W.V. QUINE AND THE PURSUIT OF TRUTH*

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Quine's aim in this slim book is to "update, sum up and clarify variously intersecting views on cognitive meaning, objective reference, and the grounds of knowledge." Only nine pages had previously appeared as the book came to print. It is based largely on unpublished lectures and informal discussions of the past ten years back to the Immanuel Kant Lectures given at Stanford in 1980. It does not, then, duplicate Leonelli's Italian translation of the Kant lectures, *La Scienza E I Dati di Senso*,[1] which appeared in 1987.

The focus is on "interrelating" thoughts and "firming up" an occasional faulty joint among themes of the last decade—sometimes made in less formal settings. The book should be read in connection with recent collections on Quine's work, most importantly Barrett and Gibson's *Perspectives on Quine*[2] which will also be cited here. Quine divides his book into five chapters devoted to "Evidence," "Reference," "Meaning," "Intension," and "Truth." Readers familiar with his recent work will find significant innovations here, and subtle replies in on-going discussions—generally serving to emphasize Quine's empiricism and the goals of naturalized epistemology. It is difficult to resist turning back and forth between the chapters for comparisons. Those brought up at the knee (metaphorically or not) of America's greatest living philosopher will be grateful for the signposts as the generations change.

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* Originally published in *Dialectica*, Vol. 45, Fasc. 4, 1991, pp. 317-22. Cf. W.V. Quine, *Pursuit of Truth*, Cambridge, MA: Harvard University Press, 1990; 2nd Ed., 1991. Reprinted in H.G. Callaway 2008, *Meaning without Analyticity*, pp. 73-84.

1. W.V. Quine 1987, *La Scienza E I Dati di Senso,* translated by Michele Leonelli.
2. Barrett and Gibson 1990, *Perspectives on Quine*.

The quotations at the start from Plato (and house paint makers Sherwin-Williams) announces a concern to save the phenomena, and one is invited to think of this in terms of sensory stimulation, stimulus meanings and the need to account for how we get from these to our theory of the world. "New vistas" suggested by neurology, psychology, psycholinguistics and other fields are certainly of interest, but the focus in the book is more narrowly on what mere logical analysis can reveal about the passage from stimulus to science.

Least one think that prediction is the defining purpose of science for Quine, he also lists "understanding" and "control and manipulation of the environment" as "major purposes."[3] Still, prediction is the test of theory, whatever its purposes. A predictionless science of understanding is, then, not expected; though this is not to say that a the study of understanding must forever do without predictions—such as might be forthcoming from new vistas in neurology or psycholinguistics for instance, but also such as are involved in the theory and accounts of evidence for translation. For the latter certainly belong to that chapter of psychology which our author terms "naturalized epistemology." Since this version of epistemology is to be a chapter of science, it also depends upon evidence and prediction. A major background question concerns how, and to what degree, cognitive meaning and Quine's own treatment of ontology (the notion of ontological commitment, for instance) can themselves be naturalized.

1. Evidence and Meaning

Quine's fallibilism and knocks at the "Cartesian dream" of foundations for scientific certitude persist here through a rejection of any overall analysis of the concept of evidence. Rather, we get a new treatment of "observation sentence" (partly referring forward to the chapter on "Meaning") which involves "a new blend of reification with observation,"[4] and a rejection of the heretofore "distinctive factuality" of observation sentences "by disavowal of shared stimulus meaning."[5] Along with Quine's "focused observation sentences," one also finds under the heading of "Evidence" a treatment of the theory laden-character of observation, observation categoricals (needed to

3. Quine 1990, p.2.
4. *Ibid*., p. viii.
5. *Ibid*., p. 43.

integrate observation with theory), a discussion of Popper on falsification and discussions of holism and empirical content (meaning).

