

SYNONYMY
AND
THE THESIS OF INTENSIONALITY

This paper seeks to study the Intensional Thesis of Carnap as contrasted with that of Frege and ascertain whether it provides a satisfactory account of "Synonymy" of natural expressions which the Extensional Thesis allegedly fails to provide. I shall try to show that inspite of his parade in technical vocabulary, Carnap fares no better than Frege and that, in the context, of natural language, the intensional thesis is no superior alternative to the Extensional one. I propose to lay bare some of the misconceptions that lead Carnap to formulate his theory in the way he does. I would also suggest a radically different approach to the issues involved.

1. *Extension and Intension* : A very interesting account of 'synonymy' is to be found in Carnap's thesis of intensionality. He advances his thesis as an alternative to the thesis of extension. He claims that his theory has a decided edge over Frege's theory which is also intensional. The extensional thesis states that the meaning of an expression is ultimately determined by, and understood with reference to, the extension of some expression or other. Let us take the case of a foreigner who is being gradually acquainted with the expressions used by the native. The foreigner progressively learns (i) that a term applies to a number of things, (ii) that it does not apply to certain others, and, (iii) that there is an area of indecision of a range of objects to which he cannot possibly apply the term. The more he knows the language, the less is the area of indecision. In this way the total area of its application, i.e., the extension of the term is grasped. He is liable to make mistakes as to the actual range of its application, but such mistakes are to be treated at par with errors common to scientific operations.

Extensionalists, however, may allow the expression "intension" for the facility that could be derived from its use; but, for them, *intension* would be all a matter of decision. Two foreigners may agree as to the extension of a term, viz., "cordate."¹

That is to say, they may have come to know the individuals, within a given region, to be designated by the term, and those not to be so designated. But the foreigners may differ as to the reason for which the native employs the term in those cases as he does, and refuses to employ it in these cases as he does not.² One of them may think that cordates are so called because they possess hearts while the other may think that they are so called because they possess kidneys. Different classes of people belonging even to the same language group may be found to differ in like manner. Men are so called by the biologist for one reason, and by the labour contractor for another. Even the biologist may not agree among themselves on this point. For an extensionalist there may be various alternate reasons for which an object may be identified as a cordate; one is free to choose any. The question of right or wrong, therefore, is irrelevant here.

Against this intensionalist position Carnap maintains that *intension* is as much a question of fact, and, therefore, of truth, as the extension. He emphatically holds that the *intension* of a term is as much a matter of empirical hypothesis as the extension.³ If one of the foreigners takes the native word 'cordate' to mean creatures with hearts, and the other takes it to mean creatures with kidneys-it may be argued that at least one of them is wrong. But the extensionalist thesis does not help us decide which one is so. For, there are no creatures with hearts but without kidneys, and none with kidneys but without hearts. Hence the need for the intensional theory. Further, we need a theory to account for the meaning of terms that do not designate. The term "unicorn" does not denote anything, nor does the term "dragon". But this does not prevent us from using these terms distinguishably. We do this with reference to the intensions of these terms. This calls for an intensional theory.

That which is true of natural language applies to the language of science as well. The language of science is the natural language made more precise. Increase in preciseness of the language of science entails a corresponding increase in intensional precision. In earlier phases of science, a substance could be described in various alternative ways. But it was only with the increase in intensional precision that some one of the descriptions evolved as a definition. For this we need explicit rules for intension along with those for

extension. It must be admitted, however, that the more we depend on such explicit rules the more we are bent on a constructed language system.

Carnap explicates "meaning" by "intension". Single-word terms, as well as phrases and sentences have intensions. The intension of a term is the general condition which an object must fulfil so that it may be designated by the term. The term 'human' (H), for example, has the property 'being rational biped' (F) as its intension in a system of language (S). That is to say, the object (Human) must satisfy the condition of being a rational biped, so that it may be called human in the language system S. According to the convention adopted in *Meaning and Necessity*, "the intension of the sentence is the proposition expressed by it." The meaning of a designator, —a word, a phrase or a sentence— shorn of its non-cognitive elements or associations, is the intension. It is this rarefied content that is relevant to science, and, is sufficient for the determination of truth-value of sentences. Intensional identity is an essential condition of synonymy of expressions. For complex expressions like phrases or sentences further conditions need be satisfied. This has been sought to be expressed in the conception of intensional isomorphism.

