes sense as a relation between a sentence in a language and a sentence in a language (i.e., as a four termed relation or a dyadic relation true of ordered pairs of sentences and languages). Therefore, the synonymy rule cannot be applied to (12) as it stands, but only if a reference to a language is added to it.

There is another difficulty with (12). Suppose that 'The earth is round' occurs in some language, L, other than English and in L it has a different meaning than it has in English. Suppose further that S does not believe what is expressed by 'The earth is round' in L, although he does believe that the earth is round. There seems to be no more reason to say, in

these circumstances, that (12) is true than that it is false. For he believes what 'The earth is round' expresses in English but not what it expresses in the other language. If we say, however, that B is a triadic relation true of believers, sentences and languages, then we may say that it is true that

13. S has the relation B to 'The earth is round' as a sentence of English

and false that

14. S has the relation B to 'The earth is round' as a sentence of L

I think, however, that there is a problem in treating belief as a triadic relation true of believers, sentences and languages that is analogous to the problem in treating it as a dyadic relation true of believers and sentences. The problem is caused by the existence of ambiguous sentences.[13] Just as one sentence may have more than one meaning because it may be part of more than one language, a sentence may have more than one meaning within one language.

There are many sentences that vary their meaning, or at least what they express, within a language. For example, sentences with demonstratives, such as 'That is a clock' vary what they express from context to context. As a result, it is possible to say truly 'S believes that that is a clock but does

not believe that that is a clock', provided the two demonstratives are accompanied with gestures indicating different objects.

Other sentences without demonstratives are also ambiguous, e.g., 'Sam is near a bank', which may mean that Sam is near a financial institution and may mean that Sam is near a river side. Similarly, then, belief sentences may be ambiguous, e.g.,

15. John believes that Sam is near a bank

(15) may mean that John believes that Sam is near a financial institution and it may mean that John believes that Sam is near a river side.

We have seen that it is wrong to say that (15) may be analyzed in terms of a relation holding between John and 'Sam is near a bank' because this sentence may be part of different languages and have different meanings. Similarly, it is wrong to say that (15) may be analyzed in terms of a relation true of John, 'Sam is near a bank', and English, because the sentence may have different meanings even in English.

Assume that John does believe that Sam is near a financial institution, but does not believe that Sam is near a river side. Consider Carnap's analysis of (15):

16. John has the relation B to 'Sam is near a bank' as a sentence of English

It seems that (16) should be both true and false, since it analyzes (15) in both senses of the latter. Obviously (16) must have only one truth value, and thus cannot properly reflect both John's belief and his disbelief.

I think that the seriousness of this objection to Carnap's theory may be brought out by contrasting the way (PV) might be modified to account for ambiguity with the possibilities open to Carnap.

Since (15) is ambiguous, it seems best to avoid simple attributions of truth or falsity to it, but instead to say that a particular utterance of (15) is true or false, or else to treat truth as a relation between sentences, speakers and times. Following the latter course, we will say that (15) is true relative to a speaker, p, and a time, t, if and only if certain conditions obtain. Those conditions will vary with p and t.

The truth value of (15) on a given occasion depends upon how the speaker on that occasion uses the word 'bank'. If he uses it to mean 'financial institution', then (15) should be true (given our assumptions about John's beliefs) but (15) should be false for a speaker at a time if that speaker at that time uses 'bank' to mean 'river side'.

A defender of (PV) may say that the proposition referred to by 'that Sam is near a bank' by a person at a time depends upon how he uses 'bank' at that time. Thus, instead of a sense

and reference simply being assigned to 'bank', one might say that the expression is assigned a sense and a reference relative to a person and time. Since the assignment to 'bank' can thus vary, the proposition named by the that-clause in (15) may vary, and as a result, the truth value of (15) may vary from speaker to speaker and time to time.

Before it could justifiably be claimed that a solution to the ambiguity problem can be found within the framework of (PV), the above suggestion must be developed in more detail. But it does seem possible that some solution to the problem can be developed without abandoning (PV) entirely.

Prospects for a solution to the ambiguity problem within the framework of Carnap's theory seem less promising. For even if we relativize truth of sentences to people and times, it is hard to see why the truth value of (16) would vary. For unlike (15), it contains no ambiguous expressions. The sentential name in (16) is not ambiguous, even though the sentence it names is ambiguous. So there seems to be little hope of success in following a course in this case similar to the one that seems promising in the case of (PV).

There are two more radical departures from Carnap's theory that may provide solutions to the ambiguity problem. One is to take the objects of belief to be sentence tokens - particular utterances or inscriptions. One might argue that despite the

ambiguity of sentence types, sentence tokens are unambiguous, their meaning being determined by the person producing them and their context.

Another possible solution to the ambiguity problem is to construe belief as a relation between a person, a sentence, and a speaker and a time, rather than as a relation between a person, a sentence, and a language. The idea here is that even if a sentence is ambiguous in a language, it is not ambiguous for a speaker at a time.

In the chapters that follow I will examine theories that adopt the approaches just outlined.

IV

In this chapter I have raised three problems for Carnap's theory of belief, and I believe that these objections apply to sentential theories generally.[14] The first, and least serious objection is that there seems to be no way to properly formulate iterated belief sentences in Carnap's theory. Of the two possible formulations, one saddles believers with beliefs about sentences and languages that they need not have. The other formulation may be preferable, but it seems to invalidate certain valid inferences and to force Carnap to provide a semantical account of ordinary

belief sentences, and not just to the sentences that he uses to analyze them.

The second problem is that an adequate account of sentences seems to require that they be properties or universals (or perhaps some other kind of abstract object). To admit the existence of such entities is to abandon the nominalism that is often the motivation for adopting a theory like Carnap's in place of (PV). It should be admitted, however, that Carnap's motivation for adopting his theory was not nominalism but rather its alleged logical simplicity.

Finally, the existence of ambiguous sentences poses a serious problem to Carnap and other defenders of the view that sentences are the objects of belief. Since a person can believe one thing expressed by a sentence in a given language but disbelieve something else expressed by that sentence in that language, it seems improper to analyze belief simply in terms of a relation true of believers, sentences and languages.

FOOTNOTES - CHAPTER IV

1. Rudolf Carnap, "On Belief-Sentences", Supplement C to Meaning and Necessity, Phoenix Books, Chicago, 1956, p. 232.

2. Donald Davidson, "The Method of Extension and Intension", in The Philosophy of Rudolf Carnap, edited by Paul Arthur Schilpp, Open Court Press, LaSalle, Illinois, 1963, p. 345.

3. Rudolf Carnap, Meaning and Necessity, pp. 53-54. Carnap does express some doubt about the failure of substitution of logical equivalents in "Replies and Systematic Expositions" in The Philosophy of Rudolf Carnap, p. 899.

4. Davidson, op. cit., pp. 345-346.

5. Ibid., p. 346.

6. Carnap, "On Belief-Sentences", p. 232.

7. For a discussion of iteration, and a way to handle it on a propositional theory, see John Wallace, "Belief and Satisfaction" in Nous VI, No. 2, May, 1972, pp. 85-95.

8. For a similar argument, see A. N. Prior, Objects of Thought, edited by P. T. Geach and A. J. P. Kenny, Clarendon Press, Oxford, 1971, p. 16.

9. W. V. O. Quine, Word and Object, The M.I.T. Press, Cambridge, Mass., 1960.

10. Ibid., pp. 194-195.

11. It is the fact that sentences may be in more than one language that leads Carnap to analyze belief in terms of a triadic relation true of believers, sentences, and languages. For more on this point, see section III of this chapter.

12. Of course the set identical with 'The earth is round' in this world might not turn up in some other world. But in every world there is some set denoted by 'The earth is round'.

13. For an interesting discussion of ambiguity, see Kathryn Pine Parsons, "Ambiguity and the Truth Definition", in Nous VII, No. 4, November, 1973, pp. 379-394. Parsons argues against the attempts of Quine and Davidson to give a truth definition to meanings.

14. It may be useful to show that the same three objections may be raised against other theories that take sentences to be the objects of belief. Consider first the theory proposed by Quine in "Quantifiers and Propositional Attitudes", reprinted in Reference and Modality, edited by Leonard Linsky, Oxford University Press, London, 1971, pp. 88-111. Quine suggests (p. 109) that we rewrite a belief sentence of the form 'w believes that...' by a sentence of the form 'w believes-true "..." in ___', where the blank is filled in with the name of the language.

The three objections raised against Carnap's theory may also be applied to Quine's theory. An iterated belief sentence such as (2) would be expressed by either:

(i) Brezhnev believes-true 'Kissinger believes-true "Detente is good" in English' in Quinese

or

(ii) Brezhnev believes-true 'Kissinger believes that detente is good' in English.

(i) seems to attribute to Brezhnev a belief concerning an English sentence that (2) does not attribute to him. On the other hand, (ii) prohibits logical operations on the that-clause in the quoted sentence. Some operations, however, seem permissible on the final that-clause in (2).

The existence of sentences objection and the ambiguity problem arise for Quine's theory in the same way they do for Carnap's theory. Either Quine must say that sentences are attributes, which he explicitly rejects, or else his paraphrases do not meet even the standards of logical equivalence. (I should point out that Quine is not interested in meeting even these minimal standards.) Moreover, on Quine's theory an ambiguous sentence such as (15) would be rewritten by the unambiguous: (iii) Sam believes-true 'John is near a bank' in English. The problem with (iii) is identical with the problem in Carnap's analysis of (15).

Similar objections apply to a sentential theory mentioned by Donald Davidson in "On Saying That", reprinted in Words and Objections, edited by Davidson and Jaakko Hintikka, D. Reidel Publishing Co., Dordrecht-Holland, 1969, pp. 158-174. On this theory belief sentences are not paraphrased into other sentences. Instead, that-clauses are simply taken as names of sentences, rather than as names of propositions.

It is unnecessary to go into the details of the application of all three objections to this theory. I will consider only the ambiguity problem. Whereas a proponent of (PV) may explain the ambiguity of belief sentences like (15) by pointing to an ambiguity in the that-clause, a defender of this sentential theory must say that the that-clause in (15) is unambiguous, since it always names the same sentence.

PART 2

INSCRIPTIONAL THEORIES

In Part 2 I will discuss two alternatives to (PV) that are rather different from the sentential theories discussed in Part 1. Both of these theories take sentence tokens - inscriptions or utterances - as the objects of belief. The first theory, proposed by Israel Scheffler, is advanced in an effort to avoid commitment to all abstract entities, including sentence types. The second theory, proposed by Donald Davidson, is designed to overcome the ambiguity problem, discussed in Chapter IV.

CHAPTER V

SCHEFFLER

In this chapter I will discuss a theory of belief sentences proposed by Israel Scheffler,[1] who claims that his theory avoids commitment to sentence-types, word-types, properties, and propositions.[2] The central idea of Scheffler's theory is to treat that-clauses as predicates true of sentence-inscriptions, and to take inscriptions as the objects of belief. Such treatment, he contends, enables his theory to avoid all the undesirable commitments of other theories.

I

The fullest development of Scheffler's theory is found in The Anatomy of Inquiry. There Scheffler develops a theory of "desires-that" sentences in some detail, and then proposes that believes-that sentences be treated similarly. Although there is some doubt that desires-that sentences and believes-that sentences should be treated similarly,[3] I will overlook that issue and consider Scheffler's account of desires-that sentences.

A. Scheffler's account of desires-that sentences. Scheffler begins

by distinguishing two senses of the word 'desire'. One sense of the word is found in sentences such as

1. John desires the book.

In sentences such as (1), where the object of desire is some concrete object, we may say that 'desires' has its "objective sense".[4]

'Desires' has its second sense in sentences such as

2. John desires that John qualify for entrance to medical school.

Here, what John desires appears to be a state of affairs or, perhaps, a proposition, although Scheffler argues that this appearance is deceptive. Let us call this the "propositional sense" of 'desires'.

Scheffler suggests that in sentences in which 'desires' occurs in its objective sense, it may be replaced by 'desires to have' without changing the sense of the sentence. Where 'desires' has its propositional sense, such replacement radically alters the meaning of the sentence, indeed, it seems to make it senseless.

Scheffler mentions that the objective sense of 'desires' may ultimately be defined in terms of the propositional sense. Thus, (1) might mean:

3. John desires that John have the book,

where 'desires' now has its propositional sense.

In order to avoid confusions that might arise out of the ambiguity of 'desires', Scheffler proposes that we use 'desires-true' to express its propositional sense and reserve 'desires' for the objective sense. Thus, he suggests that we "replace" (2) by:

4. John desires-true that John qualify for entrance to medical school.

One of the problems that I have in understanding Scheffler's theory is that I'm not sure what he thinks is gained by replacing (2) with (4). As we shall see, understanding this process becomes crucial when he goes on to replace (4) by other sentences that look even less like ordinary English than (4) does.

Scheffler next says that we may represent (4) symbolically by:

5. J Dtr That(QJ).

In (5) 'J' stands for 'John', 'DTr' stands for 'desires-true', and 'That(QJ)' for 'that John qualify for entrance to medical school'.

The essential elements of Scheffler's theory are described in the following passage:

> Now, we take 'That(__)' as a predicate forming operator, so that [(5)] becomes:
> [6.] (Ex)(That(QJ)x.. DTrJx)

read:

'There is some x, such that x is a that-John-qualifies-for-entrance-to-medical-school, and John desires-true x'.

The range of the variable 'x' is here restricted to concrete inscriptions (though a broadening of the range to include concrete utterances as well is... also conceivable).[5]

Scheffler explains the import of his proposal this way:

...we have...proceeded to construe [(2)] after the manner of [(6)]. The import of this construal is to take ordinary 'desiring that' statements, such as [(2)], as tantamount to statements expressing a certain relation between agents and inscriptions. The total effect concerns the logical form and ontological character of 'desiring that' statements, rather than their substantive analysis, i.e., the specification of those conditions under which they hold true. In fact, [(6)], for example, is presumed true just under those conditions in which [(2)] is presumed true. Any further, substantive analysis of 'desire', specifying the operative conditions for the truth of [(2)], and hence of [(6)], is theoretically welcome, however, as an independent step.

Statement [(6)] thus represents a way of construing the logical form and ontology of 'desiring that' statements. Nor can [(6)] be charged with obscurity by those favoring an interpretation in terms of states [propositions]. For [(6)] is itself explicable in terms of the latter approach: one can, generally, explain the desiring-true of a given inscription, to proponents of states, as the desiring of that state which is purportedly represented by the inscription in question. Also, as noted, the 'desires-true' formulation is to be taken as true under just those conditions in which its ordinary 'desires that' counterpart is considered true. In particular, for an agent to desire-true some given inscription does not imply that he produce, possess, wish to possess, be aware of, or even understand the inscription in question.[6]

In these passages Scheffler introduces a novel predicate, 'That(QJ)'. More will be said about such predicates later. For now, it will suffice to say that they are true of any inscription of the sentence in their parentheses.[7]

B. Scheffler's treatment of belief sentences. Scheffler proposes a treatment of belief sentences very similar to his treatment of desires-that sentences. Corresponding to the objective and propositional senses of 'desires', there are objective and propositional senses of 'believes'.[8] The objective sense occurs in:

7. Jones believes John Dean

and the propositional sense occurs in:

8. Jones believes that John Dean told the truth.

Perhaps these two senses can be distinguished by pointing out that the objective sense may be defined in terms of the propositional sense. Taking the propositional sense as basic, the objective sense might be defined as 'believes what is asserted by', where 'believes' has its propositional sense. Analogous to the case of 'desires', Scheffler proposes that we use 'believes-true' to express the propositional sense of 'believes'.

Sentence (8) goes through the same kinds of transformations

(1) did, and Scheffler's final replacement for it is:

9. (Ex)(That-(John-Dean-told-the-truth)x and Jones believes-true x).

(9) can be read:

> There is some x, such that x is a that-(John-Dean-told-the-truth) inscription, and Jones believes-true x)

Thus, on Scheffler's theory, a typical belief sentence such as (8) turns out to be replaceable by a sentence that relates a person to an inscription and avoids all mention of propositions. Scheffler explains the import of this construal of belief sentences in much the same way he explained the import of his construal of desires-that sentences:

> ...the proposal concerns the logical form and ontological character of 'believes that' statements, rather than a substantive analysis of the conditions under which such statements are true. In fact, the construal...presented is presumed true just under those conditions in which ordinary 'believes that' statements are considered true, no matter what these conditions may be. It follows that, when the 'believes-true' relation holds, it need not be expected that the agent produce, be aware of, or even understand the inscription believed-true. Nor can the proposal well be criticized as more obscure than one appealing to states (or propositions), for the believing-true of an inscription can be explained, in the latter terms, as the believing of that state (or proposition) associated with it.[9]

In the next two sections of this chapter I will evaluate Scheffler's proposal.

II

Scheffler apparently thinks that the fact that (8) may be rewritten as (9) somehow clarifies the "ontological character" of (8). I assume that this means that we gain insight into the ontological implications of (8) by rewriting it as (9). In particular, what we learn is that (8) does not imply the existence of a proposition, or is not ontologically committed to propositions. What I want to examine in this section are the reasons for thinking that our ability to rewrite (8) as (9) has any implications about the ontological character of (8). In "Propositions and Inscriptions"[10] Herbert Heidelberger addresses himself to this topic and formulates two arguments that Scheffler might use to show that rewriting (8) as (9) does give us insight into the ontology of (8).

A. <u>One account of Scheffler's argument</u>. Heidelberger's first suggestion is that Scheffler thinks that (9), unlike (8), is a sentence whose ontological implications are clear and does not include propositions. Since (8) and (9) are equivalent, (8) must have the same implications as (9) and, therefore, does not imply the existence of propositions either.[11]

Heidelberger contrasts this proposal with another one along

the same lines, once made by C. H. Langford. He writes:

> Langford considers the sentence
>
> [10.] The present King of France is the present King of France.
>
> Suppose some metaphysician believes (not implausibly) that [(10)] is true and holding (perhaps less plausibly) that [(10)] implies
>
> [11.] The present King of France exists
>
> is led to suppose that the present King of France exists in some metaphysical realm. How should we go about showing him that he is in error? Langford suggests that [(10)] may be interpreted as
>
> [12.] If something has the property of being the present King of France, then something has that property.
>
> If we can get our metaphysician to agree that [(10)] is logically equivalent to [(12)] it might be easier to persuade him that [(10)] does not imply [(11)]. For it may be obvious that [(12)] does not imply [(11)] and if, as we have supposed, [(10)] is logically equivalent to [(12)], [(10)] does not imply [(11)] either. Again, the merit of the suggested paraphrase is that the existential implications of [(12)] may be more apparent than those of [(10)].[12]

Heidelberger argues that there is an important disanalogy between Scheffler's proposal and Langford's. (9) is not an English sentence, it contains the unfamiliar predicate 'believes-true', which has not been analyzed and consequently is not a sentence whose ontological implications are especially clear. Indeed, since all we really know about (9) is that it is supposed to be true when (8) is, its implications are exactly as clear as

those of (8), but no clearer. (12), on the other hand, is an English sentence whose implications are reasonably clear. Hence, we do gain an insight into the implications of (10) by rewriting it as (12). Rewriting (8) as (9) does not seem to have similar advantages.

B. A second account of Scheffler's argument. Heidelberger points out that Scheffler may not intend to make a proposal analogous to Langford's. Instead, he may be making a proposal about the logical form of (8).[13] His argument might be as follows. Since no expression in (9) is a name of a proposition, and the quantifier in (9) does not range over propositions,[14] (9) does not imply the existence of a proposition. (8), being equivalent to (9), does not imply the existence of a proposition either. This is the second argument Heidelberger formulates that Scheffler might use to show that rewriting (8) as (9) reveals the ontological implications of (8).