In defining "the empirical content of a testable sentence or set of sentences" by reference to "a set of synthetic observational categoricals" logically implied, Quine is well on the way to a contextualization of (empirical) meaning to object language theory. Talk of the analytic and the synthetic has lost its former epistemic burdens here, and it is to be expected that meaning might be liberated in some fashion as well. The question of a more realistic treatment of meaning "intentional realism" (and the related questions of indeterminacy of meaning and ontology) appears to be linked here to problems concerning the status and role of stimulus meanings in Quine's work and in his disputes with Davidson and others.[6]

Claims for inter-linguistic (but not intra-linguistic) stimulus synonymy are dropped in view of difficulties. Stimulus meaning as it figures in the evidential support of theory is thus more separated from stimulus meaning as it figures in theories of translation. Regarding evidence, "observation sentences," with their stimulus meanings are, "the vehicle of scientific evidence," though no definition of evidence is ventured. The absence of a definition is of some interest, since it bears on the Quinean thesis of the underdetermination of theory by evidence. Without an effective and theory-independent definition of evidence, one comes to think that what counts as evidence will depend in part on the perspectives of evolving theory (as in 'This is H_2O' or 'This is H_2S' which may come to be observation sentences in light of known theory). This point weakens Quine's assumption that we will always have insufficient evidence for deciding between "empirically equivalent theories." Theories will be merely empirically equivalent, so far as we know and subject to future accounts of evidence. Where once Quine had argued from underdetermination of theory by all possible evidence to inscrutability of reference and indeterminacy of translation, the argument is here reversed—from ontological relativity to the existence of empirically equivalent but ontologically distinct theories.[7] Proxy functions remain crucial to indeterminacy of translation, reference, and meaning.

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6. Cf. Quine 1990, p.44.
7. Cf. *Ibid*., p. 96.

"Focused observation sentences," allow Quine a kind of perceptual simulation of reference at the observational level. In contrast to a conjunction of observation sentences 'Lo a pebble and lo blue' the predication 'This pebble is blue' has a distinct stimulus meaning. For, while the conjunction merely requires that "the stimulation shows each of the component observation sentences to be fulfilled somewhere in the scene—thus white pebble here blue flower over there," in the case of the predication "The blue must encompass the pebble."[8] Quine denies, of course, that observation sentences are all learned as unstructured wholes by direct conditioning to stimulation. Given that various compounds are included among the observation sentences, there are just too many for them all to be learned by direct conditioning. Rather, many of them are learned "by subsequent construction from sophisticated vocabulary." Observationality of the sentence only requires "direct correspondence to ranges of stimulation."[9] It is the fact that a sentence could be learned in the direct way which renders it observational.

Observation sentences are theory-laden for Quine in that, e.g., 'The mixture is at 180o C' and 'Hydrogen sulfide is escaping' are observational though "relative to one or another limited community, rather than the whole speech community."[10] This specialized community could, in most cases fall back upon community-wide observationality, except perhaps in the case of "the indescribable smell of some uncommon gas." But, more importantly, there is a further sense in which all observation sentences are theory-laden, though in another sense none are. At the most primitive level observation sentences are associated "as wholes" to stimulation. In the sense that any observation sentence could be so learned, no observation sentence is theory-laden. But component words (though at first merely "component syllables") come to figure in complex theory in the course of time, thus providing the connection between theory and observation. "Retrospectively, those once innocent observation sentences are theory-laden indeed." Yet they retain their observationality for all that.[11]

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8. *Ibid*., p.4.
9. *Ibid*., p.5.
10. *Ibid*., p.6.
11. *Ibid*., p.7.

One important question in all this is whether, and in what way, the acquired theory-laden character of observation sentences is an element of the meaning of such sentences—beyond the level of stimulus meanings. For example, it might be plausibly maintained that 'The sun is rising' though observational, differs in meaning as it appears in the context of Ptolemaic astronomy—as against the interpretation given to the sentence within the context of the Copernican theory. After all, such sentences (interpreted behavioristically as unstructured wholes) might be thought to support either theory, but the Copernican must reject the literal interpretation put upon it by the Ptolemaic theory. The argument is, then, that the observation sentence the Copernican rejects as false differs in meaning (or interpretation) when reinterpreted within his own theory. But Quine does not pause here to examine the notion of meaning beyond stimulus meaning. Rather he goes on to a very interesting discussion of how observation relates to theory.

Of special interest to this theme is a particular kind of compound of observation sentences—"Whenever this, that"—involving an "irreducible generality prior to any objective reference," and which Quine calls "observational categoricals." Although compounded of observation sentences, these are standing sentences "and hence fair game for implication by scientific theory." These are not to be confused with the observation conditional of *Theories and Things*—which are formed from a pair of standing sentences.

By way of example, Quine provides a "focal observation categorical" which "generalizes on a predicational observation sentence" rather than generalizing on some other compound of observation sentences.