2. *Intensional Isomorphism* : If two expressions have the same *extension* as it is the case with "morning star" and "evening star" — they are said to be *equivalent* in the system of language(s) in which they occur. If two expressions have the same *intension* — which might not be the case with "morning star" and "evening star" — they are said to be L-equivalent (logically equivalent). It is ordinarily held that two L-equivalent sentences are not only inter-changeable *salva-veritate*; they are synonymous also. But Carnap's ingenuity lies in this that contrary to the popular view, he maintains that sentences which express the same proposition are not necessarily synonymous.

Thus "9 is equal to 9" is equivalent to "9 is equal to 3×3 ". That is to say, they are interchangeable *salva-veritate*. They are, furthermore, E-equivalent. That is to say, they express the same proposition. But they are not synonymous. That is why somebody who knows that 9 is equal to 9, may not know that 9 is equal to 3×3 . Accordingly, the sentences of the propositional attitude, "I know that $9 = 9$ ", and, "I know that $9 = 3 \times 3$ ", though

express the same proposition are not identical in cognitive import. In order that two sentences may be synonymous they must satisfy three conditions. First, they must be L-equivalent, i. e. , they must express the same proposition (identical in intension); second, they must have L-equivalent parts i. e. , the intension of each word or phrase of one sentence must be identical with the intension of the corresponding word or phrase of the other sentence; and, third, the order or arrangement of the parts of one sentence must be the same as the order or arrangement of the parts of the other sentence in respect of their intensions. If any two expressions conform to these conditions they will be 'intensionally isomorphic'. "Intensional isomorphism" is, for Carnap, an explication of "sentential synonymy", or "synonymy between compound linguistic expressions".

The expression " $7 + 5$ " has the same intensional structure as "VII" sum V" in the traditional mathematical system. These two expressions are synonymous, they have same intensional structure, because, (i) the sentences are L-equivalent, (ii) their corresponding parts are L-equivalent, and (iii) the arrangement of the parts of the one sentence is similar to the arrangement of the parts of the other in respect of their intensions. The expression (a) " $7 + 5$ " is intensionally isomorphic with both (b) "VII Gr V" and (c) Gr (VII, V). The fact that (b) and (c) are intensionally isomorphic shows that placing of "Gr" outside the parenthesis, or between VII and V, without the parenthesis, is merely a syntactic device; its particular position in the total expression is not involved essentially in the determination of intensional structure. It is interesting to note that though " $7 + 5$ " is L-equivalent to "12", the two expressions are not synonymous. In Carnapian analysis the elements of " $7 + 5$ " cannot have their intensional counterparts in "12".

3. *Carnap Vs. Frege* : Carnap employs his notion of 'intensional structure' to resolve the 'paradox of analysis'. "Brother" has often been analysed as "male sibling". How are we to view the relation between the analysandum and the analysans? If the analysis is correct, the relation must be one of identity; and, "A brother is a male sibling", like "A brother is a brother", must be considered a trival truth. But, if the sentence, "A brother is a male sibling" is to be considered informative, as it presumably

is, the relation between "brother" and "male sibling" cannot be one of identity. And, in that case, "male sibling" should not be recognised as the analysis of "brother".

Frege seeks to solve the problem by drawing a distinction between the *sense* and the *reference* of designators. Both "brother" and "male sibling" refer to the same entity, but they have different senses. If the components of a sentence are not referentially opaque we may replace any component of the sentence by any expression which has the same reference. If we replace "male sibling" by "brother" the sentence (i) "A brother is a male sibling" is transformed into (ii) "A brother is a brother". The sentences have the same reference; they are equally true. But while (i) is informative, (ii) expresses a tautology. For cases like this, Frege holds, referential identity preserves the truth-value, though not the sense.

According to Frege, subject of the statement refers to the *object*, and the predicate refers to the *concept* or *relation*. This holds true of all regular subject-predicate form of statements, i. e., all those cases where the terms are not referentially opaque and simple conversion of sentence is not possible.

A sentence like : The morning star is the evening star, being convertible into : The evening star is the morning star, is called an identity statement. A statement like this may be rendered into : The morning star *is identical with* the evening star. Patently, this sentence has two subjects, viz., "the morning star" and "the evening star", and one predicate, viz., "is identical with". Considered thus, the two identity sentences,

(1) The morning star is the morning star,

(2) The morning star is the evening star,

would not vary in respect of the reference of their corresponding terms. Frege would account for the difference in meaning of the sentences with reference to their corresponding senses. The *sense* of the total sentence, according to Frege, is the function of the *senses* of the components—individual words or phrases—of the sentence. The sense of the term "the morning star" is *the concept of morning star*, and the sense of the term "the evening star" is *the concept of evening star*. These concepts are different as concepts. Hence, of the pair of sentences,

(3) The concept of Morning star is identical with the concept of Morning star,

(4) The concept of Morning star is identical with the concept of Evening star,

the former (3) is true, and the latter (4) false. The difference between these two sentences may be accounted for with reference to their truth-values.

Now, Carnap points out that this method is not adequate for determining the difference between two L-true sentences which are mutually interdeducible. To cite his own example :

(5) The concept Brother is identical with the concept Brother,

(6) The concept Brother is identical with the concept Male Sibling.

The concept brother, for Carnap (as distinguished from Frege), is the same as the concept male sibling. The two sentences do not differ in their reference, both are equally *true*; nor do they differ in intension; coresponding terms of the sentences have the same intension or sense.⁵ These two sentences, thus, express the same proposition. But, while the former (5) is trivially true, the latter (6) is informative. The difference between sentences like these, Carnap thinks, cannot be accounted for by Fregean principle. Carnap recalls Black who explains the difference thus. While (5) expresses a relation of identity ("The concept Brother is identical with concept Brother"), (6) expresses triadic relation involving "brother", "male" and "sibling" ("The concept Brother is identical with the concept Male Sibling"). This approach is welcomed by Carnap. But the view that such a difference is to be regarded as a difference in proposition that the sentences express as Black thinks - does not appeal to Carnap. According to him, both sentences express the same proposition, but each sentence differs from the other in *propositional structure*. To express in Carnap's terminology, the sentences are identical in *intension*, but are not *intensionally isomorphic*. In Carnap's own words, "The difference between the two expressions (i.e., "The concept brother" and "The concept Male Sibling"), and consequently, between the two sentences [i.e. (5) and (6) as stated above] is a difference in intensional structure, which exists inspite of the identity of intension".⁶ The necessary and sufficient condition for *synonymy* between designators

for Carnap, is this *structural identity* in intension, and not merely the simple identity of intension itself.

According to Frege the reference of the sentence is the function of the references of the individual words or phrases that occur in it. Frege holds, in a peculiar sense indeed, that the reference of the sentence is the truth value, which he calls "The true" or "The False" as the case may be.⁷ Hence he cannot distinguish between any two sentences of the same truth-value, on the basis of their reference. He evokes *sense* to account for the difference. What Carnap does with 'intensional structure', Frege would do with 'sense'. Carnap thinks that, as we have already mentioned, identity in intension of two designators sometimes goes with difference in intensional structure. Definitionally, two L-equivalent sentences share the same intension, but they may not be synonymous.⁸ Carnap quotes C. I. Lewis in support of his contention. "Two expressions are commonly said to be synonymous (as in the case of propositions, equipollent) if they have the same intension, and that intension is neither zero nor universal. But to say that two expressions with the same intension have the same meaning, without qualification, would have the anomalous consequence that any two analytic propositions would be equipollent". [Meaning and Necessity, p. 60.]

Carnap acknowledges that sentences like "P or Not-p" and "It is not the case that P and Not-P" have distinct meanings. But they are both L-true; and, furthermore, they are interdeducible in the system (S_1). Same would be the case with sentences like "9 = 9" and "9 = 3 × 3" in a mathematical system. Two such sentences are L-equivalent. That is to say, they share the same intension; but, they differ in meaning or intensional structure. Now, the difference between Frege and Carnap may be stated as follows. According to Carnap, P_1 and P_2 may not differ as propositions, though they may differ in propositional structure (intensional structure). But, for Frege, variation in the propositional structure would be the same as variation in proposition. That is to say, P_1 and P_2 will be considered distinct propositions, should they vary structurally. The "intensional structure", according to the Fregean way of thinking, will not be distinguishable from the "sense", of the sentence or the phrase, as the case may be. In the context of natural language, Frege may not admit any sentence

to be analytic except, possibly, those that are strictly repetitive like: The morning star is the morning star. Carnap explicates "analytic" by "L-true" (or "L-determinate", if we are to include "L-false"). But all L-determinate sentences are completely system-dependent, created by the rules of the system they belong to. But outside mathematics Frege would not be interested in those artifacts, not to speak of the of relation synonymy between them.

4. *Cognitive content and Logical content* : It has been held that two L-true sentences of the same system are logically equivalent. Logical equivalence between sentences is the mark of intensional identity. Intensional identity, however, falls short of synonymy. It is often assumed that if two distinct sentences are interdeducible there must be something common between them which makes this deduction possible. If P entails S, and, S entails P, a content common to both S and P is sometimes posited, which, it is believed, makes this entailment possible. This content may be called the *logical content* of both S and P. Now, (i) "P or Not-p" is L-true in S_1 , which is L-equivalent to (ii) "It is not the case that P and Not-P"; that is to say, any one of them may be deduced from the other. It is, accordingly, believed that there is something common between the expressions, which is the logical content of both. The total content of a linguistic expression is broadly divided by positivist philosophers into *cognitive* and *non-cognitive* components. It is only the cognitive component that has been considered relevant to truth, and, therefore, this alone has been recognised as important for science. The non-cognitive elements of the expression, that is to, say the emotive, the associative and all other ingredients have been kept out of consideration. Frege's distinction between 'sense' and 'colouring' (tone) of expressions corresponds with those between cognitive and non-cognitive components. But Frege does not distinguish the alleged logical content from the cognitive one. Difference in cognitive content between distinct expressions, but identity in their logical content, according to Frege, is impossible. If distinct expressions differ at all they must differ in *sense* i. e., in respect of cognitive content. But Carnap distinguishes the *logical content* from the total *cognitive content*, the total being identified as the *meaning* (cognitive) of the expression.

When two distinct L-true sentences entail each other, they need not as it is evident to Carnap—be synonymous. How, then, is it possible to deduce one from the other? Carnap could answer point blank that deductions are made possible by the rules of the system. The reason for not saying so might be this. Deductions are no longer officially held to be matters of syntactic manoeuvring. They are now considered by him as belonging to the semantic system. They are, therefore, required to be accounted for as consequent upon something extra-linguistic. He improvises 'intension' for this purpose. But the intension of a sentence is a construction out of the pre-assigned properties of the designators occurring in the sentence. These intensions are introduced into the system by special rules (viz., rules of designation). Viewed thus, the logical content or intension, supposed to account for mutual entailment between sentences (which, otherwise vary in meaning), is a made-to-order matter. Considered in the context of an artificial system of calculus this may be unobjectionable. But there is something in the very notion of *intension* as distinguished from *meaning* or the total cognitive content, which causes concern.

When two distinct expressions do not vary in intension, and yet vary in cognitive import, the variation is accounted for by their difference in intensional structure. 'Intension', therefore refers to the cognitive content minus the structural properties involved in it. This suggests that, for the purpose of deduction, the structural properties of the cognitive content are irrelevant. The more usual view, however, is that deductions are possible because of the structural properties essentially involved in the premise and the conclusion. Those who hold that the relation of deduction holds between sentences, depend on the formal properties of those sentences; and, those who view it as holding between propositions, as distinguished from sentences, also draw on the formal character of propositions. Hence, the muddle is potent in the view that, entailment of one sentence by another is consequent upon the common content or intension of the sentences, and, that the intension is the cognitive content or meaning minus the structural properties.

5. *Structure and Content* : It may, however, be argued that two questions concerning deduction must be kept distinct :

- (i) How is a sentence deduced from another ?
 (ii) Is the content of the conclusion same as that of the premise ?

To the former question, it may be answered that deductions are made on the basis of the formal properties of the premise; and, to the latter, it may be replied that the content (a core of content, at least) of the conclusion is the same as that of the premise. Now, if the bare content is represented by c and the structural properties of the premise and the conclusion are represented by t_1 and t_2 respectively, we may cite a case of deduction as :

1. t_1c ,
2. $\therefore t_2c$,

' c ' being common to both, the difference between 1 and 2 is exclusively determined by the structural properties, t_1 and t_2 , of the expressions. An uninterpreted calculus is system of relation between structures only. But the structures, considered apart from the content, are only meaningless signs. How can the structures which are meaningless in themselves cause variation in the cognitive import of expressions ? If change of form affects the meaning—and, it is claimed that it does—we are left with the following alternatives, one of which must be accepted. The first is that, both the bare content and the bare structure are severally meaningful so that when is added to the other, i. e., when the content assumes a particular structure, something is conferred upon it by the structure itself in the form of meaning, which distinguishes it cognitively from any other item (linguistic) with a different structure. The second alternative is that none of the elements – neither the structure nor the content – is independently meaningful; the alleged 'intension' is not to be identified with any core of meaning considered apart from the form it assumes. Meaning, in a manner of speaking, is a joint product of 'structure' and 'content.'

Since the *bare form* is not supposed to have any meaning—and there is general agreement on this point—the first alternative is not warranted. May we not hold that its 'bare content' is independently meaningful ? Possibly not. When the intension has a structure any consideration of the bare 'intension' as disting-

uished from the intensional structure is idle. It is not possible to know without reference to the rules of the system, that there is a meaningful content (i. e., intension), which is distinguishable, from the total meaning (cognitive) of the expression. Nor is it possible to know, without reference to the rules of L-equivalence whether two distinct expressions share the same intension. The total content of the conclusion is different from that of the premise, and we have no independent means of ascertaining the supposed identity in intension between them.

Let us fix on the structures ;

- | | | | | |
|---|----|----------|-------------------|---------------|
| A | 1. | Δ | \longrightarrow | * |
| | 2. | Δ | \vee | * |
| | 3. | * | \longrightarrow | $\neg \Delta$ |

Let us think of a calculus in which any one the above is a consequence of any other. In other words, the calculus allows the deduction of each of the above structures from every other of the group (A). These structures are uninterpreted forms, which may be given various interpretations. Let us interpret " \longrightarrow " as "if-then", " \neg " as "not", and " \vee " as "or" (all in the conventional sense of traditional Symbolic Logic). So that the structures of group A are to be read respectively as :

- | | | | | | |
|---|-----|--------|----------|----------|------------|
| B | 1'. | If | Δ | then | * |
| | 2'. | Not | Δ | or | * |
| | 3'. | If not | * | then not | Δ . |

Now, the delta and the star are more signs, which may be interpreted as sentential symbols like p and q, respectively. The expressions will then read as :

- | | | | | | |
|---|------|--------|---|----------|---|
| C | 1''. | If | p | then | q |
| | 2''. | Not | p | or | q |
| | 3''. | If not | q | then not | p |

According to the rules of the system (1''), (2'') and (3'') are *intrededucible*. That is to say, they are identical in their 'logical content'. It is to be noted that "p" and "q" are not sentences, but sentential signs or variables. The expressions of the uninterpreted calculus are now given a sentential interpretation. This shows that, in the context of a constructed system, the alleged 'logical content',

the 'content' (or 'intension', as Carnap would have it) by virtue of which such deductions are considered possible is a structural matter which may belong (as it does in the case of expressions of group A and B) to items which are not meaningful sentences at all. Intension, according to Carnap, is the meaning of the expression minus the structural elements. These structural elements account for (along with intension) the total cognitive content or meaning of the expression. It is the intension alone (not the structural properties thereof) which is held to be common between L-equivalent sentences, by virtue of which the relation of equivalence holds between them. Accordingly, this intension has been called the logical content of such sentences. But, contrary to Carnap's claim, the relation of logical equivalence between expressions, as it holds between items of group A, B, or C, is all a matter of structure.

If we replace the sentential signs of the items of group C by concrete sentences, we get the set D, as follows :

- 1". If a young bachelor fall in love then he decides to marry.
- D 2". Either a young bachelor does not fall in love or he decides to marry.
- 3". If a young bachelor does not decide to marry then he does not fall in love.

Considered as items of the constructed system, that is to say, as substitution instances of the items of group C, the sentences must be mutually L-equivalent. But considered as descriptive sentences independent of the system, i. e., as items of our natural expressions, they may not share any common meaning content (intension). "If-then" and "not-or" of the calculus have been so defined that an expression of the 'if then' form may be translated into an expression of the 'not-or' form. But their use outside the rigid system cannot guarantee that infallibility which the calculus is supposed to vouchsafe. The sentence " If a young bachelor falls in love then he decides to marry "—viewed in the context of natural language does not strictly yield, "If a young bachelor does not decide to marry then he does not fall in love". At times assertion of the one, may, to an extent, be the ground for assertion of the other. The concept of *implication*, as it is

actually employed in Social Science, or even in Physics (Micro Physics in particular), involves the question of degree. Accordingly, these expressions are to be viewed, as partially, or even largely, similar in meaning; they cannot be said to share any *common* 'intension'.

6. I. *Concluding Remarks* ; Both the intensionalist and the extensionalist agree in that sentences like,

(1) A brother is a brother,

(2) A brother is a male sibling,

are dissimilar in meaning. They differ as to the reason why they are dissimilar. The extensionalist and the intensionalist might also agree, without involving any absurdity, that the sentences are not *completely* dissimilar in meaning. According to Carnap complete similarity or identity in meaning between two distinct expressions depends, *inter alia*, on the structural identity in respect of intension of the expressions. But a structure implies a combination of elements. Two or more intensions might make up an intensional structure. In the ultimate analysis, we must admit of cases of intension that have no intensional structure. And, for cases like these, the question of structural identity would be pointless. Hence, no two expressions having elementary (structureless) intension [s] can be said to be synonymous. It might be stipulated that, in the absence of any structure, identity in respect of intension alone will make the expressions synonymous. But such a stipulation must be followed by another. The expressions, will have the same intension only by fiat. Synonymy of complex expressions, will then, be equally matters of decision. To quote Carnap, "In order to speak about . . . intensions themselves, we have to look for entities . . . which can be assigned to designators in accordance with these definitions".⁹ The definitions he refers to are those for "have the same extension" and "have the same intension". Definition 5 - 2 runs as follows : "Two designators *have the same intension* (in S_1) = Df they are L-equivalent (in S)". Two sentences are L-equivalent if both of them are L-true or L-false in the system. A L-true sentence is so by virtue of the rules of the system ("P or not p" is L-true in S, for 'it' holds in all state descriptions). The intension of a L-true sentence will be same as that of another L-true sentence by virtue of definition only.

II. Intensions, for Carnap, are supposed to be non-linguistic entities. Intensions for predicators (i.e., 'predicates' in the wide sense) are properties. These are represented in the language system as predicates.¹⁰ The predicates themselves are introduced into the system (S_1) by certain rules. Let us take the case of a language system S_x which contains, for instance, the designator "cordate" (constant for a class of individual/individuals). Let us suppose that the system contains, among others, the descriptions (I) creature with a heart and (II) creature with a kidney (predicates). The designator "cordate" may be so introduced into the system that the sentence: "A cordate" is a creature with a heart" is L-true, and consequently, its denial, L-false. Assuming that heart and kidney are co-present in animals, the sentence, "A cordate is a creature with a kidney" will be F-true in the system, and, its denial F-false. But we could construct another system S_y , where Fs, and Ls, would be redistributed.¹¹ Two logicians may construct two alternative systems, S_x , and S_y , respectively, and each may claim that his is the rational reconstruction of natural language. If both systems are internally consistent, to prefer one rather than the other, would be surely arbitrary.

III. It seems that there are two different tendencies in Carnap's theory which betray a bipolar desire—a desire to be faithful to what goes on around the world, and a desire to push the empirical content into one or other of his "a priori" systems that neatly divides sentences in to L and F groups. He must give up one. Either he must rest content with his artificial systems which presuppose the principle of dichotomy, or, he must cut across the rigid barrier of L and F, and forego the artificial systems. If he opts for the artificial systems, extra-systemic dialogue will be a far cry, though intensional identity may be made possible within the system. Intensional identity however, will not render two distinct expressions synonymous. Synonymity between expressions requires something more than this. Carnap has given, in his own way, the criterion of synonymity; but, it is not clear from what he says whether two distinct expressions of the natural language can ever satisfy the criterion. Carnap might construct language systems that would exemplify synonymous expressions, as determined by the rules for synonymity. If intensions could be determined by the rules of the system, the structures of intensions could very well be determined in like manner. But then, Carnap would be

confined to a closed world. If however, Carnap prefers to come out of his closed world, intensional identity between distinct linguistic expressions (should we decide to retain the expression 'intension'), and, for that matter, synonymy, will appear to be an ideal limit hardly to be attained in natural language. And, accordingly, one may not expect anything more than degrees of likeness in meaning between expressions.

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NOTES

1. This is Quine's own coinage.
2. We are all like foreigners when we are born.
3. "... assignment of intension is an empirical hypothesis, which like any other hypothesis in linguistics, can be tested by observation of language-behaviour" R. Carnap, *Meaning and Necessity*, p. 23.
4. *Ibid.*, p. 27.
5. *Ibid.*, p. 63.
6. *Ibid.*, p. 64.
7. "Thus we find ourselves persuaded to accept the truth-value of sentences as its nominatum. By the truth-value of a sentence I mean the circumstance of its being true or false ... For brevity's sake I shall call the one the True and the other the False". "On Sense and Nominatum": *Readings in Philosophical Analysis*; ed. Herbert Feigl and Wilfrid Sellars, p. 91. Appleton Century Crofts, Inc. 1949.
8. "5-2 Definition. Two designators have the same intension (in S_1) = If they are L-equivalent (in S_1)". R. Carnap, *Meaning and Necessity*, p. 23.
9. *Ibid.*, p. 23.
10. "The intension of a predicator (of degree one) is the corresponding property". *Ibid.*, p. 19.
11. So far as this point is concerned I have used a paper of Morton White. "What some philosophers usually assume is that the artificial rule books that they construct in making an artificial language is the rule book which ordinary people or scientists would construct, if they are asked to construct one or that it is the rule book which represents the rational reconstruction of the usages in question." "The analytic and the synthetic: An untenable dualism", *Semantics and Philosophy of Language*, ed. Leonard Linsky, University of Illinois Press, p. 277. (Paperback; First published in 1952).

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This book, based on the author's Gifford Lectures at the University of Glasgow, seeks to convey the moral confusion of today and to relate rival conceptions of morality to divergent views about the nature and predicament of man. It argues that many sensitive secular thinkers possess a traditional conscience which they find it hard to defend in terms of an entirely secular world-view, but which finds itself at home with a Christian understanding of man. £7.50



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