Heidelberger thinks that this argument is invalid, and in order to show that it is, he likens it to the following argument:

> Consider
>
> [13.] Socrates and Plato exist
>
> and
>
> [14.] Socrates exists.

> Certainly [(13)] implies [(14)]. Now let us rewrite [(13)] as
>
> [15.] There is an inscription which is a that-Socrates-and-Plato-exist and which is true.
>
> Following Scheffler's lead we shall interpret [(15)] as true just in case [(13)] is true. Note that [(15)] does not mention Socrates; in fact his name is not used in [(15)] at all. Moreover, the quantifier of [(15)] ranges over inscriptions and not over persons. Shall we say that since [(15)] does not mention Socrates, and that since its quantifier does not range over persons, [(15)] does not imply [(14)], and therefore [(13)] does not imply [(14)]? Surely not. Surely [(13)] does imply [(14)], and if [(15)] is a rephrasal of [(13)], then [(15)] implies [(14)] as well.[15]

The argument that Heidelberger asks us to consider concerning (13), (14) and (15) seems to be the following:

ARGUMENT 1

16. (13) is equivalent to (15).
17. Socrates is not named in (15) and the quantifier in (15) does not range over persons (and therefore does not include Socrates in its range).
18. (15) does not imply that Socrates exists (i.e., (15) does not imply (14)).

19. (13) does not imply (14).

We are to assume that the first premise of Argument 1 is true, analogous to Scheffler's assumption that (9) is equivalent to (8). The second premise of Argument 1 would seem to be obviously true, since (15) contains no names at all, and there seems to be little doubt that its quantifier ranges only over inscriptions. (18) is supposed to follow from (17), and the

validity of this inference will be discussed at length below. Finally, (19) follows from (18) and (16). Of this last inference there can be no doubt.

Heidelberger says that this argument is surely unsound, for (19) is quite obviously false. He asserts that the mistake in the argument "comes in passing from [(15)] does not mention Socrates and its quantification does not range over persons, to [(15)] does not imply that Socrates exists."[16] Thus, Heidelberger's contention is that the objectionable feature of Argument 1 is the inference from (17) to (18). He seems to think that this inference is the only place at which the argument could go wrong, and since it is unsound, this inference must be invalid.

It seems to me, however, that there is another place at which Argument 1 could go wrong, and that we are not justified in concluding that the inference from (17) to (18) is invalid until we show that the argument does not go wrong in this other place, or else adduce independent grounds for thinking that (17) does not imply (18). The second possible source of difficulty in the argument is its premises. I think that we must show that they are consistent before we can justifiably conclude from the fact that Argument 1 is unsound, that the inference from (17) to (18) is invalid.

One might feel that these premises are not controversial. (15) has been stipulated to be equivalent to (13), just as

Scheffler stipulated that (9) is equivalent to (8). Since we can stipulate that we'll use (15) however we like, the first premise, (16), seems incontestable. The second premise, (17), seems to be too obvious to contest, so the two would seem to be consistent, and Heidelberger justified in placing the error in Argument 1 where he did.

I think, however, that the truth of (16) cannot simply be stipulated, given the truth of (17). In (17), sentence (15) is said to have certain semantical properties, namely, having a quantifier ranging over inscriptions, and having no name of Socrates. What is said in (16), whether it be stipulated or asserted, is that (15) has another semantical property, namely, being equivalent to (13). And these properties, it seems to me, may well be incompatible. Perhaps (13) cannot be equivalent to a sentence having only certain kinds of quantifiers and names.

To see that the compatibility of (16) and (17) is not something we should just assume, let us consider an analogy. Suppose someone were to note that in

20. There is some sport such that it is more popular than football

the quantifier ranges over sports and there is no name of a person. This will be analogous to noting that (17) is true. Now, suppose this person were to go on to stipulate that as he will use (20), it is equivalent to:

21. Nixon exists.

I think we would all want to protest that this stipulation cannot be made. Since the quantifier in (20) ranges over sports, and (20) implies the existence of a sport, which (21) does not, (20) and (21) cannot be equivalent.

Of course one could stipulate that (21) will be used in such a way that it is equivalent to (20). But then how (20) is to be interpreted, i.e., the range of its quantifier, is not something that can be stipulated as well. For the equivalence of (20) and (21) rules out certain interpretations of (20), e.g., its most natural one.

Analogously, then, one might stipulate that (13) and (15) are equivalent, but then one is not free to interpret the quantifier in (15) any way one pleases. In particular, one may not be free to interpret it as ranging over inscriptions. If one insists that the quantifier ranges over inscriptions, then one is not free to stipulate that (13) and (15) are equivalent.

Returning to Argument 1, then, we may say only the following: since its conclusion, (19), is false, the argument is unsound. The only possible explanations of this are: (i) that the two premises, (16) and (17), are incompatible; and (ii) that the inference from (17) to (18) is invalid. However, we are not as yet justified in claiming, as Heidelberger does, that the

inference from (17) to (18) is the source of the difficulty.

I want to argue now that Heidelberger's assertion that (17) does not imply (18), although not yet justified, is nevertheless true. The argument for this is fairly simple. The inference from (17) to (18) is based upon a principle such as this:

(P) For any sentence ϕ, if the quantifiers in ϕ do not include a certain object in their range, and no expression in ϕ names that object, then ϕ does not imply that that object exists.

That (P) is a false principle, and that inferences such as the one from (17) to (18) which appeal to it are invalid, may be shown as follows. Consider the sentence

22. Jack is married to Jill.

(22) quite obviously implies

23. Jill exists.

One is free to view the syntax of (22) in various ways, although one view might be better than another. One possible view is that 'Jack' is a name, and 'is married to Jill' is a one-place predicate. Since 'Jack' names Jack, and there are no quantifiers or other names in (22), we can conclude, via (P), that (22) does not imply (23). However, since (22) does imply (23), (P) is false.

It should not be argued that this objection to (P) turns on taking an unnatural view of (22). For one could imagine a predicate, say, 'is fortunate,' being constructed as an abbreviation of 'is married to Jill'. The sentence

24. Jack is fortunate

then, is equivalent to (22) and therefore implies (23). (24), however, contains only the name 'Jack' and the predicate 'is fortunate'. Therefore, if (P) is true, we may conclude that (24) does not imply (23). Since that conclusion is false, (P) is also false. So, the above objection does not turn on an implausible construction of (22).

I think that an explanation of the falsity of (P) can be achieved by recognizing the existence of predicates that are "implicitly relational". These are predicates that have the effect of concealing a reference to an object. For example, 'is married to Jill,' or 'is fortunate', as it was defined, conceal references to Jill.

Unfortunately, I am unable to provide any precise account of implicitly relational predicates, but the following account should be satisfactory in the present circumstances. An n-place predicate, P^n, is implicitly relational provided that for some constants, $\alpha_1,\ldots,\alpha_n$ $\ulcorner P^n(\alpha_1,\ldots,\alpha_n)\urcorner$ implies $\ulcorner(Ex)\ (x \neq \alpha_1 \ldots x \neq \alpha_n) \cdot R^m(x,\alpha_1,\ldots\alpha\ )\urcorner$ for some R^m, where m is less than or equal to n + 1.

On this account, 'is married to Jill' and 'is fortunate' are implicitly relational because 'Jack is married to Jill' and 'Jack is fortunate' both imply '(Ex)(x ≠ Jack ∧ Jack is married to x)', where 'is married to' is a two-place predicate.

It is important to realize that many place predicates may also conceal references and thus be implicitly relational. For example, 'having a sole intermediary' is a two-place predicate true of Kennedy and Nixon. This predicate is implicitly relational because 'Kennedy and Nixon have a sole intermediary' implies '(Ex)(x ≠ Kennedy ∧ x ≠ Nixon ∧ x is either a successor or a predecessor of Kennedy)'.

The recognition of the existence of implicitly relational predicates provides us with an explanation of the falsity of (P). We may now justifiably assert that the problem (or a problem) with Argument 1 is the invalidity of the inference from (17) to (18), since that inference relies upon (P).

Finally, we can return to Scheffler's argument concerning belief sentences. Scheffler's argument, analogous to Argument 1, might be formulated as follows:

ARGUMENT 2

25. (9) is equivalent to (8)
26. No proposition is named in (9) and the quantifier in (9) does not range over propositions
27. (9) does not imply the existence of a proposition

28. (8) does not imply the existence of a proposition

Just as the inference from (17) to (18) fails in Argument 1, because it relies on the false principle, (P), the inference from (26) to (27) also fails because it too relies on this false principle.

I think that this objection to Argument 2 can be strengthened by pointing out that there is good reason to think that a predicate in (9) is implicitly relational. That is, I think some evidence can be accumulated to support the view that 'believes-true' is implicitly relational. Moreover, the references it seems to conceal are to propositions.

Scheffler tells us only a few things about 'believes-true'. One is that it is true of people and inscriptions. Another is that it would be desirable to analyze it further. And the third is that, for those who prefer propositions, "the believing-true of an inscription can be explained...as the believing of the state (or proposition) associated with it."[17] Thus, 'believes-true' does seem to conceal references to propositions, and until some reason is adduced for thinking that it does not, I think we should assume that it does.

In this section I have considered two arguments Scheffler might give to defend the claim that the equivalence of (8) and (9) shows that it does not imply the existence of propositions. I have defended Heidelberger's claim that the first argument is unsound. In the case of the second argument, I have offered some

needed justification for his claim that it is invalid.

III

A. Another objection to Scheffler's theory. Scheffler says of (9) that it is "presumed true just under those conditions in which" (8) is true, "no matter what those conditions may be."[18] He also claims that the existential quantifier in (9) ranges over inscriptions, and thus that (9) implies the existence of an inscription.[19] In this section I will argue that these additional claims are incompatible with Scheffler's presumption. (Thus, I think that premises (25) and (26) in Argument 2 are in fact incompatible, and that there is, therefore, a second objection to that argument.)

Let us assume that (9) is a part of a language for which an interpretation has been specified. Assume that the interpretation assigns to 'Jones' the individual Jones, to 'believes-true' a set of ordered pairs of people and inscriptions and to 'That-(John-Dean-told-the-truth)' a set of inscriptions.

Scheffler says that the inscriptions assigned to a predicate such as 'That-(John-Dean-told-the-truth)' should meet the following conditions.[20] Every inscription in its

interpretation should be a "rephrasal" of the sentence inscription in the parentheses in the predicate. A rephrasal of an inscription, I, Scheffler says, is a sentence inscription "ordinarily assumed to represent the same sentence" as I.[21] Inscriptions represent the same sentences when (i) they are spelled alike; (ii) they have a "similar language affiliation (i.e., both are French, both Italian, etc.)";[22] and (iii) they lack indicator terms. The interpretation of every inscription of 'That-(John-Dean-told-the-truth)', then, is the set of all English inscriptions of 'John Dean told the truth'.

Scheffler never says how the language affiliation of an inscription is determined, but he seems to think that it is a feature of its context.[23] Perhaps, then, the intentions of its inscriber determine the affiliation of any inscription. At any rate, Scheffler asserts confidently that no inscription is "part of more than one language"[24] and takes this to be an important advantage of his theory over theories that take sentence types as the objects of belief.

There is some doubt that all inscriptions have a unique language affiliation. Someone might produce an inscription that is part of more than one language in order to make a joke or just to point out that there are such inscriptions. I will overlook this point, however.

Assuming that the method for interpreting (9) is now

reasonably clear, we can turn to an evaluation of Scheffler's claim or supposition that it is true in exactly the same circumstances as (8). I think that there are circumstances in which these sentences (sentence-inscriptions) would differ in truth value. I will describe two such cases.

Case 1. Suppose Jones does believe that John Dean told the truth, but out of a fear that the president's men have bugged his house, he never voices his belief and never writes it down. Furthermore, suppose everyone else shares Jones' fear, reacts similarly, and as a result, there are no that-(John-Dean-told-the-truth) inscriptions. In these circumstances, (8) would be true, but (9) would not, since it implies the existence of a that-(John-Dean-told-the-truth) inscription.

Case 2. Imagine a world (i.e., a set of circumstances) much like the real world, with the exception that all people who speak English in the real world speak Spanish in that world. Suppose that John Dean makes the same accusations against the president in that world that he does in this world, and that Jones believes these accusations and that John Dean told the truth. In these circumstances, (8) is true but (9) is false, again because it implies the existence of a that-(John-Dean-told-the-truth) inscription. Since English is not used in that world, there are no such inscriptions.

Both of these cases, I believe, present circumstances in

which (8) is true and (9) is not. Hence, (8) and (9) are not true in all the same circumstances; Scheffler's claim or supposition that they are equivalent is false; and he has not shown that belief sentences may be reformulated in terms of sentences expressing a relation between persons and inscriptions.

Scheffler is aware that there is a problem for this theory concerning the existence of inscriptions and he hints at one reply that might be made to these objections and claims that there is no conclusive objection to another reply. I will consider these replies, taking the hint first.

B. Scheffler's first reply. Scheffler points out in several places that any inscription of a predicate of the form 'That-(ϕ)' contains an inscription of which the predicate is true. At one point he remarks that the "existence of an inscription denoted by the predicate is thus guaranteed by the existence of the predicate-inscription itself."[25]

At another point he says, "We need, moreover, not worry that there might perhaps be no appropriate inscription in existence to warrant an analysis such as [(9)]. For merely to formulate the question" whether John Dean told the truth "is to produce an inscription of the right sort."[26] Scheffler notes that the question might be put orally, but envisages extending his

predicates to apply to utterances as well as inscriptions.[27]

Scheffler is surely wrong in claiming that the formation of the question produces the required inscription or utterance. The question might be formulated by following an assertion that Nixon told the truth with the question "How about Dean?" Furthermore, the question might be formulated mentally, without thereby producing any inscription or utterance at all.

Setting aside this point, one may wonder why the fact that the existence of the predicate-inscription guarantees the existence of the required inscription or the fact that forming the question produces the required inscription is of importance here. In Case 1 there is no predicate-inscription in existence of the required sort, so it doesn't bring about the existence of the needed inscription. Moreover, the question of Dean's truth telling, we have assumed, is only formed mentally in Case 1. Thus neither of the facts Scheffler mentions implies that there is an inscription of the needed sort in Case 1. And in Case 2 there also is no inscription of the required kind, since there are no English inscriptions at all.

I can see only one way in which the two facts Scheffler cites may be of any aid in replying to these two examples. Scheffler might argue that in both cases I failed to describe any circumstances in which (8) and (9) differ in truth value. In order to differ in truth value in a given set of circumstances,

(8) and (9) would have to exist in those circumstances. Since they do not exist in the cases described, they do not differ in truth value. In any cases in which they do exist, the required inscription must exist, and thus they can agree in truth value.

I think that this reply is inadequate, and that it trades on an ambiguity in the sentence '(8) and (9) are true in all the same circumstances'. There are, I believe, two clear readings to the sentence. On one reading to say that (8) and (9) are true in all the same circumstances is to say that (8) and (9), as used by inscribers in any set of circumstances, have the same truth value. We could agree that they have truth values in a set of circumstances, in this sense, only if they exist in those circumstances.

There are two things that are clear about the expression '(8) and (9) are true in all the same circumstances' in this sense. One thing is that it is false. We can imagine circumstances in which (8) is the negation of (9) and so they do not have the same truth value.

The second thing that is clear about this sense of this sentence is that it has nothing whatever to do with the claim that (8) and (9) are logically equivalent, or that one may be used to replace the other. What is of importance to these claims is that (8) and (9) have truth conditions such that any circumstances satisfying the truth conditions of one

satisfy those of the other. When this obtains, (8) and (9) are true in all the same circumstances, in the second sense of this phrase. Perhaps this would be expressed more clearly by saying that (8) and (9) are true at, or relative to, all the same circumstances. There is no reason to think that (8) and (9) must exist in a certain circumstance in order to have a truth value relative to those circumstances. The sentence 'There might have been no inscriptions' is true and the sentence 'There are no inscriptions' is (logically) possibly true because there are circumstances relative to which they are true. Of course, the latter could not exist _in_ such circumstances, but it is true relative to them.

Thus, relative to the circumstances described in _Case 1_ and _Case 2_, (8) is true and (9) is false. That they do not exist in these circumstances is of no consequence.

C. _Scheffler's second reply_. In a footnote Scheffler offers a second reply to these examples. Following Goodman and Quine, he suggests that we might count as an inscription any "appropriately shaped spatio-temporal region even though [it] be indistinguishable from [its] surroundings in color".[28] In the examples described above, there surely were some appropriately shaped regions, so there were some that-(John-

Dean-told-the-truth) inscriptions. Thus, (9) is true relative to those circumstances.

Scheffler admits that accepting this suggestion requires adopting "a somewhat artificial notion of inscriptions" but observes that there seems to be "no conclusive argument against" it.[29] There are, however, some considerations that should lead us to reject this view.

First, as Scheffler admits, it is "somewhat artificial". It renders false many of our intuitions about counting inscriptions. For example, I would have thought that I knew how to count sentence-inscriptions, and thus, could determine how many inscriptions of a given sentence there were in a certain area, say, on a blackboard. But, on this view, there are countless numbers of inscriptions of every sentence everywhere. There are some, perhaps an infinite number of very small ones, in the dot above an 'i'.

Second, Scheffler cites as an advantage of his view the fact that inscriptions, unlike sentence-types, are not ambiguous.[30] The reason for this is that every inscription occurs in a context and is a part of no more than one language. Thus, a particular inscription has a specific meaning, determined by its context, which apparently includes the intent of its inscriber. These indistinguishable spatio-temporal regions, however, have no inscribers, are not part of any particular language, and thus

would not seem to have a particular meaning.

Third, and most importantly, no such inscription is a that-(John-Dean-told-the-truth) inscription. It is clear that the indistinguishable spatio-temporal regions are not ordinarily assumed to represent any sentence at all, and it seems unreasonable to attribute any language affiliation to them. So even if there are such inscriptions, they are not that-(John-Dean-told-the-truth) inscriptions, given Scheffler's account of these inscriptions, mentioned at the beginning of Section III.

I conclude, therefore, that Scheffler has offered no good reply to my claim that Case 1 and Case 2 provide circumstances in which (8) and (9) differ in truth value.

IV

In this chapter I have raised two important objections to Scheffler's theory of belief sentences. Scheffler's view is that belief sentences like (8) may be paraphrased by sentences like (9) and he contends that this shows that we can avoid commitment to propositions. I have argued that even if we can paraphrase (8) by (9), it would not follow

that we can avoid commitment to propositions. Furthermore, I have argued that (8) cannot be properly paraphrased by (9).

FOOTNOTES - CHAPTER V

1. Scheffler presents his theory in The Anatomy of Inquiry, Knopf, New York, 1963, Part I, Section 8. Earlier versions of the theory are formulated in his papers, "An Inscriptional Approach to Indirect Quotation" in Analysis 14, 1954, pp. 83-90, and "Inscriptionalism and Indirect Discourse" in Analysis 19, 1958, pp. 12-18.

2. See Scheffler, "An Inscriptional Approach to Indirect Quotation", p. 90, and The Anatomy of Inquiry, p. 74.

3. One reason for this doubt is that what follows 'believes that' is a declarative sentence, but what follows 'desires that' is not.

4. The objects of desire, in the objective sense of that term, are not always as concrete as Scheffler suggests, e.g., one can desire power.

5. Scheffler, The Anatomy of Inquiry, p. 100.

6. Ibid., pp. 101-102.

7. See ibid., p. 103.

8. A similar distinction was made earlier. Cf. Chapter IV, pp. 89-90.

9. Scheffler, The Anatomy of Inquiry, p. 104.

10. Herbert Heidelberger, "Propositions and Inscriptions", in Philosophical Studies XXII, 1971, pp. 78-82.

11. See ibid., pp. 78-79.

12. Ibid., p. 80.

13. Ibid., p. 81.

14. Scheffler says that it ranges over inscriptions, The Anatomy of Inquiry, p. 100. It is not clear why it does not range over everything, but we may assume that in general quantifiers have a range restricted to entities of the sort appropriate to their context.

15. Heidelberger, op. cit., p. 81.

16. Ibid., p. 81.

17. Scheffler, The Anatomy of Inquiry, p. 104.

18. Ibid., p. 104.

19. Ibid., p. 100.

20. See ibid., pp. 102-103.

21. Ibid., p. 102.

22. Ibid., p. 103.

23. Scheffler, "An Inscriptional Approach to Indirect Quotation", p. 84.

24. Ibid., p. 84.

25. Scheffler, The Anatomy of Inquiry, p. 103.

26. Ibid., p. 74.

27. Ibid., p. 74 and p. 100.

28. Nelson Goodman and W. V. O. Quine, "Steps Toward a Constructive Nominalism" in The Journal of Symbolic Logic XII, 1947, p. 106.

29. Scheffler, The Anatomy of Inquiry, p. 109, footnote 2.

30. Scheffler, "An Inscriptional Approach to Indirect Quotation", p. 84.

CHAPTER VI

DAVIDSON

Donald Davidson[1] has presented a non-propositional theory of indirect discourse that, he thinks, "opens a lead to the analysis of psychological sentences generally."[2] His idea is to treat the objects of the psychological verbs, 'said', 'believes', etc., as utterances. On his view the that-clause in these sentences is neither a name of the utterance believed nor a predicate true of it. Instead, 'that' functions as a demonstrative referring in each case to the utterance of the words immediately following it.

In this chapter I will present Davidson's theory of indirect discourse and discuss how it might be extended to cover belief sentences. I will argue that the theory cannot treat all belief sentences properly.

I think that Davidson's theory has many virtues, and some of them are best seen through an examination of a slightly more formal version of the theory than will be developed in the body of this chapter. In an appendix to the chapter I will describe the highlights of a more formal treatment of Davidson's theory and assess its adequacy.

A. Davidson's proposal. Davidson's goal is to provide truth conditions for sentences in indirect discourse, and ultimately for all sentences in natural language. In order to do this, he must show how the truth value of any sentence is a function of the extensions of the terms in it.

Davidson develops his theory of indirect discourse through a consideration of the sentence:

1. Galileo said that the earth moves.

He begins by rejecting the view that the that-clause in (1) names the sentence 'The earth moves'. He says that the problem with this view is that the sentence 'The earth moves' may occur in many different languages and have many different meanings.[3] Davidson does not explain why he thinks this is a problem, but perhaps his reasons are similar to those discussed in Chapter IV.

Davidson next considers the possibility that (1) means the same as:

2. Galileo spoke a sentence that meant in his language what 'The earth moves' means in English.

He rejects this view for two reasons. The first is that it fails the "translation test".[4] I am not at all sure that Davidson is right about this, but will not discuss the issue here. Objections similar to those raised against Carnap's theory in Chapter IV apply equally well to this theory.

Davidson's second reason for rejecting this theory is that it contains a reference to a language and

> languages (as Quine remarks in a similar context in Word and Object) are at least as badly individuated, and for much the same reasons, as propositions. Indeed, an obvious proposal linking them is this: languages are identical when identical sentences express identical propositions. We see, then, that quotational theories of indirect discourse, those we have discussed anyway, cannot claim an advantage over theories that frankly introduce intensional entities from the start.[5]

It is difficult to determine whether Davidson is right on this point and we need not decide here. What is important to realize is that Davidson does oppose reference to and quantification over languages.

Davidson next considers the view that the that-clause in (1) names the proposition that the earth moves. The problem with this view, he thinks, is shown by Quine's arguments concerning the indeterminacy of translation.[6]

Davidson's own proposal can best be brought out by examining the possibility that (1) means the same as:

3. Galileo uttered a sentence that meant in his mouth what 'The earth moves' means now in mine.

He thinks that (1) and (3) are similar but not identical in meaning. The difference between them is that "in uttering the words 'The earth moves' (in (3)) I do not, according to this

account, say anything remotely like what Galileo is claimed to have said; I do not, in fact, say anything."[7]

The point here is that in (3) I say that Galileo uttered a sentence that had the same meaning for him that a particular expression has now in my mouth. The expression in my mouth when I utter (3) that is supposed to mean the same as Galileo's is the expression 'The earth moves'. But that expression was not in my mouth when I uttered (3), for I did not use it but merely mentioned it.

Perhaps the point will be made clearer if we note that the expression 'The earth moves' names a sentence in (3), and it can therefore be replaced, salva veritate, by any other name of the same sentence. Thus, assuming that 'The earth moves' is Davidson's favorite sentence, (3) has the same truth value as:

4. Galileo uttered a sentence that meant in his mouth what Davidson's favorite sentence means now in mine.

Since (4) implies that Davidson's favorite sentence is in my mouth now, and that sentence is not in my mouth now, (4) is false. Similarly, then, (3) is also false.

One is tempted to suggest that we amend (3) slightly to overcome this problem. We might say that (1) means the same as:

5. Galileo uttered a sentence that meant in his mouth what 'The earth moves' would mean now in mine, if I were to utter it.

Or perhaps one would say:

6. Galileo uttered a sentence that meant in his mouth what 'The earth moves' means in the language I speak now.

Davidson does not discuss either of these possibilities, but I believe that he would reject both. As we have seen, he finds references to languages objectionable and so he would find (6) unsatisfactory.

(5), however, may be slightly better. However, I think the subjunctive conditional raises all sorts of difficulty. I could mean many different things by 'The earth moves' now, and in many cases there may be no telling what it would be.

Nevertheless, we frequently do know what someone would mean by a certain sentence, so perhaps we should not be too hasty in rejecting (5). There are, however, some cases in which it seems clear that (1) and (5) would differ in truth value. For example, suppose (1) is true and I utter it at time t. Suppose further that you and I have a code according to which 'The earth moves' means that I have just successfully bribed the mayor into giving us some lucrative contract for excavating the city. In that case, if I were to utter 'The earth moves' it would have this unusual meaning. We can safely assume that Galileo never said anything having that meaning, so (5) is false despite the truth of (1).

Neither (5) nor (6), then, seems to be an acceptable modification of (3), and we can turn now to what Davidson proposes.

> The idea that underlies our...paraphrase is that of samesaying: when I say that Galileo said that the earth moves, I represent Galileo and myself as samesayers...The form "(Ex)(Galileo's utterance x and my utterance y make us samesayers)" is thus a way of attributing any saying I please to Galileo provided I find a way of replacing 'y' by a word or phrase that refers to an appropriate utterance of mine. And surely there is a way I can do this: I need only produce the required utterance and replace 'y' by a reference to it. Here goes:
>
> The earth moves.
> (Ex)(Galileo's utterance x and my last utterance make us samesayers).
>
> Definitional abbreviation is all that is needed to bring this little skit down to:
>
> The earth moves.
> Galileo said that.
>
> Here the 'that' is a demonstrative singular term referring to an utterance (not a sentence).
>
> This form has a small drawback in that it leaves the hearer up in the air about the purpose served by saying "The earth moves" until the act has been performed. As if, say, I were first to tell a story and then add, "That's how it was once upon a time". There's some fun to be had this way, and in any case no amount of telling what the illocutionary force of our utterance is is going to insure that they have that force. But in the present case nothing stands in the way of reversing the order of things, thus:
>
> Galileo said that.
> The earth moves.
>
> Perhaps it is now safe to allow a tiny orthographic change, a change without semantic significance, but suggesting to the eye the relation of

> introducer and introduced: we may suppress the stop after 'that' and the consequent capitalization:
>
> Galileo said that the earth moves.
>
> ...The proposal then is this: sentences in indirect discourse, as it happens, wear their logical form on their sleeves (except for one small point). They consist of an expression referring to a speaker, the two-place predicate 'said', and a demonstrative referring to an utterance. Period. What follows gives the content of the subject's saying, but has no logical or semantic connection with the original attribution of a saying. This last point is no doubt the novel one, and upon it everything depends: from a semantic point of view the content sentence in indirect discourse is not contained in the sentence whose truth counts.[8]

B. Some objections to Davidson's proposal. Davidson's proposal is an unusual one, and his presentation of it has given rise to a number of objections. The objections rest, I believe, on misconceptions, but it may be useful to consider these objections with a view to clarifying the proposal.

Davidson claims that (1) is just an orthographic variant of:

7. Galileo said that.
   The earth moves.

which he says is equivalent to:

8. The earth moves.
   Galileo said that.

And (8), in his view, is a "definitional abbreviation" of:

9. The earth moves.
(Ex)(Galileo's utterance x and my last utterance make us samesayers).

William G. Lycan[9] has raised what appears to be an obvious objection to this proposal. It seems that Davidson has suggested that (1), (7), (8) and (9) are synonymous, or at least logically equivalent. But (8) implies:

10. (Ex)(x = my last utterance),

whereas (1) does not. Therefore, Lycan concludes, Davidson's analysis saddles (1) with a consequence it does not actually have.

Lycan is probably right in claiming that (9) and (1) are not logically equivalent, but Davidson should not have said that they are. I believe that his theory can be interpreted in a way that avoids the objection. He should say that (9) is equivalent to, but not logically equivalent to:

11. The earth moves.
(Ex)(Galileo's utterance x and that make us samesayers).

Sentence (9) tells us to what the demonstrative in (11) refers. Similarly, the sentences 'That is a chair' and 'The thing at which I am pointing is a chair' are equivalent, and the latter tells

us to what the demonstrative in the former refers.

Instead of saying that (8) is a definitional abbreviation of (9), Davidson should have said that it is a definitional abbreviation of (11). Since (11) does not imply (10), he need not hold that (8) implies (10). (Similarly, 'That is a chair' does not imply 'There is something at which I am pointing'.)

On this interpretation, since Davidson is not committed to the view that (8) implies (10), he is not committed to the view that either (7) or (1) implies (10). Thus, we can interpret Davidson's theory in such a way that it does not saddle (1) with a consequence that it does not actually have, and we thereby overcome Lycan's objection.

Another serious problem in understanding Davidson's proposal arises when we look more closely at (7), (8), and (11). It is not clear what we are to make of the two sentences in each of these and of the claim that (1) is somehow equivalent to these combinations of two sentences. Moreover, we have to make sense of Davidson's claim that the content sentence is not contained in the sentence whose truth "counts".

In order to attain a clearer understanding of the problem here, and its solution, let us consider an objection that might be raised to Davidson's theory. Let us grant to Davidson that (7), (8), and (11) are all logically equivalent. One might object that none of these is equivalent to (1). For (7), (8), and (11)

each implies:

12. The earth moves,

which (1) obviously does not imply.

Davidson surely would claim that (7), (8), and (11) do not imply (12) and that this objection fails. Before we can accept this claim, we need a clearer account of sentences (7), (8), and (11). Until we have a better understanding of them, we do not fully understand Davidson's proposal.

In a critical discussion of Davidson's theory, R. J. Haack[10] puzzles over similar matters. He attributes to Davidson the view that (7) does not imply (12) because in (7) the first sentence, 'Galileo said that', is "asserted" whereas the second sentence, 'The earth moves', is displayed.[11] (Similar explanations can be given for the failure of (8) and (11) to imply (12).) Haack regards this as a satisfactory rationale for the failure of the implication, but thinks it leads to a problem in the case of iterated said-that sentences. We will turn to this problem shortly.

Haack never explains exactly what he means by 'asserted' and 'displayed', so it is difficult to determine exactly why he thinks the fact that 'Galileo said that' is asserted in (7) while 'The earth moves' is displayed explains the failure of the inference from (7) to (12). However, his idea might be something like this: The truth value of (7) depends only upon the truth

value of 'The earth moves'. We may say, then, the former sentence is asserted in (7) and that the latter is displayed in (7). Since 'The earth moves' is only displayed in (7), its truth value does not affect the truth value of (7). Thus, (7) may be true despite the falsity of 'The earth moves'. Thus, (7) may be true and (12) false. Hence, (7) does not imply (12). Therefore, Davidson need not say that (7) or (9) or (11) has an implication that (1) does not have.

Haack believes that this explanation of the failure of (7) to imply (12) leads to difficulties when we consider iterated said-that sentences. He contends that a sentence such as:

13. Davidson said that Galileo said that the earth moves

will, on this theory, be broken up into:

14. Davidson said that.
    Galileo said that.
    The earth moves.

According to Haack, (14) is "clearly unacceptable" because the middle sentence, 'Galileo said that', is both asserted, relative to 'The earth moves', and displayed, relative to 'Davidson said that'.[12] Apparently he thinks that no sentence can be both asserted and displayed in the same sentence.

I believe that Haack's objection can be answered, but in order to state that answer clearly, Davidson's theory must be

stated more completely. There seem to be three assertions central to Davidson's proposal: first, sentences in indirect discourse are, in some sense, made up of two sentences; second, in any utterance of a sentence in indirect discourse the utterance of 'that' refers to the utterance of the sentence immediately following it; and third, the truth of the entire sentence depends entirely upon the truth of the first of the two subsentences and not at all upon the truth of the second.

I think that we can find a way to interpret our sample sentence, (1), that reflects these three points. First, we can rewrite (1) in a slightly more perspicuous way:

15. Galileo said that: the earth moves.

Syntactically, (15) should be viewed as a molecular sentence containing two subsentences connected by a colon, which here functions as a sentential connective. This captures the first of the three points listed above, namely that (1) is made up of two sentences. Written perspicuously, (1) is a molecular sentence made up of the sentences 'Galileo said that' and 'The earth moves'.

The second and third points will be reflected in the interpretation given to (15). We can interpret 'that' as a demonstrative and stipulate that in any utterance of (15) it refers to the utterance of 'The earth moves' contained in that

utterance of (15).

Finally, we may say that any utterance of (15) is true if and only if that utterance of 'Galileo said that' is true. This last point may provide an explanation of Haack's suggestion that in (15) the first sentence is asserted and the second displayed. The first sentence is asserted because the truth of (15) depends upon its truth. The second sentence is displayed because its truth is irrelevant to the truth of (15) even though it occurs in (15) and is not enclosed in quotation marks.

These points all require some elaboration, but we should already be able to explain why Haack's objection fails. An iterated said-that sentence such as (13) should now be written this way:[13]

16. Davidson said that: (Galileo said that: the earth moves).

The parentheses in (16) indicate that the first colon, which is a binary connective, connects 'Davidson said that' to the entire molecular sentence enclosed in the parentheses. That sentence in turn is composed of two subsentences connected by a colon.

In accord with the account of Davidson's theory just given, (16) is true if and only if 'Davidson said that', as it occurs in (16), is true. The truth of 'Galileo said that' does not affect the truth of (16). Thus, Haack is correct in saying that 'Galileo said that' is displayed in (16).

We can also provide some support for Haack's claim that 'Galileo said that' is asserted in (16). Although the truth value of 'Galileo said that' is not relevant to the truth value of (16), it is relevant to the truth value of the second of the two subsentences of (16), that is, it is relevant to the truth value of 'Galileo said that: the earth moves'. Since the truth value of this part of (16) does depend upon the truth value of 'Galileo said that', perhaps there is sense in which 'Galileo said that' is asserted in (16). Thus, we have some support for Haack's claim.

We now have a clearer understanding of why Haack believes that 'Galileo said that' is both asserted and displayed in (16). But we have no reason to think that there is anything improper or unacceptable about this. So far as I can tell, Haack has presented no argument to show that a sentence cannot be both asserted and displayed in the way 'Galileo said that' is in (16). So I conclude that there is no reason to accept Haack's objection.

C. A detailed account of Davidson's theory. I will turn now to a more detailed account of Davidson's theory. The central aim of the theory is to provide an account of the truth conditions of sentences such as (15). In stating truth conditions for (15) we encounter a problem due to the presence of the demonstrative. Since the demonstrative constantly shifts its reference, the

truth conditions for (15) are constantly changing. In dealing with this topic, Davidson writes:

> I assume that a theory of truth for a language containing demonstratives must strictly apply to utterances and not to sentences, or will treat truth as a relation between sentences, speakers, and times.[14]

In "Truth and Meaning"[15] Davidson also discusses truth definitions for languages containing demonstratives, and there he seems to favor the second of the two possibilities mentioned in the passage above. He gives the following example:

> (A) 'That book was stolen' is true as (potentially) spoken by p at t if and only if the book demonstrated by p at t is stolen prior to t.[16]

The significance of (A) should emerge from a discussion of a few examples. Suppose Jones utters 'That book was stolen' at time t and points to a book at that time. If the book demonstrated by Jones had been stolen, then (A) yields the result that the sentence is true as spoken by Jones at t. If the book had not been stolen, then the sentence is not true as spoken by Jones at t.

Davidson does not explain why he includes the word 'potentially' in the left side of (A), but there is good reason for him to do so. Suppose p demonstrates a stolen book at t, but does not say 'That book was stolen' at t. The fact that he

demonstrates a stolen book together with principle (A) implies that 'That book was stolen' is true as (potentially) spoken by p at t. Had 'potentially' been omitted from (A), then (A) and our assumptions would have implied that 'That book was stolen' is true as spoken by p at t. But this implies that 'That book was stolen' was spoken by p at t, and this conflicts with our assumption. Hence, (A), without 'potentially' inserted, would have had some false consequences.

The above considerations may lead one to think that what (A) actually provides are the conditions under which 'That book was stolen' would be true if it were spoken by p at t. But this is not the case. We can imagine circumstances in which p does not say 'That book was stolen' and does not demonstrate any book. But, we may assume, if he were to say 'That book was stolen' he would also demonstrate a book which was in fact stolen. So, in these circumstances 'That book was stolen' would be true if it were spoken by p at t. However, since p did not demonstrate a stolen book at t, the right hand side of (A) is false, so (A) yields the result that 'That book was stolen' is not true as (potentially) spoken by p at t. Thus, (A) does not provide the conditions under which 'That book was stolen' would be true if it were spoken by p at t.

The above examples show that if we accept (A) we should not take "'That book was stolen' is true as (potentially) spoken by

p at t" to mean either "'That book was stolen' is true as spoken by p at t" or "'That book was stolen' would be (or would have been) true if it were spoken by p at t". Moreover, I can find no ordinary English equivalent to the expression "'That book was stolen' is true as (potentially) spoken by p at t" as it is explicated in (A).

Since it is not clear exactly what is being explicated by (A), it is difficult to assess its adequacy. The most charitable way to evaluate it, and the method I will follow here, is to see if there are any possible circumstances in which 'That book was stolen' is spoken by a person at a time and (A) yields an intuitively incorrect truth value for the sentence as spoken by that person at that time. If there are any such cases, then (A) must be rejected. If there are none, then (A) may be accepted.

One problem with (A) is that it fails to make any reference to a language. Suppose p utters 'That book was stolen' at t, but is speaking a language in which every sentence has the same meaning as its negation has in English. Call this language 'Negenglish'. It would seem that if p demonstrates a stolen book at t, and utters 'That book was stolen' as a sentence of Negenglish, then that sentence is false as spoken by him at that time. Principle (A), however, implies that it is true as spoken by him at the time, since its right side is satisfied.