(1) When a willow grows at the water's edge, it leans over the water.

Thus, (1) generalizes on the predicational observation sentence 'This riverine willow leans over the water,' and it is suited to be logically implied by more or less elaborate theory involving the hypothesis that willow roots nourish chiefly their own side of the tree, that roots get more nourishment from wetter grounds and so on.

Why regard such sentences as involving "irreducible generality prior to any objective reference"? One might argue instead that where we have cross-reference as in (1) between the pronoun 'it' and the phrase 'a willow' reference and individuation are also present. It

might also be thought that the predicational observation sentence also involves a kind of reference: akin to 'This is a willow, it is riverine, and it leans over the water.' But Quine does not allow reference to enter at the level of observation sentences—it would conflict with the empirical inscrutability of reference. But even if reference does not enter with the early acquisition of observation sentences, and even if Quine's predicational observation sentences could be learned as unstructured wholes, it seems clear that they might subsequently come to involve reference and individuation of the kind Quine seems to resist here.

There is perhaps a background story to Quine's predicational observation sentences to be found among the contributions to the Barrett and Gibson volume. For one finds there Hintikka insisting upon the ease of learning number words—a point which would appear to strongly conflict with Quine's story in *Word and Object* (§§24-25) according to which identity, individuation and objective reference enter only at the level of "analytic hypotheses" and beyond the factuality of stimulus meanings.[12]

Thus suppose that we can tell when the natives are cooking and even help out, while ourselves not yet beyond the level of stimulus meanings. If we are also able to use number words at this level of understanding, then it seems that we will be in a position to decide between various "analytical hypotheses" in our interpretation of 'gavagai'. If it is clear that the natives ask for one gavagai in order to cook it, then it will also be clear that they will not be satisfied with either a temporal rabbit stage (as when a child asks 'May I hold your rabbit?') nor with an undetached rabbit part. (May I hold your rabbit's leg?) Rather, if we see that a gavagai is wanted for cooking, then we expect an objection if a mere rabbit stage or an undetached rabbit part is offered. If the natives are dissatisfied where the rabbit is taken back, then this is evidence that 'one gavagai' does not mean the same as 'one rabbit stage', and if they are not satisfied with holding onto any of various undetached parts (while the investigator retains the rest) then this is evidence that 'one gavagai' does not mean the same as 'one undetached rabbit part.'

The existence of such evidence for and against alternative "analytical hypotheses" is certainly a problem for the account of

12. See Hintikka, in Barrett and Gibson 1990, p.169.

meaning in *Word and Object*, and one might therefore be led to think that Quine hopes to encompass the learning of a perceptual form of quasi-individuation and cross-reference, e.g., 'This is the same rabbit, but not the same rabbit stage' without conceding empirical evidence for the translation of the full referential and indivduative apparatus of a given linguistic community. The plan would be to allow a kind of perceptual individuation of bodies, via the "focused" character of predicative observational compounds, involving a supplement to the notion of innate quality spacing (or inborn perceptual similarity), and to deny that full blown objective reference enters at this level. But if this is the strategy, there is reason to think it will not work. For, however, "objective reference" and individuation might be conceived, if we can have empirical evidence for elements of this complex, then it stands to reason that we might also have empirical evidence for further elements as well. In short, though reference and individuation within a language under interpretation might not count as observationally evident characteristics of expressions, this point would not prevent us from conceiving of them as fully factual characteristics to be assigned in light of various and sundry empirical evidence.

2. Intention and Intension

Most of the discussion in the fourth chapter might better be labeled "intention" rather than "intension," since Quine is chiefly concerned with sentences reporting perception, their role in language acquisition, and sentences reporting belief—to generalize, the chief focus is on propositional attitudes[13]—which culminates in an acquiescence in Davidson's anomalous monism:[14] a token physicalism where mentalistic idiom amounts to "ways of grouping" neurological phenomena. The account represents a shift of emphasis in Quine's views: "Brentano was right about the irreducibility of intensional discourse," and further, departing somewhat from *Word and Object*, it seems, "there is no dismissing it." For, mentalistic idiom "implements vital communications and harbors indispensable lore about human activity and motivation...we have no substitute." In particular, knowing when a student sees that so-and-so is counted as crucial to learning and teaching the application of "so-and-so."

13. