

SEMANTIC HOLISM AND OBSERVATION STATEMENTS\*

1. A recurrent theme in Quine's writings is the claim that language and not the statement nor the term is the basic unit of meaning. For instance, in his 'Two dogmas of empiricism', after assessing the attempts of philosophers to view firstly terms, and then statements as significant units, Quine reaches the following conclusion:

... our statements about the external world face the tribunal of sense experience not individually but only as a corporate body. (Quine 1951, 41)

This view of semantic holism quite clearly carries with it the implication that no statement about the external world possesses a determinate empirical significance of its own, i.e. that, to say the least, 'it is misleading to speak of the empirical content of an individual statement'. (Quine 1951, 43)

2. On the other hand, these views of semantic holism can be contrasted with Quine's views on the significance of observation statements. In Word and Object Quine writes that observation statements are those occasion statements 'that wear their meanings on their sleeves'. (Quine 1960, 42). This thesis that observation statements are self-contained meaningful units surfaces more than once in Quine's writings. For instance, nearly ten years later, in the paper 'Epistemology Naturalized', the thesis receives yet another airing: the observation statement.

... situated at the sensory periphery of the body scientific, is the minimal verifiable aggregate; it has an empirical content all its own and wears it on its sleeve. (Quine 1969a, 89: my emphasis)

From this we can gather that Quine, contrary to his earlier remarks on semantic holism, is himself prepared to suggest that there are statements that possess their own empirical content. That is to say, he is willing to suggest that some statements do 'face the tribunal of sense experience' individually - namely, observation statements. So much for his earlier warning against speaking like this:

3. From what has been said here, it does appear that Quine's views on semantic holism and observation statements are incompatible. In this paper I shall attempt to alleviate this tension. More specifically, by concentrating on one of the conflicting theses - that on observation statements, I hope to show that there is a way out for Quine. Through an investigation of his views on these statements, particularly the suggestion that the meaning of an observation statement is its stimulus meaning,

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to this notion than the feature alluded to here. Let's then unpack this definition, for it encapsulates Quine's views on most of the central features of an observation statement.

7. A brief analysis of this definition reveals that Quine is placing stress on the following considerations:

- i) Direct perceptual stimulation is necessary for passing a verdict on an observation statement. By 'stimulation' Quine has in mind a dynamic conception of changing patterns of (physically specifiable) stimulations, and not static patterns of stimulation. Hence his suggestion that the linguist
  - take as the relevant stimulations not momentary irradiation patterns, but evolving irradiation patterns of all durations up to some convenient limit or modulus. (Quine 1960, 32)
- ii) What counts as an observation statement is relative to a particular linguistic community. As Quine says, 'all speakers of the language' that contains this statement must give the same verdict. So what one linguistic community regards as an observation statement need not be regarded as such by another community.

iii) The degree of intersubjective agreement on any observation statement is important in deciding whether or not a statement is an observation statement for a particular linguistic community. Ideally, all the members of the linguistic community must reach the same decision. Quine, unfortunately, vacillates on this point. In one place he says that 'all speakers of the language' need to reach the same verdict about the statement. (Quine 1969a, 87: my emphasis) However, he later says we need to consider whether or not 'all the speakers of the language, or most' agree. (Quine 1969a, 88: my emphasis)

iv) To decide whether or not a statement is an observation statement, the members of the particular linguistic community must give, or must be able to give a unanimous verdict on the basis of the shortest modulus possible for a decision. In other words, the prompting patterns of evolving irradiations that constitute the grounds for the judgement must be of the shortest duration required for making any judgement at all. So the longer the modulus, the lower the probability the statement assented to, or dissented from, is an observation statement. For the longer the modulus required for making a judgement, the greater the likelihood collateral information is being drawn on to reach a verdict. And Quine told us that observation statements are statements free of the vagaries of collateral information. As he says, those statements

Whose stimulus meanings vary none under the influence of collateral information may naturally be called observation sentences, and their stimulus meanings may without fear of contradiction be said to do full justice to their meanings. (Quine 1960, 42)

I hope to demonstrate that Quine must soften his views on observation statements. Had he to do this, the conflict identified here would resolve itself. But as with most conflicts, the proposed resolution of the tension here has a price-tag: and it remains to be seen whether Quine would be willing to foot the bill.