There are several ways to overcome this problem. We could

amend (A) as follows:

(B) 'That book was stolen is true as potentially spoken in English by p at t if and only if the book demonstrated by p at t is stolen prior to t.

Alternatively, we might say that "'That book is stolen' is true in English as potentially spoken by p at t iff...", but this would have the consequence that the sentence could be true in English for a person and time such that the person who uttered it at that time was speaking a different language. This seems to me to be an odd result, and since the formulation as in (B) avoids it, I find (B) slightly preferable. There is, however, no significant difference between the two formulations, and either may be used.

There is one important objection to adopting (B) as a modification of Davidson's proposal. As we saw earlier, Davidson believes that languages are as poorly individuated as propositions, and therefore is opposed to including any references to languages in his theory. So he would find the reference to English in (B) objectionable. Despite his aversion to references to languages, Davidson seems prepared to make use of predicates such as 'true-in-English', 'true-in-French', etc.[17] For some reason, all these truth predicates are acceptable even though references to languages are not. Thus, a principle more in keeping with Davidson's position than (B) would be:

(C) 'That book was stolen' is true-in-English as potentially spoken by p at t if and only if the book demonstrated by p at t is stolen prior to t.

I must admit that I do not understand why these truth predicates are acceptable if references to languages are not and believe that this is a problem in Davidson's overall position. Nevertheless, I will overlook this point here.

I assume that Davidson intended to define truth as a relation between sentences, speakers, and times, for all sentences, and not just for those with demonstratives. This relativization of the truth predicate will be vacuous in many cases, in that many sentences will have the same truth value relative to all speakers and times. Indeed, if we ignore complications caused by tense, and assume a tenseless language, the only sentences that will vary in truth value will be those containing demonstratives or ambiguous expressions.

We can turn now to the truth conditions for sentences in indirect discourse. It should be recalled that these sentences are treated as molecular sentences, that the word 'that' is to be treated as a demonstrative, and that the truth value of the whole sentence depends entirely upon the truth value of its first component. A first approximation of their truth conditions might be:

(D) 'Galileo said that: the earth moves' is true-in-English as potentially spoken by p at t if and only if Galileo said the utterance demonstrated by p at t.

It may seem that there is an obvious objection to (D). The utterance demonstrated by p at t, when he says 'Galileo said that: the earth moves', is an utterance of his own, not one of Galileo's. Surely Galileo did not say the demonstrated utterance. If anyone did, it was p.

This objection is mistaken and turns upon a failure to properly understand how Davidson uses the word 'said'. As Davidson uses it, this predicate is to be understood in terms of his primitive, 'samesaying'. To say an utterance is to produce a samesaying with it. Thus, (D) can be rephrased as:

(E) 'Galileo said that: the earth moves' is true-in-English as potentially spoken by p at t if and only if Galileo produced an utterance that is a samesaying with the utterance demonstrated by p at t.

'Samesaying' is, I believe, an obscure primitive, and it is at least as obscure as the notion of synonymy. For some reason Davidson finds 'synonymy' objectionable, but not 'samesaying'. I can see little reason to prefer one to the other.

It is difficult to decide which predicates are acceptable as primitives and which are not, but one criterion might be the extent to which we have a preanalytic understanding of the

predicate and how well this understanding can be supplemented by informal descriptions of its meaning. The better this understanding, the more acceptable the predicate is as a primitive.

In the case of 'samesaying' we may be able to give an informal description of its meaning by saying that two utterances are samesayings when the propositions expressed in the utterances are the same. However, such an appeal seems illegitimate for Davidson, since he proposes to do without propositions. So any account of his primitive must proceed along different lines.

There are, then, reasons to have misgivings about the primitive Davidson appeals to, but I suggest that we overlook them for now, and allow its use in providing truth conditions for indirect discourse.

There is one simplification that can be made in (E). We can always tell, in any utterance of (15), what utterance the speaker is demonstrating. It is always his own utterance of 'the earth moves' at that time. We can make use of this fact and replace (E) by:

(F) 'Galileo said that: the earth moves' is true-in-English as potentially spoken by p at t if and only if some utterance of Galileo's is a samesaying with p's utterance of 'the earth moves' at t.

It is not difficult to extrapolate them from (E) and state truth conditions for any sentence in indirect discourse:

(G) For any constant α and sentence ϕ, $\ulcorner\alpha$ said that: $\phi\urcorner$ is true-in-English as potentially spoken by p at t if and only if some utterance produced by the referent of α is a samesaying with p's utterance of ϕ at t.

If (G) does state proper truth conditions for English sentences in indirect discourse, then it has many advantages over other possible accounts of the truth conditions of these sentences. The primary advantage, and the one with which we are most concerned here, is that (G) does not require propositions to be in the domain of the interpretation. It does, of course, require that there be sentences, but this requirement seems acceptable to Davidson, and is often found less objectionable than the requirement that there be propositions.

In the next section I will discuss how this theory might be extended to belief sentences.

II

Davidson suggests that his theory of indirect discourse "opens a lead to the analysis of psychological sentences generally."[18] If this is true, then we should be able to provide truth conditions for belief sentences that are somewhat similar to those provided for indirect discourse.

In addition to Davidson's claim that his proposal opens a

lead to accounts to other psychological sentences, there are a number of other reasons to think that any adequate account of the truth conditions of indirect discourse should allow for belief sentences to be treated similarly. For one thing, there is a great similarity between the grammatical structure of belief sentences and sentences in indirect discourse, the most prominent difference between them being that one contains 'believes' where the other contains 'said'. So there is at least a prima facie reason to suppose they have similar logical forms as well.

Moreover, the objects of belief seem to be the same as the objects of saying. That is, whatever kind of thing it is that we say also seems to be the kind of thing we believe. Thus, we can express a truth by saying "I believe what you said". So we ought to be able to interpret belief sentences as relations between people and utterances, just as we did sentences in indirect discourse.

Let us take as a sample belief sentence:

17. Galileo believed that the earth moves.

If (17) is to be interpreted in a manner similar to (15) (and (1)) then we should first rewrite it as:

18. Galileo believed that: the earth moves.

Sentence (18), like (15), is a molecular sentence containing

two sentences, connected by the connective ':'. 'That' is a demonstrative referring in any utterance of (18) to that utterance of 'the earth moves'. Sentence (18) will be true, any time it is uttered, if that utterance of 'Galileo believed that' is true.

As truth conditions for (18) we might offer the following:

(H) 'Galileo believed that: the earth moves' is true-in-English as potentially spoken by p at t if and only if Galileo believed p's utterance of 'the earth moves' at t.

(H) has the following peculiar consequences. It implies that (18) is true as spoken by me now if and only if Galileo believed an utterance made by me now. Even if utterances are what we believe, it seems odd to suppose that Galileo believed one of my utterances. If he believed any utterance, it seems more reasonable to suppose that he believed one of his own, or at least one that he had heard.

A similar point was made about Davidson's account of 'said'. According to principle (D), discussed earlier, (15) is true as spoken by me now if and only if Galileo said some utterance of mine. But if Galileo said any utterance, it would seem to be one of his own, and not one of mine.

This oddity of Davidson's theory was explained by the introduction of 'samesaying' into the metalanguage. Galileo said one of my utterances if and only if he produced a samesaying

with it. Given this understanding of 'said', it is reasonable to say that Galileo said one of my utterances. Of course, this requires us to understand the notion of samesaying, but that we have agreed to accept.

In the case of 'believes', however, we cannot make a similar claim. That is, we cannot explain the oddity of saying that Galileo believed my utterance by going on to say that what this means is that he produced some samesaying with my utterance. It is clear that (17), for example, could be true even if Galileo never produced any utterance at all.

Moreover, we cannot even explain this unusual interpretation of 'believes' in terms of tendencies to produce samesayings with my utterance. The following Carnapian type proposal is open to objections of the kind discussed in Chapter I:

> (I) 'Galileo believed that: the earth moves' is true-in-English as potentially spoken by p at t if and only if Galileo was disposed to produce some utterance that would be a samesaying with p's utterance of 'the earth moves' at t.

(I) resembles the Carnapian analysis discussed previously, and it is open to the same objections that made repairing Carnap's proposal seem to be a hopeless endeavor. In particular, liars do not say what they believe, so (I) seems not to provide the truth conditions for belief sentences.

It seems, then, that we must leave 'believes' primitive in

the metalanguage, instead of explaining it in terms of 'samesaying'. This makes the treatment of 'believes' rather different from that of 'said', and it seems fair to say this is not a desirable result. It is by no means clear what the relation is that holds between Galileo and some utterance of mine now, if (18) is true as spoken by me now. So if (18) is to be analyzed in terms of such a relation, it is desirable that some further analysis of that relation be given.

However, it is not clear that there is any fatal objection that can be made along these lines. Indeed, Davidson would be unmoved by the problem. He distinguishes two tasks: uncovering the logical form of sentences and giving their truth conditions; and analyzing the predicates of a language.[19] He might say that in (18) we display perspicuously the logical form of (17) and in (H) we give its truth conditions. He would readily admit that we do not as yet have an analysis of 'believes', but that he would regard as another matter that need not concern him.

It seems, then, that (H) is the best we can do as a Davidsonian account of the truth conditions for one belief sentence. A general account of the truth conditions for all belief sentences can be given by:

(J) For any name α and sentence ϕ, $\ulcorner\alpha$ believes that: $\phi\urcorner$ is true in English as potentially spoken by p at t if and only if the referent of α believes p's utterance of ϕ at t.

Although the samesaying relation does not appear in this account of the truth conditions of belief sentences, it does play an important part in their semantics. For it should be a rule of the system that if a person believes some utterance, then he believes every samesaying of that utterance.

This completes my explanation of Davidson's theory. In the remainder of this chapter I will discuss some of its advantages and disadvantages.

III

In Chapter IV we saw that Scheffler's inscriptional theory ran into a difficulty over the existence of the entities it selected as the objects of belief. Specifically, the problem was that a sentence such as (17), 'Galileo believed that the earth moves', could be true relative to situations in which there were no inscriptions of 'The earth moves'. Since Scheffler's theory required that there be such an inscription for (17) to be true, his theory was not quite right.

Since Davidson takes utterances to be the objects of belief, it might be thought that his theory faces a similar problem. However, his theory overcomes this problem by relativizing the truth of sentences to speakers and times. It

remains true that Galileo could believe that the earth moves even if there are no utterances of 'The earth moves'. But the theory does not conflict with this fact. All that his theory implies is that (17) (or, more properly, (18)) can only be true relative to a speaker and time if there is an utterance of 'The earth moves'. Thus, if I am silent now, (17) is not true as potentially spoken by me now. But it is not clear that there is anything wrong with this.[20] For if I do utter (17) now, then it will come out true as spoken by me now. It seems reasonable to be concerned only with the truth value of sentences relative to speakers and times such that the speaker does utter the sentence at the time. And so far we have seen no reason to think that Davidson's theory yields the wrong result for any such sentences.

Davidson's theory has another marked advantage over the theories discussed earlier. We saw that the existence of ambiguous sentences in a language posed serious problems for Scheffler's theory and for other sentential theories. Davidson's theory, however, seems to deal with this problem satisfactorily.

Consider the ambiguous sentence:

19. Jones said that the bank will collapse.

Since there are at least two different meanings of 'The bank will collapse', (19) is ambiguous. It might mean that Jones said that the financial institution will collapse, and it might mean that

he said that the river side will collapse. In one of these senses it might be true even though it is false in the other.

Presumably, however, when someone utters (19) he has one of these senses in mind. Thus, in uttering (19) he utters 'The bank will collapse' and has some specific meaning in mind for this utterance. (19) will be true relative to this speaker and time if and only if Jones has produced a samesaying with the speaker's utterance of 'The bank will collapse' at the time. Since Jones will have produced such a samesaying if and only if he said something that meant in his mouth what 'The bank will collapse' meant in the speaker's mouth at the time, we seem to get exactly the right results. If I utter (19) now and mean by 'The bank will collapse' that the financial institution will collapse, then (19) comes out true as spoken by me now if and only if Jones said something that had the same meaning. If, on the other hand, when I utter (19) now I mean by 'The bank will collapse' that the river side will cave in, then (19) comes out true as spoken by me now if and only if Jones said something that had this meaning. This seems to be exactly right.

Thus, Davidson's theory seems clearly superior to the theories discussed previously. There are, however, a few respects in which it may be deficient. In the next section I will discuss two of them.

IV

In this section I will discuss two objections to Davidson's theory. The first is that an apparently valid inference seems invalid on the theory. The second is that when we turn to certain other sentences containing 'believes', the natural extension of Davidson's theory seems to provide them with incorrect truth conditions.

The first objection is a variation on a point made by Bruce Aune.[21] The following inference is valid in English:

Argument I

17. Galileo believed that the earth moves
20. Newton believed that the earth moves
21. Galileo and Newton believed the same thing

When we give Davidson's interpretations of the sentences in this argument, however, it seems to be invalid. Roughly, the reason for this is that 'that' in (17) has a different referent than 'that' in (20), and so (21) seems not to follow.

Aune's argument raises a number of interesting problems. First of all, it is not exactly clear how we should even go about evaluating inferences, now that truth is relativized to speakers and times. Ordinarily, we would say that the inference from (17) and (20) to (21) is valid if and only if (21) is true under every interpretation (17) and (20) are. That is, we would say that Argument I is valid if, given an assignment to all the

constants and predicates in (17), (20, and (21), if the premises are true, then so is the conclusion. But now that the premises may vary in truth value from one speaker and time to another, even under the same assignments to the constants and the predicates, it seems clear that another approach is required.

One possibility is to say that the inference is valid if and only if for any interpretation and any speaker and time, if the premises are true under that interpretation relative to that speaker and time, then so is the conclusion.

Let us examine the consequences of adopting this possibility. Consider any arbitrary speaker and time, p and t. What we want to know is whether, if (17) and (20) are true relative to p and t, then (21) is true as well. In other words, we want to know whether the following argument is valid:

Argument I'

17'. Galileo believed p's utterance of 'The earth moves' at t
20'. Newton believed p's utterance of 'The earth moves' at t
21'. Newton and Galileo believed the same utterance

This argument does appear to be valid. Perhaps, then, Aune was mistaken in thinking that Argument I came out invalid on Davidson's theory.

There is, however, an interesting feature of Argument I'. By evaluating all the premises and the conclusion of Argument I relative to the same speaker and time, as we did in Argument I',

in effect we make both occurrences of 'that' have the same referent. Both seem to refer to p's utterance of 'The earth moves' at t. Actually, however, if p were to utter the premises and conclusion of the argument, 'that' would refer to two different utterances. That is why Aune thought the argument would not be treated properly by the theory.

This suggests that it would be more in keeping with Davidson's proposal to evaluate the validity of the argument by seeing if it follows from the fact that (17) is true as spoken by p at t and (20) is true as spoken by p immediately thereafter, say at t + 1, then (21) is true as spoken by p at t + 2. On this approach the argument is valid if and only if the following argument is valid in the metalanguage:

Argument I"

17". Galileo believed p's utterance of 'The earth moves' at t
20". Newton believed p's utterance of 'The earth moves' at t + 1
21". Newton and Galileo believed the same utterance

Argument I" seems to be invalid. Since the utterance Galileo is said to believe in (17") is diverse from the utterance Newton is said to believe in (20"), (21") does not follow. Even if we invoke the principle mentioned earlier, that if a person believes an utterance he believes every samesaying with that utterance, the inference remains invalid. In order to make it valid, we would need the additional premise:

22. p's utterance of 'The earth moves' at t is a samesaying of p's utterance of 'The earth moves' at t + 1

(22), it would appear, is contingent. Hence, Argument I" remains invalid unless the additional contingent premise, (22), is supplied.

Thus, there seem to be two ways to evaluate inference I in Davidson's theory. One way is to evaluate the premises and the conclusion relative to the same speaker and time, as in I'. The argument does come out valid this way, but we seem to change an essential feature of Davidson's theory, namely, that 'that', in any utterance of (17), should have a different referent from 'that' in any utterance of (20).

If, on the other hand, we evaluate Argument I by seeing if (21) must be true as spoken by a person at a time if (17) and (20) are true as spoken in sequence immediately previously, then we get Argument I", which is invalid.

This does seem to present a serious problem for Davidson's theory, although the problem presumes a treatment of inferences and validity about which I am only speculating. Perhaps some other way can be developed that will have better results.

A second objection to Davidson's theory is somewhat similar to an objection raised against Scheffler's theory in Chapter V. We saw that Scheffler's inscriptional theory failed to provide the proper truth conditions for belief sentences, since a person

can have a belief without there being an inscription expressing the content of that belief. Although this exact problem does not affect Davidson's theory, a similar one does.

Consider the sentence:

23. Galileo believed something.

The truth conditions for (23) are given by the following principle:

(K) 'Galileo believed something' is true-in-English as potentially spoken by p at t if and only if there is some utterance such that Galileo believed it.

It seems clear that (K) does provide the natural Davidsonian truth conditions for (23). I think, however, that (K) is incorrect.

Suppose, for example, that Galileo's only belief is that the earth moves. In that case, if I were to utter (23), then it should be true-in-English as spoken by me now. In fact, since (23) contains no demonstratives, it should be true relative to me and now, whether I speak it or not. However, it is possible that Galileo's only belief never has and never will be verbalized, and that there is no utterance such that Galileo believed it. So (K) would imply that (23) is false in these circumstances, despite the fact that it would actually be true.

Davidson's theory, then, is subject to an objection very much like the one to which Scheffler's theory was subject. In this case, however, the problem arises for sentences

like (23) and not for typical belief sentences.

There are many important ramifications of this objection. If it is correct, then the theory will provide improper truth conditions for other sentences in which we refer to the objects of someone's belief without expressing the content of that belief. For example, sentences such as:

24. Galileo believed something true,

and

25. Galileo and Newton believed the same thing,

will not be treated properly, for reasons similar to those for which (23) is not treated properly.

I can see only two possible responses to this objection, but neither of them seems very plausible. One is to allow the objects of belief, and the relata of the samesaying relation, to be possible as well as actual utterances. Thus, we might say that there is some possible utterance that Galileo believed, in the situation described above, even though there were no actual utterances he believed.

This suggestion poses a number of problems. Admitting possible objects into the ontology seems every bit as troubling as admitting propositions in the first place. At any rate, it seems fairly clear that Davidson would not encourage this

procedure.

Furthermore, there seem to be no grounds for deciding which possible utterances are samesayings. In the case of actual utterances, we can appeal to the intentions of the utterer to help determine which utterances are samesayings. But in the case of possible utterances, no such appeal is possible, and thus the notion of a samesaying becomes even more obscure than it had been.

The other possible response to the problem is to posit the existence of mental utterances as well as physical utterances. Thus, we would say that in the case of (23) in the situation described above, what Galileo believed was a mental utterance.

It is difficult to evaluate this proposal until it is developed into a more complete theory. For one thing, the concept of a mental utterance is unclear. Granting that there are such things, it is not clear that it is sentences, and not propositions, that we utter mentally.

Moreover, it is not clear that there even must be a mental utterance accompanying every belief. That is, it is not clear that if Galileo believed that the earth moves, it follows that at some time he uttered mentally 'The earth moves' (or some sentence synonymous with it). It seems possible, at least, that some beliefs are never entertained. In that case, the original objection would still hold: (K) yields the wrong truth conditions

for (23), even if mental utterances are admitted.

Unless one of these alternatives can be made to work out properly, it appears that Davidson's theory, despite its many advantages, is open to this one serious objection.

APPENDIX

In this Appendix I will formulate and discuss the highlights of a more formal version of the theory discussed in the body of this chapter. I believe that the theory about to be described is a reasonably accurate formulation of Davidson's theory.

The idea here will be to construct a language, D, as much like the lower predicate calculus (LPC) as possible, but containing indirect discourse and belief sentences. These sentences will be interpreted in the manner proposed by Davidson. It is clear that a number of important changes must be made in LPC in order to accommodate sentences interpreted in this manner.

Two of the most important changes are: (i) the additions to the vocabulary of some demonstratives and a colon as a connective; (ii) the relativization of truth to speakers and times.

The syntax of D. The syntax of D must differ from that of LPC in a few ways. In addition to the connectives, logical signs, constants, predicates, and variables of LPC, we need in D some demonstratives and the additional connective, ':'. The vocabulary of D, then, is as follows:

(1) Connectives: ~, ^, v, >, ≡, :
(2) Logical Signs: (,), ,E,

(3) Variables: $x, x_1, x_2 \ldots$
(4) Individual Constants: $a, b, c, e, \ldots z, a_1, b_1, \ldots$
(5) Demonstratives: $d, d_1, d_2, \ldots$
(6) n-place Predicates: $P, Q, \ldots$

It will be useful to isolate a class of two-place predicates that we may call the "propositional predicates". These will be used to express 'believes' and 'said'. 'B' and 'S' will be the predicates used for these purposes. Additional propositional predicates, expressing 'desires', 'knows', etc., could easily be added.

We can turn now to the rules for forming the well-formed formulas (wffs) of D. The idea here will be to include every wff of LPC as a wff D, but add wffs to express belief sentences and indirect discourse. The definition of wff in D, then, will be exactly like that of wff in LPC, with the addition of a clause for belief sentences and indirect discourse, and a minor change in the rule for forming quantified wffs. The following recursive definition should suffice:

(1) If $\alpha_1, \alpha_2, \ldots, \alpha_n$ are constants of D, and P is an n-place predicate of D, then $\ulcorner P(\alpha_1 \ldots \alpha_n) \urcorner$ is an atomic wff of D
(2) If α is a constant and d is a demonstrative and P is a propositional predicate and ϕ is a wff, then $\ulcorner P(\alpha,d):(\phi) \urcorner$ is a wff of D. (The context inside the parentheses immediately following a colon will be called "the scope of the colon".)

(3) If ϕ and ψ are wffs, then $\ulcorner\sim\phi\urcorner$, $\ulcorner\phi\wedge\psi\urcorner$, $\ulcorner\phi\vee\psi\urcorner$, $\ulcorner\phi\supset\psi\urcorner$ and $\ulcorner\phi\equiv\psi\urcorner$ are wffs.

(4) If ϕ is a wff and α is a constant not occurring in the scope of a colon in ϕ and x is a variable not in ϕ, then $\ulcorner(\ )\phi(x/\alpha)\urcorner$ and $\ulcorner(\exists x)(\phi(x/\alpha))\urcorner$ are wffs.

This definition requires a few comments: (i) Formulas such as 'Fd' are not wffs in D. They do not satisfy clause (1), because 'd' is not a constant. Clearly, no other clause licenses their formulation either. A consequence of this is that things such as 'That is ugly' cannot be expressed in D. It is possible to alter the language to allow such things to be expressed, but that would only add some complications that are not relevant to our purpose.

Demonstratives may occur only as the second term of a propositional predicate in D, and must always be followed by a colon. These restrictions simplify the language considerably.

(ii) Clause (4) allows all normal quantified wffs to be formed, but prevents formulas like '(Ex)(S(g,d):(Fx))' from being well-formed. The reason this restriction is desirable is that such formulas represent an illegitimate kind of quantifying in, and are best banned from the language.

Later on I will briefly discuss the possibility of allowing similar formulas to the above to be well-formed, in order to express de re beliefs. In the initial version of the language, however, they are not wffs.

(iii) This does not prevent quantification over the objects of the propositional predicates. We want to be able to say things like 'Galileo believes something' in D, and the formula used to say it is '(Ex)B(g,x)'. This is a wff since 'B(g,a)' is an atomic wff, and clause (4) allows the formulation of the desired quantified wff.

(iv) We also can express things like 'Everyone believes that a is F'. The formula '(x)B(x,d):(Fa)' is a wff and will express this.

A complete account of the syntax of D would include a discussion of the axioms and rules of inference in the language. For the most part, these will be entirely standard, with the only differences coming in the existential generalization rule, which will only allow generalization upon constants not in the scope of a colon. I will not go into the details of these aspects of the syntax here.

The semantics of D. There are a number of ways in which the semantics for D may be developed, but here I will examine only one of the possibilities.

An interpretation function for D will be exactly like one for LPC. That is, it will be a function that assigns to each constant some object in the domain of D and to each n-place predicate a set of ordered n-tuples from the domain. No

assignment will be made by an interpretation function to the demonstratives.

We can turn now to the truth defintion for D. It is here that the most interesting features of the language are found. We saw in the main part of this chapter that it is best to define truth for languages with demonstratives as a relation between sentences, speakers, and times. That is how we will proceed in D.

We may call any ordered pair of a person and time an "index" and thus evluate sentences relative to indices. What the truth definition will do is provide ways to fill in the blanks in expressions of the form "ϕ is true in D under interpretation I at index $\langle p,t \rangle$ iff _____", or, more simply, "ϕ is true_I at $\langle p,t \rangle$ iff _____".

Sentences without demonstratives will have the same truth value at all indices, so the relativization to indices will be vacuous for such sentences. Although Davidson countenances the possibility of giving truth defintions for languages with ambiguous sentences, which might also vary in truth value from one index to another, D will not include such sentences.

The truth conditions for all sentences without demonstratives will be the same in D as they are in LPC. The interesting features of D arise in the truth conditions for sentences containing demonstratives. Consider the sentence:

1. B(g,d):(Me)

(1) is intended to represent the English 'Galileo believes that the earth moves'.

The truth conditions for (1) are supposed to be very much like the truth conditions for English belief sentences as discussed in the main part of this chapter. Thus, in any utterance of (1) 'd' is supposed to refer to that utterance of 'Me'. (1) is true, moreover, for any speaker and time, if and only if 'B(g,d)' is true for that speaker and time.

There is a convenient feature of D that can be explained at this point. When we evaluate (1) at an index, the index consists of a speaker and a time. At that index 'd' is supposed to refer to that speaker's utterance of 'Me' at that time. Consider any interpretation function, I. (1) is true under I at any index, $\langle p,t \rangle$, provided I(g), i.e., Galileo, believes p's utterance of 'Me' at t. In other words, (1) is true_I at $\langle p,t \rangle$ iff the ordered pair consisting of I(g) and p's utterance of 'Me' at t is in I(B).

We can, for now, identify p's utterance of 'Me' at t with the ordered triple $\langle p,t,\text{'Me'} \rangle$. More will be said on this identification later. Given this identification, I(B) should be a set of ordered pairs, each pair being a person and an utterance, i.e., an ordered triple.

The truth conditions for (1) can now be stated more precisely:

'B(g,d):(Me)' is true at $\langle p,t\rangle$ iff $\langle I(g),\langle p,t,\text{'Me'}\rangle\rangle \varepsilon I(B)$

It is not difficult to go on from here to specify truth conditions for any belief sentence:

For any wff ϕ, if ϕ is $\ulcorner B(\alpha_1\ d):(\psi)\urcorner$ then ϕ is true iff $\langle I(\alpha),\langle p,t,\text{'Me'}\rangle\rangle \varepsilon I(B)$

Truth conditions for sentences in indirect discourse would be similar.

A full statement of the truth definition for D follows. It makes use of the notion of a "nominal variant", which is defined this way:

I is a nominal variant of I' at α in D ($N(I,I',\alpha)$) iff
(i) I and I' are interpretation functions for D
(ii) α is a constant in D
(iii) I and I' make assignments into exactly the same domain
(iv) I and I' make exactly the same assignments except possibly at α

The truth definition is as follows:

(1) If $\ulcorner P(\alpha_1 \ldots \alpha_n)\urcorner$ is an atomic wff in D, then it is true_I at any index $\langle p,t\rangle$ iff $\langle I(\alpha_1),\ldots,I(\alpha_n)\rangle \varepsilon I(P)$
(2) If $\ulcorner P(\alpha,d):(\phi)\urcorner$ is a wff in D, then it is true_I at $\langle p,t\rangle$ iff $\langle I(\alpha),\langle p,t,\phi\rangle\rangle \varepsilon I(P)$
(3) If ϕ is $\ulcorner \sim\psi\urcorner$ then ϕ is true_I at $\langle p,t\rangle$ iff ψ is not true_I at $\langle p,t\rangle$
(4) If ϕ is $\ulcorner \psi \wedge \chi\urcorner$ then ϕ is true_I at $\langle p,t\rangle$ iff ψ is true_I at $\langle p,t\rangle$ and χ is true_I at $\langle p,t\rangle$

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(5) If ϕ is $\ulcorner(Ex)(\psi x/\alpha)\urcorner$ then ϕ is $true_I$ at $\langle p,t\rangle$ iff $(EI')(N(I,I',\alpha)$ and ψ is $true_I$ at $\langle p,t\rangle$

(6) If ϕ is $\ulcorner(x)(\psi x/\alpha)\urcorner$ then ϕ is $true_I$ at $\langle p,t\rangle$ iff $(I')(N(I,I',\alpha) \supset \psi$ is $true_I$ at $\langle p,t\rangle$

Finally, we can define validity in D this way:

The inference from ϕ to ψ is valid in D iff for every interpretation I and every index i, $\ulcorner\phi \supset \psi\urcorner$ is $true_I$ at i

The advantages of D. Since D is essentially a formalized version of the theory discussed inthe main part of this chapter, it has many of the same advantages as that theory.

First, its ontological commitments are minimal. Although it does require the existence of sentence types, it avoids propositions.

Second, it seems to properly render valid inferences such as the one from 'Galileo believes that the earth moves' to 'Galileo believes something'. This inference will be represented in D by the inference from (1) to

2. $(Ex)(B(g,x))$

To see if this inference is valid, we need merely see if, for any I and any index $\langle p,t\rangle$, if (1) is $true_I$ at $\langle p,t\rangle$ then (2) is as well. Suppose (1) is $true_I$ at $\langle p,t\rangle$. Then, given clause (2) of the truth definition, $\langle I(g), \langle p,t,\text{'Me'}\rangle\rangle$ is in $I(\beta)$. (2) is $true_I$ at $\langle p,t\rangle$ iff there is some nominal variant of I at, say,

'a' such that 'B(g,a)' is true under that variant at $\langle p,t \rangle$. Surely there is such a variant; any nominal variant of I at 'a' that assigns $\langle p,t,$'Me'$\rangle$ to 'a' will do. So the inference is valid.

As we saw in the main part of this chapter (section III), some of the problems found in earlier theories seem to be overcome by this theory. For example, no belief sentence such as (1) will come out false for a person and time, if the person utters it at that time, simply because there is no utterance of the appropriate type (cf. pp. 144-145).

Moreover, if D can be made to accommodate ambiguous sentences at all, no additional problems will be caused by belief sentences. Sentences of the form $\ulcorner B(\alpha,d):(\phi)\urcorner$ may be interpreted just as they have been, even if ϕ is ambiguous. (Cf. pp. 145-146.)

There are a number of other advantages to this theory that were not mentioned previously. We could add a truth predicate to the language, so that things such as 'It is true that the earth moves' may be expressed in the object language. We might express this this way:

3. Td:(Me)

We may also add a predicate for <u>de re</u> believing and one for <u>de re</u> saying. Thus, we could express the English:

4. Rodino believes of Nixon that he is guilty

This will be expressed in terms of a three-place predicate true of believers, objects and open sentences or predicates. A more perspicuous English rendition of (4) might be:

5. Rodino believes of Nixon that: he is guilty

In D this might be expressed by:

6. B'(r,n,d):(Gx)

These additions to D would require some changes in the syntax and semantics. For one thing, we would have to relax the ban on unbound variables in the scope of a colon. The truth predicate may bring in some semantic paradoxes, but I suspect that they can be dealt with in some standard way.

The disadvantages of D. Along with all these advantages, D does have a number of disadvantages. For one, it does appeal to some obscure primitives. As D has been presented here, 'S' and 'B; are both primitive predicates that express relations between individuals and utterances that may occur thousands of years after they have lived and in languages they do not understand. Some of the obscurity of 'S' can be removed by the introduction of samesaying into the language, but it is difficult to imagine how 'B' might be defined in terms of samesaying. Moreover, 'samesaying' itself is a fairly obscure primitive. (Cf. pp. 141-144.)

Another problem in D concerns inferences such as:

1. B(g,d):(Me)
7. B(n,d):(Me)
8. (Ex)(B(g,x)∧B(n,x)

This inference might be used to represent Argument I discussed earlier. (Cf. pp. 147-150.)

If we define validity the way we have, this inference will come out valid. But this has the effect of treating the two demonstratives as if they both referred to the same utterance. This seems to conflict with the basic intent of Davidson's theory.

If, on the other hand, we change the definition of validity so that the lines in the inference are evaluated at different indices, it is no longer clear that the inference is valid.

Finally, there is some problem in representing sentences like

9. Galileo believes something
2. (Ex)B(g,x)

The problem is similar to the one discussed earlier. (Cf. pp. 150-154.)

(2) will be true under an interpretation at any (and all) indices provided there is some object (namely, an utterance, or ordered triple) such that it is the second member of some element

of I(B) of which I(g) is the first member. But, as we saw earlier, there is no reason to think there must be such an utterance, even though what (2) is supposed to express is true.

It is clear, however, that there are many ordered triples, $\langle p,t,\phi \rangle$ such that p did not utter ϕ at t. This suggests that there may be something wrong with our identification of utterances with these order triples - the triples exist even when the corresponding utterance does not.

We can distinguish triples in which the person did utter the sentence at the time from those in which he did not. We can call the former "actualized" ordered triples. No problem arises from the identification of actualized ordered triples with utterances.

I have assumed until now that the only ordered triples in elements of I(B) are actualized ordered triples. This is the source of the difficulty. If Galileo believes only that the earth moves, but no one has ever uttered 'The earth moves', or any synonymous sentence, then there will be no actualized ordered triple such that Galileo believed it. So (2) will be false when it should be true.

The only apparent way to get around this problem is to allow unactualized ordered triples into elements of I(B). Thus, we might say that $\langle I(g),\langle p,t,\text{'Me'}\rangle\rangle$ is in I(B) even though p did not utter 'Me' at t. That way, (2) might come out true after all.

The problem with this suggestion is that the meaning of unactualized ordered triples is indeterminate. There would seem to be no grounds upon which we could decide which unactualized ordered triples a person believes, and which he does not. Furthermore, when the samesaying relation is introduced into the language, there will be no grounds for making some unactualized ordered triples samesayings, and some not.

This objection is not as decisive as one might hope. What it amounts to, essentially, is that if we allow unactualized ordered triples to be the objects of saying and belief and the relata of the samesaying relation, these relations become unacceptably obscure. There seems to be no reason for thinking a person believes one unactualized ordered triple and not another.

FOOTNOTES - CHAPTER VI

1. Donald Davidson, "On Saying That", reprinted in Words and Objections, edited by Davidson and Jaakko Hintikka, D. Reidal Publishing Co., Dordrecht-Holland, 1969, pp. 158-174.

2. Ibid., p. 158.

3. Ibid., pp. 162-163.

4. Ibid., p. 163.

5. Ibid., p. 164.

6. Ibid., pp. 164-166.

7. Ibid., p. 169.

8. Ibid., pp. 168-171.

9. William G. Lycan, "Davidson on Saying That", Analysis, Vol. 33 No. 4, March 1973, pp. 138-139.

10. R. J. Haack, "On Davidson's Paratactic Theory of Oblique Contexts", Nous, Vol. V, No. 4, November 1971, pp. 351-361.

11. Ibid., p. 356.

12. Ibid., p. 356.

13. Haack himself suggests the use of colon as the connective for these sentences.

14. Davidson, op. cit., footnote 14.

15. Donald Davidson, "Truth and Meaning", in Philosophical Logic, edited by J. W. Davis, D. L. Hockney, and W. K. Wilson, D. Reidal Publishing Co., Dordrecht-Holland, 1969, pp. 1-20.

16. Ibid., pp. 16-17.

17. Ibid., p. 10.

18. Davidson, "On Saying That", p. 158.

19. "The Logical Form of Action Sentences", in The Logic of Decision and Action, edited by Nicholas Rescher, University of Pittsburgh Press, 1966, pp. 81-95.

20. See p. 145 for the criterion of adequacy for Davidson's proposal.

21. This point was made by Aune in a discussion of Davidson's theory.

PART III

NON-RELATIONAL THEORIES

According to all the alternatives to (PV) discussed in Parts I and II, a belief sentence expresses a relation between a believer and some other object. The differences between the various theories have been with regard to the nature of these other entities. In Part III I will turn to some significantly different alternatives to (PV). These are theories that construe belief sentences as non-relational and dispense with objects of belief altogether. I will refer to such theories as "non-relational theories of belief."

CHAPTER VII

QUINE AND PRIOR

One of the first philosophers to explicitly defend a non-relational theory of belief was W. V. O. Quine.[1] In this chapter I will discuss Quine's theory and raise two objections to it. One objection is that Quine gives only a syntactical theory of belief sentences, and no semantical account of them. But without a semantics he is not entitled to draw any conclusions about the ontological commitments of his theory. Thus, he is not justified in claiming to have provided a way to avoid commitment to propositions. The second objection is that by dispensing with the objects of belief Quine fails to deal adequately with a significant aspect of our discourse about belief. In connection with the second objection I will discuss the views of A. N. Prior, who defends a theory similar to Quine's.[2]

I

A. Quine's theory. In Word and Object, at the conclusion of a critical discussion of sentential and inscriptional theories of

belief, Quine writes:

> ...there is no need to recognize 'believes' and similar verbs as relative terms at all; no need to countenance their predicative use as in 'w believes x' (as against 'w believes that p'); no need, therefore, to see 'that p' as a term. Hence, a final alternative that I find as appealing as any is simply to dispense with the objects of the propositional attitudes....This means viewing 'Tom believes [Cicero denounced Catiline]' no longer as of the form 'Fab' with a = Tom and b = [Cicero denounced Catiline], but rather as of the form 'Fa' with a = Tom and complex 'F'. The verb 'believes' here ceases to be a term and becomes part of an operator 'believes that' or 'believes [...]', which, applied to a sentence, produces a composite absolute general term whereof the sentence is counted an immediate constituent.[3]

Quine's view has found several supporters. In addition to Prior, whose views we will discuss shortly, Arthur Danto defends a theory similar to Quine's.[4]

It is somewhat difficult to give a completely satisfactory account of Quine's theory without first discussing his methodology. Although a thorough discussion of that would lead to matters that cannot profitably be discussed here, I think that the following brief account of Quine's project is not misleading.

In Chapter 4 of Word and Object Quine points out several problems that arise in sentences of natural languages.[5] One problem is that a sentence may contain an ambiguous term, and therefore be semantically ambiguous.[6] For example, the sentence 'Our mothers bore us' may be about our births and it may be about

our interest in our mother's conversation. On any occasion the meaning of the sentence depends upon the meaning of 'bore' on that occasion.

Other problem sentences in natural language are syntactically ambiguous.[7] For example, 'Every boy dates some girl' may mean that there is some girl such that every boy dates that girl and it may mean that every boy is not dateless.