(i)

4. Consider a linguist attempting to penetrate an alien language. It would hardly be possible for him to do so - let alone to construct a translation manual - unless there were at least some short native utterance types that correlated in a regular manner with some well defined recurrent patterns of stimulation. For unless he has at least some insight into coextensionality, the possibility of him making further inroads into the language are extremely remote, if not impossible. Without some evidence that certain expressions from his language have the same extensions as expressions from the aliens' language, the full import of the aliens' expressions are likely to remain inaccessible to the linguist. Now the candidate Quine selects as the point of entry into the alien language is the observation statement.

5. According to Quine, of all the statements of a language, the observation statement is the least problematic means of access to an alien language. For these are the statements the behaviour of which with respect to native assent and dissent depends least on collateral information and most on present stimulation. As Quine puts it, with these statements 'their stimulus meanings may without fear of contradiction be said to do full justice to their meanings'. (Quine 1960, 42) But what precisely is an observation statement? And is Quine correct in his claim that stimulus meaning can be identified with meaning where observation statements are concerned? Let's consider the first question here, and leave the second for the next section of this paper.

#### Quine on observation statements

6. Observation statements, for Quine, are occasion statements. That is to say, they are statements the meaning of which can be grasped by perception alone. Or better, they are the occasion statements that can be learned ostensively. Now an occasion statement commands 'assent or dissent only if queried after an appropriate prompting stimulation'. (Quine 1960, 36) And where the decision to assent or dissent is prompted by concurrent stimulation, we have an observation statement. As Quine says, in his "Epistemology Naturalized", where he defines an observation statement:

Turning back to our task of defining observation sentences, we get this: an observation sentence is one on which all speakers of the language give the same verdict when given the same concurrent stimulation. (Quine 1969a, 87: my emphasis)

So an observation statement is that statement one would pass verdict on only in the presence of some concurrent stimulation, or pattern of irradiation. However, as Quine's definition indicates, there is more

Quine, knowledge of these principles constitutes knowledge of the collateral information associated with that term.

9. However, with observation terms, and by implication observation statements, the story (apparently) is different. For unlike the non-observation statement, perception as opposed to collateral information, is the dominant determinant of the meaning of an observation statement. Which is to say that one's ability to use an observation statement, for Quine, is dependent exclusively on one's ability to identify the extensions of the terms of the statement, and not dependent on any knowledge of 'background' principles governing the use of the terms in the statement i.e. not dependent on any collateral information. Considerations about collateral information are (apparently) extraneous as far as observation statements are concerned.

10. So it comes as no surprise to discover that for Quine it's the observation statement that the linguist needs to rely on in his attempts to understand an alien language. For with observation statements, according to Quine, meaning can be treated as equivalent to stimulus meaning. As he says, with these statements, 'stimulus meanings may without fear of contradiction be said to do full justice to their meanings'. (Quine 1960, 42)

(ii)

11. We now have some idea of what an observation statement is. As Quine succinctly puts it, it is a statement that 'has an empirical content all its own and wears it on its sleeve'. (Quine 1969a, 89) And it is this characteristic of observation statements apparently that sanctions, for Quine, the claim that stimulus meaning does full justice to the meaning of observation statements. But is this view acceptable? That is to say, is the stimulus meaning of an observation statement the meaning of that statement? In this section I want to assess this suggestion from Quine. As I hope to demonstrate, this view is mistaken, for there is more to the meaning of an observation statement than its stimulus meaning. What then is this additional ingredient?

A principle governing the use of predicate terms<sup>2</sup>

12. Consider the following two statements, one of which makes sense. Suppose that 'normal' circumstances apply, and that these expressions are not being used in any 'abnormal' way.

S<sub>a</sub>: Carol is a woman.

S<sub>b</sub>: The pencil on my desk is my aunt.

Why does the first statement make sense, while the second does not?

13. As it happens, the singular term 'Carol' and the definite description 'the pencil on my desk' do have referents: 'Carol' is the name of a friend living in Houston, while the pencil I bought yesterday at the bookstore is the referent of 'the pencil on my desk'. So with both

We can now reformulate Quine's definition of an observation statement (S) as follows:

S is an observation statement in language L, for linguistic community C if and only if:

- i) all, or most of the members of that linguistic community come to the same decision about the statement i.e. collectively either assent to, or dissent from the utterance of the expression.
- ii) direct perceptual stimulation, in the form of changing patterns of stimulation, is necessary to reach a decision about the statement.
- iii) the decision is reached after the occurrence of the (necessary) perceptual stimulation that occupies the shortest modulus possible for a judgement.

So much for a positive construal of observation statements. Let's now see what Quine has to say about the other type of statements of one's language: the non-observational statements. For a consideration of these statements will enhance our understanding of observation statements themselves.