Quine observes that ambiguous sentences like these, and other problem sentences, can often be paraphrased into sentences lacking these troublesome features. For example, the syntactic ambiguity mentioned above can be avoided by using predicate logic quantifiers instead of English quantifiers. Thus, instead of saying 'Every boy dates some girl' one may use whichever suits one's pyrpose of '(Ex)[x is a girl and (y)(if y is a boy then y dates x)]' and '(x)[if x is a boy then (Ey)(y is a girl and x dates y)]'.

Quine calls the language which contains only these trouble-free sentences the "canonical language" and the sentences in it are said to be in canonical form.[8] Quine claims that translating our language into the canonical language serves two purposes. First, the canonical language is an aid "to understanding the referential work of language and clarifying our conceptual scheme."[9] I think that this means that we get a clearer idea what entities are referred to and thus what entities

exist, by focusing our attention on the canonical language rather than ordinary language.

Second, the canonical language allows for a simpler logical theory than ordinary language.[10] That is, the definition of a sentence, and the rules of inference for the canonical language may be formulated more easily than the definition of a sentence and the rules of inference for natural language.

Quine never states clearly what the criteria are for a successful paraphrase from ordinary language into the canonical language. He says that the canonical sentence need not be synonymous with its ordinary language counterpart because synonymy "is not a notion we can really make adequate sense of."[11] Instead, he says that a canonical sentence S' is a proper paraphrase of an ordinary sentence S on a particular occasion provided "the particular business that the speaker was on that occasion trying to get on with, with the help of S among other things, can be managed well enough to suit him by using S' instead of S."[12]

Since this is not a precise criterion for successful paraphrasing, Quine's discussion is not entirely satisfactory. We do not always know whether or not a proposed paraphrase is acceptable. Perhaps this point can be set aside here, and we can turn to Quine's account of belief sentences.

Quine's view is that reference to and quantification

over propositions can be avoided in the canonical language. It is important to note that he does not defend this view by paraphrasing belief sentences into other sentences that lack reference to propositions. Instead, belief sentences go into the canonical language in almost the same form they have in ordinary English. The only difference is that 'that' is eliminated and replaced by square brackets around the sentence following 'believes'. Thus, 'Jones believes that Darwin erred' becomes 'Jones believes [Darwin erred]'.

At one point Quine considers the view that '[Darwin erred]' is a propositional name,[13] but he rejects it in favor of an alternative proposal.[14] His alternative is to view 'believes [...]' as a predicate forming operator on sentences. Thus, it operates on the sentence 'Darwin erred' to form the predicate 'believes [Darwin erred]'.

Quine says his view is that belief sentences are "of the form 'Fa,.. with complex 'F'."[15] I take this to mean that we should view predicates like 'believes [Darwin erred]' as complex. Let us call such predicates "belief predicates". It is not clear what Quine's attribution of complexity to belief predicates amounts to.

One possibility is that Quine is just attributing some syntactic property to the predicates. Complex predicates might be contrasted with simple ones in this way: after enumerating

all the simple predicates of a language, one might specify ways to form additional predicates. Predicates formed on the basis of these rules would be complex predicates. For example, 'and' can serve to form a complex predicate out of two other predicates. The expression 'believes [...]' can also be considered a predicate forming operator but it forms complex predicates out of sentences, not out of other predicates. When Quine says that belief predicates are complex, he may wish to attribute syntactic complexity to them.

It is also possible that Quine's attribution of complexity to belief predicates is an attribution of some semantical property. Semantically simple expressions would be those whose interpretation is assigned directly by the interpretation function. A semantically complex expression would be one whose interpretation is determined by the interpretation of its parts. So when Quine says that belief predicates are complex, he might mean that they are semantically complex.

Whether Quine intended to say that belief predicates are syntactically complex and semantically simple or that they are both syntactically and semantically complex, I think some account of their semantics is required before he is entitled to draw any ontological conclusions from his theory. Two considerations support this contention. One is a general consideration about determining the ontology of a given theory, and the other

concerns non-relational theories of belief specifically.

The general consideration is that one can only tell what the ontological commitments of a theory are by interpreting it, i.e., by giving a semantical account of it. Suppose, for example, that someone were to defend an extremely simple theory, which consisted of the single theorem '(Ex)(Fx)'. We would not know what entities this theory is committed to until we understand at least the meaning of 'F'. If 'F' means 'is a cow', then his theory is committed to a cow. Similarly, we only know what entities Quine's theory of belief sentences is committed to when it is interpreted.

It may seem obvious that Quine's theory can be interpreted without commitment to propositions, but I will argue that that is far from obvious. Indeed, the only moderately plausible interpreted non-relational theory of belief has been proposed by Jaakko Hintikka [15] and it seems to be committed to entities every bit as objectionable as propositions, namely, possible worlds.[16] Some philosophers even identify propositions with sets of possible worlds, or functions from worlds to truth values. Thus, there is a specific fact about non-relational theories of belief that supports my contention that Quine's theory must be interpreted before any ontological conclusions about it can be drawn. It is that interpreted non-relational theories seem to have significant ontological commitments; indeed, as I shall

argue in Chapter 8, their commitments may be as great as relational theories.

In order to support my claim that it is not obvious that Quine's theory can be interpreted without bringing in any undesirable entities, I want to turn now to two simple ways in which his theory might be interpreted. Neither interpretation is acceptable, and this suggests that some more complex interpretation is needed, perhaps one requiring propositions, or possible worlds.

B. Two interpretations of Quine's theory. On the first interpretation of Quine's theory, belief predicates are semantically simple, despite being syntactically complex. That is, the interpretation function interprets them directly, and their interpretation does not depend upon the interpretation of their parts.

This view is similar in some respects to the naive propositional view, (NPV), discussed in Chapter I. The similarity is that where (NPV) posited an infinite number of semantically simple propositional names - one for each sentence - this theory posits an infinite number of semantically simple belief predicates - one for each sentence in the language.

The objections to this version of Quine's theory are

similar to those directed upon (NPV). General theoretical considerations suggest that an acceptable theory will not have an infinite number of semantically simple expressions. Moreover, it seems clear that the meanings of the parts of belief sentences do contribute to the meaning of the whole, contrary to the implications of this theory.[17]

It seems, then, that belief predicates must be semantically complex. Since they are formed by operating on sentences with the operator 'believes [...]', it is natural to suppose that the interpretation of a belief predicate will depend upon the interpretation of this operator and the interpretation of the sentence in it. One way to develop a theory along these lines is to have the interpretation function specify sets S and S' of believers such that the extension of any belief predicate ⌜believes ϕ⌝ is S if ϕ is true and is S' if ϕ is false. This is the second possible interpretation of Quine's theory.

The problem with this proposal is that it has the consequence that the members of S' would be unfortunate enough to believe every falsehood, and the members of S would believe every truth. Since most people seem to believe some, but not all, truths, and some, but not all, falsehoods, this theory is clearly unacceptable.

It is not easy to repair this defect without some radical changes in the theory. Since on the theory being considered,

sentences have no other semantic properties than truth and falsity, it is difficult to see how the interpretation of belief predicates can differ when the sentences in them have the same truth value. One move that suggests itself is to assign a proposition, as well as a truth value, to each sentence, and then let the interpretation of each belief predicate depend upon the proposition expressed by the sentence in it. Obviously, this move is not open to an anti-propositionalist like Quine.

The preceding discussion was intended to show that there is no obvious or clearcut semantical theory to supplement Quine's syntactical theory about belief sentences. The absence of a semantical theory renders the syntactical theory relatively unenlightening. We can only tell what entities Quine's theory requires when we interpret it. Since we have no interpretation, we have no idea whether or not it requires propositions.

It is surely true that there is more than one way to generate all belief sentences out of some syntactically basic parts. One way is to allow 'that' to form names out of sentences, and 'believes' to form sentences out of two names. Another method is the one Quine advocates. Which one of these methods is preferable depends largely upon which leads to a more attractive semantic theory.[18] If Quine's view does lead to a satisfactory theory, and that theory is ontologically more economical than (PV), then the Quinean view will be an attractive alternative to (PV).

But without a semantical theory, Quine's view has no ontological implications, and thus does not show that commitment to propositions is avoidable.

II

In this section I will examine an objection to non-relational theories that can be raised even in the absence of a semantical theory. The objection, if sound, shows that no matter how the semantics is developed, any non-relational theory will fail to deal properly with a significant part of our discourse about belief.

A. The no quantification objection. The objection may be put this way. In addition to belief sentences in which what is believed is expressed in the sentence, there are belief sentences in which what is believed is unspecified. Examples of such sentences are 'Jones believes something', 'Jones believes something Smith denies', and 'Jones believes everything Smith says'. These sentences, which appear to contain quantifications over objects of belief, are meaningful and possibly true. Moreover, there are valid inferences involving them. Any adequate theory of belief

should account for these quantified belief sentences, but in order to do so, 'believes' must be regarded as a two place predicate, and belief sentences must be relational. So the non-relational theory is false. Let us call this the "no quantification objection".

We can make the objection a bit more precise by looking again at Quine's canonical language. In that language we will not find a sentence like:

1. Jones believes something.

The reason that (1) is absent from the canonical language is that Quine eliminates English quantifiers like 'something' and replaces them by predicate logic quantifiers.

It may seem, then, that (1) can be replaced by:

2. (Ex)(Jones believes x).

But (2) is not in the canonical language either, since 'believes' is not a predicate and cannot properly be followed by a name or a variable.

In order to introduce the kind of quantification we want in (2), we must reinstate 'believes' as a two place predicate. But doing that requires abandoning the non-relational theory. Thus, the non-relational theory cannot properly deal with sentences like (1).

B. Three replies to the no quantification objection. I will consider three replies to the no quantification objection. The first reply is Quine's. He admits that quantified belief sentences cannot be formulated on his theory, but he suggests that his theory is satisfactory without them. The second reply I have devised myself. It is that quantified belief sentences can be admitted into a non-relational theory by recognizing predicates such as 'believes something'. The third reply is due to A. N. Prior. He suggests that quantified belief sentences can be admitted in a non-relational theory by interpeting quantifiers in a way different from the customary way.

(I) Quine is well aware of the no-quantification objection. In both Word and Object and Philosophy of Logic he points out that his canonical language bans quantification over objects of belief.[19] However, he does not seem to be terribly moved by the problem. In Word and Object his comment on it is that quantification over objects of belief is "expendable" because "such quantifications tend anyway to be pretty trivial in what they affirm, and useful only in heralding more tangible information."[20]

In saying that quantification over the objects of belief is expendable, Quine seems to be saying that his theory is satisfactory even if quantified belief sentences cannot be

formulated in it and inferences involving such sentences not represented in it. He is, as Israel Scheffler puts it, willing to "give up" these statements and inferences.[21]

In discussing Danto's version of Quine's non-relational theory, Heidelberger argues that one's willingness to give up these statements and inferences does not reduce the force of the objection. He writes, "Defenders of non-relational theories may advocate that we 'give up' such inferences and 'be indifferent' toward the corresponding conditionals, but if the inferences are valid and the conditionals true, the attitudes we take to them are insignificant."[22]

Furthermore, Quine seems to be wrong when he says that quantified belief sentences are "pretty trivial". The truth value of sentences like 'Everything the Pope believes (or says) is true' seems fairly important. And the inferences such as one from this sentence and 'The Pope believes that abortion is wrong' to 'It is true that abortion is wrong' are valid and significant.

Finally, Scheffler has argued, plausibly I think, that quantification over the objects of the propositional attitudes is indispensable in any adequate account of the role of reasons in human behavior.[23] It seems, then, that there are some good arguments for retaining quantification over the objects of belief.

(II) A possible second reply to the no quantification objection is that sentences like (1) need not be exluded from the canonical language. For it may be suggested that what (1) says is:

3. Jones is a believer.

(3) simply attributes a property to Jones, and can easily be admitted into the canonical language. (1) can also be admitted, with 'believes something' being counted as a primitive predicate, or else (1) may simply be excluded and paraphrased by its equivalent, (3).

This reply does not provide a solution to all the problems caused by the absence of quantification over the objects of belief. In addition to a way to express (1), we also need ways to say things like 'I believe everything John Dean says' and 'I doubt everything Nixon says'. In order to say these things, it seems that we will need additional predicates, i.e., 'believes everything John Dean says' and 'doubts everything Nixon says'. Since there are an infinite number of sentences like these that can be formed, we will have to suppose that the canonical language has an infinite supply of these predicates. But that seems to be an implausible supposition.

Moreover, there are logical relations between various belief sentences that will be lost if all these predicates are

regarded as primitive. For example, 'Nixon believes that detente is good' and 'I do not believe that detente is good imply 'I do not believe something Nixon does believe'. With all the belief predicates left primitive, the only way to validate this inference is to introduce a special rule licensing the inference. Since there are an infinite number of similar valid inferences, we would need an infinite supply of these rules. But this would seem to be as objectionable as having an infinite number of primitive expressions in the language. It is difficult to see how anyone could learn all the rules for these inferences. Yet people are able to recognize the validity of these inferences. So it does not seem as though there are an infinite number of rules but rather one general rule covering all the inferences of this kind. Thus, the second reply to the no quantification objection is inadequate.

(III) A third reply to the objection can be found in Prior's Objects of Thought. Prior advocates a version of the non-relational theory, but thinks it can be saved from the no quantification objection. Before discussing Prior's reply, it may help to examine some other aspects of his theory.

Prior's major thesis is that propositions are logical constructions. By this he means that "sentences that are ostensibly about propositions...are not really about propositions, but about something else."[24]

Prior finds ostensible reference to propositions in three kinds of sentences. The first is in ascriptions of truth and falsity to propositions, as in 'The proposition that the sun is hot is true'. He argues that this sentence just means 'The sun is hot', and the latter is about the sun, not about a proposition, so the former is also about the sun and not a proposition.[25]

Ordinary belief sentences, such as 'Jones believes that Darwin erred', make up the second class of sentences in which Prior finds ostensible reference to propositions. Prior's views on these sentences are similar to Quine's.[26] Like Quine, he fails to accompany his syntactical observations with any semantical theory, and therefore he is not justified in concluding that commitment to propositions by belief sentences is avoidable.[27]

The third context in which Prior thinks there is an apparent reference to propositions is the kind of context under discussion in this section, namely, quantifications over objects of belief. Prior's example of a sentence of this kind is:

4. I don't believe some of the things that Cohen believes.

Prior credits Ramsey with discovering the method for eliminating this apparent reference to propositons.[28] It is to move to a "more stylized language" than ordinary English, and

rewrite (4) as:

5. For some p, Cohen believes that p and I do not believe that p.

Prior argues that the quantifier in (5) does not range over propositions, and because of this contends that (4) can be paraphrased into a sentence containing no reference to or quantification over propositions. It is important to note, however, that this paraphrase differs from the earlier one (from 'The proposition that the sun is hot is ture' to 'The sun is hot') in that in the earlier case both sentences were part of ordinary English, whereas in this case we go from English, (4), to non-English (5).

Perhaps, if Prior can give us a reasonable account of the meaning of (5), and show that it means what (4) does, and that the quantifier in (5) need not range over propositions, then we will be in a position to accept his claim that the ostensible reference to propositions in (4) has been eliminated. What is needed, then, is a clear account of the meaning of (5), and some assurance that it means what (4) means.

Chapter 3 of Objects of Thought contains Prior's explanation and defense of his account of quantification. He begins with what he calls "name quantifiers'. These are quantifiers binding variables filling the place of a name. He writes:

> Consider, for instance, the sentence 'For some x, x is red-haired'. The colloquial equivalent of this is 'Something is red-haired'. I do not think that any formal definition of 'something' is either necessary or possible, but certain observations can usefully be made about the truth-conditions of statements of this sort. 'Something is red-haired' is clearly true if any specification of it is true, meaning by a 'specification' of it any statement in which the indefinite 'something' is replaced by a specific name of an object or person, such as 'Peter', or by a demonstrative 'this' accompanied by an appropriate pointing gesture.[29]

Prior seems to be giving a substitutional interpretation of the quantifier, as two reviews of his book suggest.[30] But a careful reading of the above passage, and the one following it, shows that he is not.[31] On a substitutional interpretation, one would say:

(A) 'For some x, x is red-haired' is true iff some specification of 'x is red-haired' is true.

Prior is careful to reject (A):

> I do not say that 'Something is red-haired' or 'For some x, x is red-haired' is true only if there is some true sentence which specifies it, since its truth may be due to the red-hairedness of some object for which our language has no name or which no one is in a position to point to while saying 'This is red-haired'.[32]

So Prior is prepared to accept only half the biconditional in (A). He agrees that the truth of some specification of an existentially quantified sentence is sufficient for its truth,

but does not think it is necessary.

Prior does go on to give necessary and sufficient conditions for the truth of the quantified sentence, but seems to think that these conditions are not very enlightening. He writes:

> If we want to bring an 'only if' into it the best we can do, ultimately, is to say that 'For some x, x is red-haired' is true if and only if there is some red-haired object or person, but this is only to say that it is true if and only if, for some x, x is red-haired.[33]

Thus, Prior is willing to assert:

(B) 'For some x, x is red-haired' is true if and only if for some x, x is red-haired.

While (B) is surely true, it in no way supports the claim that 'For some x, x is red-haired' is a more stylized way to say 'Something is red-haired'. In general, we have no reason to believe that Prior's stylized sentences are paraphrases of English quantified sentences. This fact will be of great importance when we turn to quantifiers binding variables which stand in place of a sentence, as in (5).

Prior says that a sentence such as (5)

> ...is clearly true if any specification of it is, a 'specification' of it being a sentence in which the prefix 'for some p' is dropped, and the remaining variable p replaced by an expression

> of the sort for which it stands, i.e., a sentence.[34]

Again, Prior has offered only a sufficient condition for the truth of the quantified sentence. Without a necessary condition, however, we simply do not know whether (5) really is a more stylized version of (4). Therefore, we do not know whether Prior has shown us a way to eliminate the ostensible reference to a proposition in (4). Thus, he has not shown that quantification over objects of belief can be retained in a non-relational theory, and he has not successfully replied to the no quantification objection.[35]

In one of the previously quoted passages Prior remarks that he does "not think any definition of 'something' is either necessary or possible". In light of this, it may seem inappropriate to criticize him, as I have done, for not defining 'something', i.e., for not giving necessary and sufficient conditions for the truth of sentences containing 'something'.

I think, however, that Prior's remark may be challenged. For surely a definition of 'something' is required if we are to determine the ontological implications of sentences containing it. Moreover, a definition is possible, namely, the standard objectual interpretation. The only problem with that definition is that it brings with it ontological commitments Prior finds objectionable. Therefore, since a definition of 'something' is

both necessary and possible, I think it is appropriate to criticize Prior's theory on the grounds that it does not provide one.

III

In this chapter I have discussed the non-relational theories of belief defended by Quine and Prior. I have argued that they do not show that (PV) has more ontological commitments than a theory of belief requires, because the theories, as propounded by Quine and Prior, are only syntactical theories about belief sentences, and we do not know their commitments until a semantics is provided. Thus, we do not know that non-relational theories can have fewer commitments than (PV). Moreover, the theories fail to properly account for quantified belief sentences, and thus are subject to the no quantification objection. In the next chapter I will turn to a more successful non-relational theory.

FOOTNOTES - CHAPTER VII

1. Quine defends this theory in Word and Object, The M.I.T. Press, Cambridge, Mass., 1960, section 44. He also discusses it in Philosophy of Logic, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1970, pp. 32-33 and pp. 78-79.

2. Prior defends this theory in Objects of Thought, edited by P. T. Geach and A. J. P. Kenny, Clarendon Press, Oxford, 1971, Chapters 1-4. An earlier version of the theory appeared in "Oration Obliqua", in Proceedings of the Aristotelian Society, Supplement 37, 1963, pp. 115-126.

3. Quine, Word and Object, pp. 215-216.

4. Arthur C. Danto, Analytical Philosophy of Knowledge, Cambridge University Press, Cambridge, 1968.

5. See Quine, Word and Object, Chapter 4.

6. See ibid., section 27.

7. Ibid., section 28.

8. Ibid., section 33.

9. Ibid., p. 158.

10. Ibid., pp. 158-159.

11. Ibid., pp. 159.

12. Ibid., p. 160.

13. Ibid., section 35.

14. Ibid., pp. 215-216.

15. Ibid., p. 216.

16. See Jaakko Hintikka, "Semantics for Propositional Attitudes", in Reference and Modality, edited by Leonard Linsky, Oxford University Press, London, 1971.

17. See Chapter I, pp. 7-9.

18. See Richard Montague, "English as a Formal Language", in Formal Philosophy: Selected Papers of Richard Montague, edited by Richard Thomason, Yale University Press, New Haven, 1974.

19. See Quine, Word and Object, p. 215, and Philosophy of Logic. p. 33.

20. Quine, Word and Object, p. 205.

21. Israel Scheffler, The Anatomy of Inquiry, Knopf, New York, 1963, p. 110.

22. Herbert Heidelberger, "Review of Arthur C. Danto, Analytical Philosophy of Knowledge", in Metaphilosophy, Vol. 2, No. 1, January, 1971, p. 64.

23. Scheffler, op. cit., pp. 88-110.

24. Prior, Objects of Thought, p. 12.

25. Ibid., p. 12. For a discussion of this argument see Leonard Linsky, "Review of A. N. Prior, Objects of Thought", in Metaphilosophy, 3, 1972, pp. 70-77. See esp. pp. 71-72. Linsky objects to this argument on two grounds. The first is that synonymy claims are too difficult to evaluate, and arguments relying on them are weak. However, he offers no reason to doubt Prior's synonymy claims. His second objection is that the argument can be turned around to show that 'The sun is hot' is about a proposition. I think the only answer to this is a complete theory showing we need never refer to propositions. In the light of such a theory, Prior's conclusion can be defended against Linsky's on the grounds of ontological economy.

26. Prior, Objects of Thought, pp. 18-20.

27. Linsky, op. cit., raises this objection to Prior's theory, p. 73.

28. Prior, Objects of Thought, pp. 24-26. See F. P. Ramsey, The Foundations of Mathematics, Littlefield, Adams & Company, Paterson, New Jersey, 1960, pp. 138-155.

29. Prior, Objects of Thought, pp. 35-36.

30. See Linsky, op. cit., p. 74, and L. Jonathan Cohen, "Critical Notice: Objects of Thought, by A. N. Prior" in Mind, N.S. 82, 1973, p. 131.

31. Roger Gallie makes this point in "A. N. Prior and Substitutional Quantification", in Analysis, Vol. 34, No. 3, January, 1974, pp. 65-66.

32. Prior, Objects of Thought, p. 36.

33. Ibid., p. 36.

34. Ibid., p. 36.

35. An interesting question to consider is the adequacy of a substitutional interpretation of the quantifier in (5). I can think of only one kind of objection to it: there may be propositions unexpressible in English, and these may be the only ones Cohen and I disagree about. In that case, (4) would be true but (5) would be false. Prior's argument against substitutional interpretation of name quantifiers may be recast to show that there are propositions unexpressible in English. Suppose there is some red-haired object that is nameless in English. There is a proposition, expressible in languages having a name for this object, to the effect that it is red-haired. This proposition is not expressible in English.

36. Prior, op. cit., p. 36.

CHAPTER VIII

HINTIKKA

The two principal defects found in Quine's non-relational theory of belief were that it did not offer any semantical account of belief sentences and that it did not properly treat quantified belief sentences. Jaakko Hintikka has also defended a non-relational theory of belief[1], but his theory does include a semantical account of belief sentences, and, although Hintikka never discusses quantified belief sentences, I will argue that his theory may be expanded to include such sentences. This chapter will be devoted to a discussion of Hintikka's theory. In section I, I will present Hintikka's theory in its original form and in section II expand it to include quantified belief sentences. Sections III and IV will contain criticism of the theory.

I

In this section I will describe the language (H) developed by Hintikka in "Semantics for Propositional Attitudes".

The vocabulary of (H) includes the usual assortment of constants, predicates, variables, and connectives of the lower

predicate calculus (LPC). In addition, it contains the symbol 'B', which will be the counterpart in (H) of the English 'believes that'.

The rules for forming well-formed formulas (wffs) in (H) are exactly like the rules in (LPC), with an added rule for forming wffs with 'B'. This rule[2] is:

(W1) If α is a constant or variable and ϕ is a wff, then $\ulcorner B\alpha(\phi)\urcorner$ is a wff.

Wffs formed in accord with (W1) will be referred to as "the belief sentences" or "the belief formulas" of (H). (H) could be expanded to include other expressions of the same category as 'B', representing 'knows that', 'doubts that', etc., but it will be sufficient to deal with just 'B' here.

The semantics for (H) is a possible worlds semantics, and it may be developed as follows. Let W be a set of all the possible worlds and D be a set of all the objects talked about in (H). Some objects in D will exist in some of the worlds in W but not in the others. We may suppose that there is a function, E, that assigns to each member of W some subset of D. If w is in W, then E(w) is the set of all those objects existing in w.

An interpretation for (H) is a function that assigns to each constant some object and to each predicate some set of n-tuples of objects. But assignments are made relative to worlds,

so an interpretation is a two argument function from expressions and worlds onto objects or sets of n-tuples of objects.

An interpretation for (H) will also make assignments to variables, but these assignments will not vary from world to world. Some way to deal with worlds in which the assigned object to a variable fails to exist is needed, but this point need not concern us here.[3]

We may now turn to the truth definition for (H). Truth will be defined relative to a world and under an interpretation. Thus, we will say 'ϕ is true under interpretation I in world w', or simply, 'ϕ is true-I in w'.

The truth rule for atomic sentences is as follows:

(T1) If $\alpha_1,\ldots,\alpha_n$ are constants or variables and P^n is an n-place predicate, then $\ulcorner P^n(\alpha_1\ldots\alpha_n)\urcorner$ is true-I in w iff $\langle I(\alpha_1,w),\ldots,I(\alpha_n,w)\rangle \in I(P^n,w)$

Molecular sentences will be treated in similar fashion.

In order to state the truth rules for quantified sentences, the concept of a nominal variant must be introduced. An interpretation I' for (H) is a nominal variant of interpretation I for (H) with respect to a variable 'x' if and only if I and I' make exactly the same assignments at every world to every constant, predicate, and variable, except possibly 'x'. The expression "I' is a nominal variant of I with respect to 'x'" will be abbreviated 'N(I',I,'x')'.

With the help of this concept we may state the truth rules for quantified wffs:

(T2) If ϕ is a wff of the form $\ulcorner(Ex)(\psi)\urcorner$ then ϕ is true-I in w iff (EI'){[N(I',I,'x') and ψ is true-I' in w] and I'(x,w)ε E(w)}

(T3) If ϕ is a wff of the form $\ulcorner(x)(\psi)\urcorner$ then ϕ is true-I in w iff (I'){[N(I',I,'x') ψ is true-I' in w] and I'(x,w)ε E(w)}

All that remains to complete the description of (H) is to specify the truth rule for belief formulas. Hintikka begins his discussion of them with the observation that of all the possible worlds, some are compatible with all the beliefs of a given individual and some are not.[4] Let us call all those worlds compatible with an individual's beliefs his 'belief worlds'. Since an individual may exist in several worlds, and have different beliefs in the different worlds, his belief worlds will vary from world to world.

Hintikka thinks that understanding 'B' amounts to knowing the function that assigns to each individual and his world, his belief worlds relative to that world.[5] Suppose I_B is that function. $I_B(\underline{a},w)$ will thus be the set of all $\underline{a}$'s belief worlds relative to w.

We may now state the truth rule for belief formulas. Informally the idea is that a wff $\ulcorner Ba(\phi)\urcorner$ is true-I in w provided ϕ is true-I in all $\underline{a}$'s belief worlds, i.e., ϕ is true-I in every member of $I_B(\underline{a},w)$. Formally, this rule[6] may be stated

(T4) If ϕ is a wff of the form $\ulcorner B\alpha(\psi)\urcorner$ then ϕ is true-I in w iff ψ is true-I in every member of $I_B(I\alpha,w),w)$.

I think that there are some serious problems with (T4), but will postpone discussion of them until section III. In section II, I will develop the language (H') in which quantified belief sentences may be expressed.

II

Hintikka never mentions sentences containing quantifications over objects of belief in his discussion of propositional attitudes.[7] He neither explains how they may be formulated in his system, nor the reason for their absence. I think, however, that they may be formulated in a slightly modified version of (H), which I will describe in this section and call '(H')'.

No sentence in (H) expresses what is expressed in English by:

1. Jones believes something.

In (H') the following formula will be a wff and will express what (1) expresses:

2. (Ep)(Bj(p))

The letter 'p' will be used as an object language variable. It will be called a 'sentential variable' and should not be confused with the standard variables, e.g., 'x', already admitted into (H). In (H'), (2) will be a wff, but a formula such as

3. (Ex)(Bj(x))

will not be.

It is not difficult to make (2) a wff in (H'). The rule for belief formulas, (W1), need merely be revised in order to allow the formation of what we might call 'open belief formulas'. That is, we replace (W1) by:

(W1') If α is a constant or variable and ϕ is a wff or sentential variable, then $\ulcorner B\alpha(\phi)\urcorner$ is a wff.

Given (W1'), a formula such as 'Ba(p)' is a wff.

Next, we add a rule for forming sententially quantified wffs, similar to the rule for ordinarily quantified wffs:

(W2) If ϕ is a wff and P is a sentential variable, then $\ulcorner(EP)(\phi)\urcorner$ and $\ulcorner(P)(\phi)\urcorner$ are wffs.

(W2) allows the formation of wffs with vacuous quantifiers. For example, since 'Fa' and 'Bb(Fa)' are both wffs, so are '(p)(Fa)' and '(Ep)(Bb(Fa))'. This is an exact analogy with the rules for ordinary quantifiers, which allow formation of wffs such as '(Ex)(Fa)'.

If desired, we may specify a subclass of all the wffs of (H') as the sentences of (H'). These will be wffs having neither vacuous quantifiers nor unbound variables.[8]

Given (2), we will have as wffs (and sentences) in (H') formulas such as (2) and

4. (p)(Ba(p))

and

5. (Ep)(Ba(p)$\wedge\sim$Bb(p))

(5) may be used to express 'There is something a believes and b does not believe'.

Now that quantified belief sentences may be formulated in (H'), we must provide an interpretation for them. The best way to do this is to treat sentential variables like ordinary variables and have interpretation functions make assignments to them. The assignment to any sentential variable will be a set of possible worlds, and the assignment made by an interpretation to a particular variable will not vary from world to world.

Sentential variables must also be given a truth value at each world. The reason for this is that it enables sententially quantified sentences to be treated analogously to ordinary quantified sentences. Just as $\ulcorner(Ex)(\phi)\urcorner$ is said to be

true-I provided ϕ is true-I' for some I' such that N(I',I,'x'), $\ulcorner(EP)(\phi)\urcorner$ will be true-I provided ϕ is true for some I' such that N(I',I,P).

In order to make use of this rule, every open formula, e.g., 'Ba(p)', must have a truth value. In order to assign a truth value to this belief formula, some truth value must be assigned to 'p'. Then we may say that 'Ba(p)' is true-I provided 'p' is true in all of a's belief worlds.

The following rule for the truth of sentential variables will suffice, although numerous other rules would work as well:

(T5) If P is a sentential variable, then P is true-I in w iff wεI(P,w).

(T4) may still be used to specify the truth conditions for unquantified belief formulas, open and closed, but 'ψ' must now be taken to range over wffs and sentential variables.

Finally, we may add clauses to the truth definition for sententially quantified formulas:

(T6) If ϕ is $\ulcorner(EP)(\psi)\urcorner$ then ϕ is true-I in w iff (EI')N(I',I,P) and ψ is true-I' in w.

(T7) If ϕ is $\ulcorner(P)(\psi)\urcorner$ then ϕ is true-I in w iff (I')N(I',I,P) ψ is true-I' in w.

It may be helpful to show, informally, that (T5)-(T7) have the intended results. The best way to do this is to suppose that there is a function, T, that assigns to each interpretation

and sentence or sentential variable, the set of worlds in which that sentence or sentential variable is true under that interpretation. $T(I,\phi)$, or $T_I(\phi)$, will thus be the set of all those worlds in which ϕ is true-I. We may call these worlds ϕ's 'truth set' or its 'truth worlds'. T may be defined recursively, in a manner similar to that in which truth is defined for (H').

The way in which (T5)-(T7) work may be seen more easily in terms of this new function. We may state an analogue of (T4) in terms of T. The right hand side of (T4) reads 'ψ is true-I in every member of $I_B(I(\alpha,w),w)$'. In terms of T this may be restated as '$T_I(\psi)$ includes every member of $I_B(I(\alpha,w),w)$', or, equivalently, '$I_B(I(\alpha,w),w)$ is a subset of $T_I(\psi)$'. Thus, (T4) may be replaced by:

(T4') If ϕ is $\ulcorner B\alpha(\psi)\urcorner$ then ϕ is true-I in w iff $I_B(I(\alpha,w),w)$ is a subset of $T_I(\psi)$.

The intuitive idea of (T4') is that a belief sentence is true provided the subject's (the believer's) belief worlds constitute a subset of the truth worlds of the content sentence. It might be convenient to say that a truth set for a sentence is the "proposition"[9] expressed by the sentence, and that the intuitive idea of (T4') is that a belief sentence is true if and only if the believer's belief worlds are a subset of the proposition expressed by the content sentence.

The truth conditions for quantified belief sentences may now be explained with relative ease. '(Ep)(Ba(p))' is true provided there is some propositions that may be assigned to 'p' such that a's belief worlds constitute a subset of that proposition. The assignment to 'p' that makes this quantified sentence true may be identical with the truth set of some sentence, but it need not be. So the quantified sentence may be true even though there is no sentence ϕ such that $\ulcorner Ba(\phi) \urcorner$ is true. This seems desirable, since it is possible that a believes something, but nothing expressable in (H').

A more complex example is:

5. $(Ep)(Ba)(p) \wedge \sim Bb(p))$

(5) represents the English 'There is something a believes and b does not believe'. (5) is true provided there is some assignment that may be made to 'p' such that 'Ba(p)' is true and 'Bb(p)' is false. So, if there is some proposition such that a's belief worlds constitute a subset of it, but b's do not, then (5) will be true.[10] If, for example, a believes that Fc, but b does not, then a's belief worlds will constitute a subset of the proposition expressed by 'Fc', but b's belief worlds will not be a subset of that proposition. It is possible, however, that what a believes and b does not is not expressed by any sentence in (H'). (5) may still be true in those circumstances

if there is some assignment that may be made to 'p', even though not a truth set of any sentence, that makes 'Ba(p)∧~Bb(p)' true.

(H') thus seems to be a superior theory to (H). It is an interpretated non-relational theory of belief that allows quantification over the objects of belief. There are, however, some serious problems with (H'), and in the next section I will discuss them.

Before moving on to the objections to (H'), I should point out that there is one respect in which (H') involves a departure from (H) that Hintikka might regard as undesirable. He would contend, I believe, that the introduction of sentential quantifiers ranging over sets of possible worlds ontologically commits (H') to these entities, whereas (H) did not have those commitments.

Hintikka argues that one's "ontology is what one assumes to exist in one's world," and "to exist in an ontologically relevant sense, to be a part of the furniture of the world, is to be a value of a special kind of bound variable, namely one whose values all belong to the same possible world."[11]

Since Hintikka's object language quantifiers in (H) always have values that all belong to the same possible world, and never include possible worlds or sets of possible worlds, Hintikka claims that his theory is not ontologically committed to possible worlds or sets of possible worlds. The quantifiers in (H'), on

the other hand, do have sets of possible worlds as values, and these sets do seem to exist in possible worlds, so (H') is ontologically committed to such objects.

Hintikka admits that "we must in some sense be committed to whatever we quantify over."[12] But since possible worlds are only quantified over in the metalanguage for (H), and are not said to exist in any world, his theory is not ontologically committed to them. Instead, he says, they are part of the "ideology" of the theory, and, apparently, the theory is ideologically committed to them.[13] (H'), however, is ontologically committed to sets of possible worlds and thus to possible worlds themselves.

The distinction between ideology and ontology is a clear one, but I think it would be a mistake to suppose that the ontological commitments of a theory, in Hintikka's sense, are the only "important" or "relevant" ones. Someone who doubts that there are possible worlds would object to both (H) and (H') on the grounds that they are committed to an objectionable kind of entity. So (H') is no more objectionable than (H) because it moves possible worlds from the ideology to the ontology. It would be a mistake to charge (H') with introducing any entities not required by (H).

III

In this section I will discuss three fairly familiar objections to (H'). These are also objections to (H), but they are sometimes overlooked in discussions of Hintikka's theory because his views on de re belief have been the focus of his critics' attention. These objections are: (i) the logical equivalence objection - (H') implies that everyone believes every logical equivalent of anything he believes; (ii) the closure objection - (H') implies that everyone believes all the logical consequences of anything he believes; and (iii) the logical impossibility objection - (H') implies that no one believes any logical impossibility. I will argue that each of these implications is false.

(i) The logical equivalence objection. One consequence of (H') is that a person believes everything logically equivalent to anything he believes. That this is a consequence of (H') is easily shown. A belief sentence such as $\ulcorner Ba(\phi)\urcorner$ is true provided ϕ is true in all a's belief worlds. If ϕ and ψ are logically equivalent, then they are true in exactly the same worlds, so one is true in all a's belief worlds if and only if the other is true in all a's belief worlds. Hence, if ϕ and ψ are logically equivalent, then $\ulcorner Ba(\phi)\urcorner$ is true if and only if $\ulcorner Ba(\psi)\urcorner$ is true.

The feature of (H') just described seems clearly

objectionable because it forces us to attribute to believers many beliefs they need not have. Suppose, for example, that a has never heard of snow and does not have the concept of snow. I assume that a person cannot have a belief unless he has grasped all the concepts that make it up. Thus, a would have no beliefs involving the concept of snow, e.g., that snow is white, or that snow is not white. However, on Hintikka's theory, if a believes anything, then he does have beliefs about snow. If he believes, say, that grass is green, it follows that be believes that grass is green and either snow is white or snow is not white. This is because 'Grass is green' and 'Grass is green and either snow is white or snow is not white' are logically equivalent.

(ii) The closure objection. If ϕ is true in all of a's belief worlds, then everything ϕ implies is true in all those worlds as well. So, if $\ulcorner Ba(\phi)\urcorner$ is true and ϕ implies ψ then $\ulcorner Ba(\psi)\urcorner$ is true also. But people frequently fail to believe all the logical consequences of what they believe, so this implication of (H') seems to be false.

A particularly grievous instance of the closure objection concerns necessary truths. Since necessary truths are true in all worlds, they are implied by everything. So, if $\ulcorner Ba(\phi)\urcorner$ is true, for any ϕ, it follows that for any ψ such that ψ is a necessary truth, ϕ implies ψ, and $\ulcorner Ba(\psi)\urcorner$ is true. This implies that every believer believes every mathematical and logical truth.