If perception supplies the meaning of an observation statement, by providing the evolving patterns of stimulation necessary for making judgements about the statement, how is the meaning of a non-observational statement grasped? Or to put the question in a way that Quine would prefer: how are non-observational terms and statements mastered?

8. Consider the non-observational term 'clever', as it occurs in the one-word statement 'Clever!'. Unlike observation terms, such as 'red', 'water' and 'sepia', the term 'clever' and for that matter, all other non-observational terms, 'cannot be mastered by pure ostension, however persistent', according to Quine. (Quine 1969b, 31) Why not? For him, this is so because non-observational terms involve a good deal of collateral information, as is exemplified by their multiple applications. 'Clever!', for instance, is a statement/term that can be used on different occasions for very different reasons e.g. the term can be used in a laudatory fashion, as in "I envy you - you are so clever!", while the same expression on another occasion can be used ironically, or even sarcastically, as in "Oh, you clever fool!". And we cannot claim to have mastered this non-observational term unless we can at least distinguish between the various ways in which the term can be used. For one thing, with 'clever', we at least would need to know something about the social and linguistic practices of a given community when determining its specific usage. More particularly, knowledge of the entities regarded as clever would prove inadequate for determining the principles governing the respective applications of the term for that community: where the laudatory use leaves off and the sarcastic begins. And for

statements, the expressions occupying the subject position do have referents. Thus we cannot account for the anomalous nature of statement  $S_0$  by suggesting that the term 'my aunt' is being used to refer to a non-existent entity. How then are we to explain the fact that  $S_0$  makes sense while  $S_1$  does not? At least one reason for this discrepancy, I suggest, is that while the predicate term of the first statement (i.e. 'a woman') can be sensibly applied to the entity referred to by the word 'Carol', the predicate term of the second statement ('my aunt') cannot be applied in any sensible manner to the referent of the definite description 'the pencil on my desk'. Pencils are not entities of which it makes any sense to apply predicates like 'my aunt'. In addition, if it does make sense to apply the predicate term 'a woman' to an entity, it also makes sense to apply other appropriate predicates to that entity. For instance, if the term 'woman' is applicable to Carol, the terms 'human being', 'intelligent', 'honest', and 'shrewd' can also be sensibly applied to her. Let me say a little more on this last point.

14. For clarity of exposition, I shall coin a phrase to describe this phenomenon of language I am alluding to here. Let's say that terms belong to various grammatical fields, such that, given the assertion or denial of a statement that makes sense, if one understands the language, one is able to specify possible alternative, yet related, terms from the grammatical field that are applicable to the entity referred to by the statement asserted, or denied. This phenomenon of language is graphically illustrated when we consider negative statements.

15. Take the following negative statement:

$S_c$ : That is not red

If this statement does make sense, the denial that the referent of 'that' is red, entails that the entity referred to by the statement is blue, green, yellow or some other colour, and not that the entity is a baseball, or three years old. (It is clear that the statement 'that is a baseball' does not sensibly follow from the statement 'that is not red', for instance).

16. In the light of all this, I think we can articulate one of the principles that governs the application of predicate terms in sensible statements. We have observed that the predicate terms of sensible statements must be applicable to the referent of that statement. Secondly, I have suggested that predicate terms occupy grammatical fields, such that if a term can sensibly be applied to an entity, any of the other terms from its grammatical field will also be sensibly applicable to that entity. This suggests the following principle:

$P_1$ : For any sensible statement  $S_1$ , if that statement contains a predicate term  $t_1$ , that, according to this statement, is not applicable to the entity  $e_1$  referred to by that statement, there is at least one other predicate term  $t_2$  from the grammatical field occupied by term  $t_1$ , that can sensibly be applied to entity  $e_1$ .

Now my contention is that this principle constitutes an integral component of the application of terms from our language, such as our observation terms. So any attempt to provide a complete account of the meaning of a statement, such as an observation statement, must acknowledge the role of this background principle. Let me attempt to substantiate these remarks.

17. Consider once again the linguist attempting to penetrate an alien's language. Clearly, it is important for him to determine what the alien's terms, observation or otherwise, contrast with in native usage.

In particular, he must know what is implied by saying of something that a term does not apply to it. For to understand a term 'X', not only must one know what the referents of that term are, assuming there are referents, one also needs to know what possibilities are left open by the denial that something is X. That is to say, an adequate knowledge of a language presupposes familiarity with the grammatical fields occupied by the terms of that language. For instance, when I know the meaning of the statement 'that is sepia', (i.e. the meaning of an observation statement), not only do I know whether the colour in front of me is sepia or not, I also know what the statement 'that is not sepia' entails. That is to say, to know what the meaning of the observation statement 'that is sepia' is, among other things, to know that when someone denies that an object is sepia, the possibilities his denial leaves open include the possibility that the referent of 'that' in this statement is red, green, or some other colour, is not the possibility that the referent is a baseball, or three years old. So a crucial question arises here: can Quine's account of the meaning of an observation statement make provision for this phenomenon? More specifically, can Quine's views on observation statements accommodate the fact that the denial of a sensible observation statement provides some indication of the possibilities left open by that denial?

18. I would suggest not. For suppose that an individual stated that the object before him, A, is not red. If it makes sense to deny that A is red, it also makes sense to assert (among other things) that A is some other colour, as we have seen. So the sensible denial of the observation statement 'A is red' entails the statement 'A is some other colour'. But this suggests that the stimulus meaning of a statement, such as 'A is red' cannot be identified with its meaning. For while the dissent of this observation statement is dependent on the presence or absence of the appropriate stimulus, the derivation of the statement entailed by the denial is not dependent at all on that stimulus.

19. This point can be graphically illustrated by translating the statements in question into the predicate calculus. Suppose the observation statement denied is

$OS_1$ : 'A is red'.

According to the preceding discussion, a sensible denial of this statement, i.e. a sensible assertion of the statement

$OS_2$ : 'A is not red',

entails the following statement

ES<sub>1</sub>: 'A is some other colour'.

With the predicate calculus we could symbolize the statement 'A is not red' and 'A is some other colour' as '-Ra' and 'Q' respectively. And it is clear that '-Ra' on its own does not entail 'Q', as can be easily demonstrated using the shorter-truth table method:

Proof:    -Ra    Q  
          T F F F

20. On the other hand, '-Ra' along with some additional principle(s) could entail 'Q'. Suppose the bridging principle is the one I identified earlier:

P<sub>1</sub>: For any sensible statement S<sub>1</sub>, if that statement contains a predicate term t<sub>1</sub> that, according to this statement, is not applicable to the entity e<sub>1</sub> referred to by that statement, there is at least one other predicate term t<sub>2</sub> from the grammatical field occupied by term t<sub>1</sub>, that can sensibly be applied to entity e<sub>1</sub>.

With this principle, it is possible to derive 'Q' from '-Ra'. Without it, or some alternative version of this principle, it is logically impossible to derive 'Q' from '-Ra', as we have seen. So the derivation of 'A is some other colour', cannot depend on the stimulus necessary to falsify the statement 'A is red'.

21. This bridging principle necessary for the derivation of statements entailed by the negation of a statement must then, form part of the 'background' principles governing the use of the terms of our language. In other words, this bridging principle must constitute part of the collateral information associated with the terms of our language. But this principle was required for the observation term 'red'. So it appears that both theoretical and observation terms involve collateral information. Now Quine, as we saw in the previous section of this paper, stressed that terms that draw on collateral information 'cannot be mastered by pure ostension, however persistent'. (Quine 1969b, 31) But it is only with statements that contain terms that can be mastered by pure ostension that we can identify meaning with stimulus meaning. From this it follows that the meaning of an observation statement, contrary to Quine's views, cannot be identified with its stimulus meaning.

22. Thus it appears there is more to an observation statement than meets the eye! It too draws on collateral information. Here then, I think, lies the resolution of the tension in Quine's views that was highlighted in the opening paragraphs of this paper. Quine can both argue for the thesis of semantic holism and claim that certain statements possess empirical content. But this latter claim, if the argument here is acceptable, is to be interpreted not as an assertion that these (observation)

statements are free of collateral information. At best, it is to be interpreted as a claim that observation statements are not as dependent on collateral information as non-observation statements. For as I have attempted to demonstrate in this paper, Quine's suggestion the meaning of these statements can be accounted for in terms of their stimulus meaning independently of any background principles or collateral information, not only appears to contradict his thesis of semantic holism, but is false.

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#### FOOTNOTES

1. To keep the confusions of this paper down to a minimum, I shall use the term 'statement' throughout this paper. Quine is not consistent in his writings here - in places he uses 'statement', while elsewhere he uses 'sentence'.

2. This section draws on material from my paper 'Am I my brain?'

3. Although I am stressing the fact that sensibly denied statements entail other statements, it must also be pointed out that sensibly asserted statements entail other statements as well. To give but one example: the sensible assertion of the statement 'Jill is sick', entails at least the statements 'Jill exists', and "The predicate 'sick' is applicable to the referent of the word 'Jill' ". (On this point see J. Austin: How to do things with words 49-50).

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