Thus, (H') implies that every believer believes that snow is white or it is not the case that snow is white, whether or not he has the concept of snow. It seems, however, that some people do not have this belief. Similarly, it seems that there are many mathematical truths some of us fail to believe.

(iii) The logical impossibility objection. Since a logically impossible formula is true in no worlds, it is not true in all (or any of) the belief worlds of anyone. Therefore, if ϕ is necessarily false, it is provable in (H') that $\ulcorner Ba(\phi)\urcorner$ is false.[14] This, too, seems inconsistent with the facts about belief, since people often believe necessary falsehoods, e.g., false mathematical statements.

I think that each of these objections constitutes a serious problem for Hintikka's theory. Moreover, I see no way to overcome them without significantly changing the theory. However, I should point out that Hintikka is aware that his theory is subject to objections of this sort. In response he says that his theory does not actually apply to the real world, but only to a world in which people are logically perfect, in the sense that they are able to draw all the consequences of their belief and believe all such consequences.

This reply to objections of the sort raised in this section can only be dealt with briefly here. Hintikka seems to admit that his theory is not an adequate theory of real belief,

but is adequate only as a theory of some idealized kind of belief. Since it is real belief and its associated ontology that are of interest here, I think that we can safely conclude that Hintikka has not shown that our objections fail. Perhaps, in fairness to Hintikka, it should be admitted that although his system is not adequate as a theory of real belief, it is possible that it is an adequate theory of an idealized belief.

IV

I will conclude this chapter with a few general remarks on the alleged ontological advantages of non-relational theories. Prior and Quine suppose that non-relational theories make no signficiant commitments to suspect entities. I argued in Chapter VII that no judgment on the commitments of the non-relational theories of Quine or Prior could be made until semantical accounts of them were given. Hintikka has given a semantics for a non-relational theory of belief but his theory does not escape commitment to all objectionable kinds of entities. In particular, Hintikka's theory is committed to possible worlds, and that commitment is likely to be judged extravagant by philosophers like Quine and Prior. So interpreted non-relational theories may have commitments Prior and Quine regard as

objectionable, and it has not been shown that any adequate non-relational theory can be developed that lacks such commitments.

Furthermore, a possible worlds semantics for belief sentences can be developed[15] that has no more commitments than (H') and that avoids some of the objections just raised against (H'). On this theory, call it '(B)', belief sentences are once again treated as relational, with the objects of belief being functions from possible worlds to truth values.

In order to develop B, we must suppose that each sentence is assigned a truth value relative to each world. The function that maps each world onto the truth value of a given sentence at that world is the "proposition" expressed by that sentence. Thus, the proposition expressed by ϕ is the function that maps each world onto the truth value of ϕ in that world.

In (B) a that-clause will be treated as a name of the proposition expressed by the sentence it contains. Thus, $\ulcorner$that-$\phi\urcorner$ is a name of the proposition expressed by ϕ. 'Believes' is a two-place predicate true of people and propositions.

The theory just outlined seems to make no significant ontological commitments not made by (H'). The only entities required in addition to the usual assortment of individuals and properties (sets of individuals) are possible worlds and functions from possible worlds onto truth values. Thus, the commitments

of (B) are the same as those of (H'), with the possible addition of the truth values, which must be as objects of some sort.

There are at least two respects in which (B) is superior to (H'). First, the logical impossibility objection raised against (H') does not hold for this theory. Consider, for example, the sentence 'Jones believes that seven times seven is forty eight'. An adequate theory should allow this sentence to be true, and, unlike (H'), (B) does. Since 'Seven times seven is forty eight' is false in all worlds, 'that seven times seven is forty eight' names the function that maps every world onto falsity. The interpretation of 'believes' may well include the pair consisting of Jones and this function, so this belief sentence may well be true. Thus, (B) is immune to the logical impossibility objection.

The closure objection is also avoided by (B). From the fact that ϕ implies ψ it does not follow that ϕ and ψ are true in all the same worlds. Therefore, the functions named by $\ulcorner$that $\phi\urcorner$ and $\ulcorner$that $\psi\urcorner$ may differ, and $\ulcorner$S believes that $\phi\urcorner$ and $\ulcorner$S believes that $\psi\urcorner$ may differ in truth value, even though ϕ implies ψ. In escaping the closure objection (B) does open itself to another objection. There are some cases in which we may wish to infer from the fact that a person has one belief that he has another. For example, one might hold that

6. S believes that P and Q

implies

7. S believes that P.

However, since 'P and Q' and 'P' are not true in all the same worlds (assuming 'Q' is contingent and not implied by 'P'), the that-clauses in (6) and (7) name different functions, and thus there is no guarantee that (7) will be true whenever (6) is.

This objection may be stated in a more general form. Whereas (H') had the undesirable consequence that one believes all the implications of anything one believes, (B) does not have as a consequence that one believes any of the implications of anything one believes (with the exception of logical equivalents - see below for more on this). This too seems undesirable, as the truth of the matter appears to lie somewhere in between: there are some implications that are so simple that if a person believes the premise it follows that he believes the conclusion. Sentences (6) and (7) give us an example in which this obtains.

Although neither (H') nor (B) is entirely adequate to this point, it seems to me that (B) is superior to (H'). For one thing, one might argue, with some plausibility, that implications even so simple as simplification can be overlooked and that the implication from (6) to (7) is invalid. On the other hand, if it is granted that (6) does imply (7), one could add axioms and rules to (B) to validate the inference. The exact form of

such rules needs to be worked out, but there seems to be no reason why they cannot be developed.

A more serious problem with (B) is that it is subject to the logical equivalence objection. If ϕ and ψ are logically equivalent, then they are true in all the same worlds, and ⌜that ϕ⌝ and ⌜that ψ⌝ name the same functions. As a result, ⌜S believes that ϕ⌝ and ⌜S believes that ϕ⌝ are equivalent.

I conclude that non-relational theories of belief, at least those considered here, have little to recommend themselves. The best non-relational theory, (H'), did have a commitment to possible worlds, and thus does not avoid all suspect entities. Since (B) is a relational theory that makes no additional commitments and avoids some of the problems encountered by (H'), it would seem that (B) is a superior theory. As we have seen, however, (B) itself is open to at least one serious objection.[16]

FOOTNOTES - CHAPTER VIII

1. Jaakko Hintikka, "Semantics for Propositional Attitudes", reprinted in Reference and Modality, edited by Leonard Linsky, Oxford University Press, London, 1971, pp. 145-167. See also, Jaakko Hintikka, Knowledge and Belief, Cornell University Press, 1962.

2. It is important to realize that (W1) allows open formulas, e.g., 'Bx(Fa)', to be wffs. I assume that the other formation rules are similar, and that formulas such as 'Fx' are also wffs.

3. One possibility is to let interpretations be partial functions. If I('x',w) is u and u is not $E(w_i)$, then I('x',w_i) would be undefined.

4. See Hintikka, "Semantics for Propositional Attitudes", pp. 150-151.

5. See ibid., p. 152.

6. Since I_B is a function from individuals and worlds onto sets of worlds, and not a function from names and worlds onto sets of worlds, it would be a mistake to replace the right hand side of (T4) by 'ψ is true-I in every member of $I(\alpha,w)$'.

7. A large part of his discussion is devoted to quantifying into belief contexts, but that is not our concern here.

8. The expressions 'vacuous quantifiers' and 'unbound variable' can be defined precisely, but I will not attempt to define them here.

9. I intend every set of worlds to be a proposition, in this sense, and not just those sets that are truth sets of some sentence under some interpretation. I do not wish to suggest that this use of 'proposition' is the same as the one discussed in Chapter I.

10. Alternatively, we may say that (5) is true if there is something true in all of a's belief worlds that is not true in all of b's.

11. Hintikka, "Semantics for Propositional Attitudes", p. 153.

12. Ibid., p. 154.

13. Ibid., pp. 153-154.

14. I assume that I_B does not assign the null set to any person and world. If it did, then $\ulcorner Ba(\phi)\urcorner$ would be true for every ϕ, since every ϕ would be true in all (i.e., none) of a's belief worlds.

15. See Richard Montague, "Pragmatics and Intensional Logic" in Semantics of Natural Languages, edited by D. Davidson and G. Hanman, Dordrecht-Holland, D. Reidel Publishing Co, 1972, pp. 142-168.

16. Montague argues in "Pragmatics and Intensional Logic" that this is not a bad feature of his system.

CHAPTER IX

CONCLUSION

In the previous chapters I have examined the views of several philosophers who claim that an adequate account of belief sentences does not require all the entities, such as propositions, required by (PV). Carnap and Scheffler attempt to establish this conclusion by rewriting or paraphrasing belief sentences as sentences of languages that can be interpreted without including propositions in the domain. Davidson attempts to establish this conclusion by providing an interpretation for the English belief sentences themselves, while Prior and Quine defend it by suggesting that belief sentences have a syntactical structure different from that assumed by defenders of propositional theories. Hintikka provides an interpretation for belief sentences that presupposes such a syntax.

In this chapter I will summarize the conclusions reached in my examination of these theories. I will also discuss what implications the truth of these theories would have concerning the existence of propositions or the desirability of a propositional theory.

I

Carnap and Scheffler have proposed rewriting belief sentences as sentences of languages that can be interpreted without propositions. Originally, Carnap proposed that a belief sentence such as

1. Galileo believed that the earth moves

be rewritten or paraphrased as:

2. Galileo was disposed to respond affirmatively to some sentence of some language synonymous with 'The earth moves' in English.

Other belief sentences could be rewritten in a similar manner.

The major problem with this proposal is fairly evident: one's tendencies to respond affirmatively need not coincide with one's beliefs. For example, Galileo might have tended to lie or he might have been afraid to admit his controversial belief. In either of these cases (2) would be false despite the truth of (1). So this proposal is unacceptable.

In the light of objections raised by his critics, Carnap came to reject this proposal and in its place suggested that a sentence like (1) be replaced by a sentence like:

3. Galileo had relation B to 'The earth moves' as a sentence of English.

The idea here is that belief sentences be replaced in Carnap's formal system by sentences that express a relation between a person, a sentence, and a language. All references to propositions are thus avoided, and it appears that we have an account of belief sentences more economical than (PV). It is important to realize that in this proposal, unlike the first one, the nature of the relation expressed by the replacement sentences is not specified.

Objections raised by Church, discussed here in Chapter III, show that this proposal succeeds only if two controversial assumptions are made. First, it must be assumed that an adequate paraphrasal of a sentence need only be logically equivalent to that sentence, and not synonymous with it. Second, it must be assumed that sentences in English necessarily mean what they do. That is, it must be assumed that a sentence like

4. 'The earth moves' means in English that the earth moves

is a necessary truth. I believe that each of these assumptions is mistaken, although I am not certain that these points constitute decisive objections to Carnap's proposal.

Additional problems for Carnap's theory were discussed in Chapter IV. One problem is that there is some doubt that iterated belief sentences can be treated properly by the theory. Furthermore, it seems clear that the existence of ambiguous sentences poses a serious problem for the theory. Consider the

ambiguous English sentence:

5. Jones believes that the bank is wet,

and its paraphrase in Carnap's system:

6. Jones has relation B to 'The bank is wet' in English.

Since (5) is ambiguous, we should not say that it is simply true or false. Instead, we should say that it is true or false given one of its meanings, and true or false given another of its meanings. As a result, we can say that some utterances of (5) are true and some are false (or that (5) is true on some occasions of utterance and false on others). Sentence (6), however, is not ambiguous and consequently cannot properly paraphrase (5). For if (5) is true under one of its meanings and false under the other, and (6), being unambiguous, has only one truth value, then (6) must improperly paraphrase (5) under one of its meanings.

The most promising solution to this problem is contained in the proposal made by Davidson. I will turn to it shortly.

Scheffler has proposed a different paraphrase of belief sentences. According to his theory, a belief sentence like (1) would be rewritten as:

7. There is some x such that x is a (that-the-earth-moves) inscription and Galileo believed-true x.

An inscription is a (that-the-earth-moves) inscription if and only if it is an inscription in English that looks just like the inscription 'The earth moves'. Scheffler says little about the predicate 'believes-true'. What he does say is that a person need not understand, affirm, or even be aware of an inscription he believes-true.

I argued that (7) is not a proper paraphrase of (1), since (7), unlike (1), implies the existence of an inscription.

One interesting and important issue that arises in connection with these proposals concerns the ontological implications that can be drawn from them. Scheffler apparently thinks that the truth of his proposal shows that there are no propositions, or at least that we can avoid commitment to them. He argues that since (a), (1) can be rewritten as (7), and (b), (7) makes no mention of propositions and its quantifier does not range over propositions, or at least that (d), we can avoid commitment to them. Since we can avoid commitment to propositions, and propositions are suspect entities, Scheffler would conclude that we should adopt a theory that avoids them. A similar argument could be made by a defender of Carnap's theory, although Carnap himself does not offer such an argument.

I believe that the inference from (a) and (b) to (c) is invalid. My argument against this inference is based upon an argument offered by Heidelberger. Since the predicate 'believes-

true' is not one with which we are familiar, and it is not fully analyzed, we do not know whether or not a person can believe-true an inscription without standing in some other relation to some other object. In particular, we do not know whether or not a person can believe-true an inscription without there being a proposition expressed by the inscription and believed by the person. Until we know that this is not the case, we cannot infer from the (alleged) truth of Scheffler's proposal that there are no propositions.

Similar considerations apply to the above argument made by a defender of a Carnapian theory. On Carnap's theory, the predicate 'B' is used in the sentences that paraphrase belief sentences. All that we know about this predicate is that it is a three-place predicate true of people, sentences, and languages, and that if 'B' is true of a person p, a sentence S, and a language L, and S in L is synonymous with S' in L', then 'B' is true of p, S', and L'. One thing we do not know is whether or not a person can have relation B to a sentence and a language without there being a proposition expressed by the sentence in the language and believed by the person. Until we know that this is not the case, we cannot infer from the (alleged) truth of Carnap's proposal that there are no propositions.

One might draw the weaker conclusion, (d), from the success of one of these paraphrasing proposals. That is, one might argue

that the paraphrases show that what is expressed by belief sentences can be expressed by sentences of languages whose interpretations do not include propositions in their domain. Thus, a defender of Carnap's proposal might say that all that is needed to interpret belief sentences are people, sentences, and languages. Scheffler claims that all that is need to interpret his system are people and inscriptions. Since these proposals are more economical than (PV), they are preferable to (PV).

This argument is more complex than the previous one. Of course, since we have seen that the paraphrases are not successful, we can reject the argument. However, it is of some interest to determine whether the success of the paraphrases would have established that we need not, and should not, suppose that there are propositions.

I believe that the success of either of these proposed paraphrases of belief sentences would have shown that belief can be expressed in a language that can be interpreted without resorting to propositions. However, the price paid for this ontological saving comes in the nature of the primitive predicates of the language. On Carnap's theory we appeal to the predicate 'B'. One way to account for the way 'B' behaves in the system is to say that sentences are synonymous when they express the same proposition and that a person has relation B to a sentence in a language if and only if he believes the proposition

expressed by the sentence in the language. Of course, if the point of the proposal is to avoid propositions, such an explanation of 'B' is inappropriate.

It seems desirable, then, that some alternative account of 'B' be given. However, it is difficult to imagine what account other than the one just mentioned could be given. Thus, Carnap's proposal makes use of an unanalyzed obscure predicate 'B', that can only be properly understood if appeal is made to propositions. It is not clear that a theory with such an obscure predicate is preferable to one that recognizes propositions in the first place. That is, it is not clear that an interpretation of our language that renders predicates obscure is preferable to an interpretation that requires suspect entities.

Similar remarks can be made about Scheffler's proposal. Like 'B', Scheffler's 'believes-true' is an unanalyzed obscure predicate. One possible analysis of it would appeal to propositions: a person believes-true an inscription if and only if he believes the proposition expressed by the inscription. But this account of 'believes-true' is unacceptable to Scheffler, who proposes to do without propositions. Again, it is not clear that Scheffler's theory, with its obscure predicate, is preferable to a theory that recognizes propositions in the first place.

II

Davidson has proposed another alternative to (PV). He develops his theory in terms of sentences in indirect discourse, and suggests that the truth conditions for a sentence such as

8. Galileo said that the earth moves

are given by the following molecular sentence:

9. Galileo produced some utterance that is a samesaying with that: the earth moves.

Here 'that' is a demonstrative referring to the utterance of the sentence following it. Accordingly, 'samesaying' is a two-place predicate true of utterances, that holds, according to Davidson, when the utterances agree in "purport".

When we extend Davidson's theory to belief sentences, a couple of problems arise. It is difficult to see how 'believes' can be analyzed in terms of samesaying. Since (1) can be true without Galileo having produced or even been disposed to produce any samesaying with any utterance of 'The earth moves', (1) cannot be given an analysis similar to that proposed for (8). The best we can do, I believe, is rewrite (1) as:

10. Galileo believed that: the earth moves.

As in (9), 'that' is to be interpreted as a demonstrative,

referring in any utterance of (10) to the utterance of 'The earth moves' contained in that utterance of (10). Accordingly, 'believes' is a two-place predicate true of people and utterances.

One virtue of this proposal is that it solves the ambiguity problem described earlier. Consider again the ambiguous sentence (6). On Davidson's theory, (6) is rewritten as:

11. Jones believes that: the bank is wet.

In any particular utterance of (11) 'that' refers to the utterance of 'The bank is wet' contained in that utterance of (11). Since such utterances of 'The bank is wet' may vary in meaning, Jones may believe some of them but need not believe all of them. So (11), on Davidson's theory, can vary in truth value from one utterance to another, and therefore can properly represent (6).

What is peculiar about Davidson's proposal is that it has as a consequence that people believe utterances they have never heard and utterances they could not understand. For example, if (10) is true as uttered by me now, then Galileo believed an utterance made by me now in English. Thus, Galileo would believe an utterance made hundreds of years after his death in a language he need not have understood.

This oddity could be explained by saying that 'believes', as it should be understood in (10) may be analyzed in the following way: a person believes an utterance, in Davidson's sense of

'believes', if an only if he believes, in a more usual sense, the proposition expressed in that utterance. Since one of the objectives of Davidson's theory is to avoid propositions, this account of his use of 'believes' is inappropriate. Without it, however, we are left with an obscure unanalyzed predicate, and again, it is not clear that such a theory is preferable to one that recognizes propositions in the first place.

Davidson's theory also encounters problems in dealing with sentences in which the objects of one's belief are mentioned without being expressed. For example, for a sentence such as

12. Galileo believed something Newton disbelieved

to be true on this theory, there must be some utterance such that Galileo believed it and Newton disbelieved it. However, since the point of contention between Galileo and Newton might remain unspoken, this seems to be an improper reading of (12).

III

The final group of theories discussed here are theories that suggested that we do away with objects of belief altogether. It was thought that so doing would avoid commitment to objectionable entities. However, the non-relational theories proposed by Quine

and Prior did not include any semantical treatment of belief sentences, and as a result we have no idea what the ontological commitments of these theories are. An interpreted non-relational theory, such as Hintikka's, does have commitments to some entities that may be objectionable: possible worlds. Furthermore, Hintikka's theory has a number of problematic features, most notably, that everyone believes all the logical consequences of anything he believes.

I conclude, then, that none of the theories discussed here is entirely satisfactory. Since we have no acceptable alternative to (PV), we have no acceptable account of belief sentences that is committed to fewer entities than (PV). Thus, it has not been established that (PV) is committed to more entities than are required for an adequate account of belief sentences.

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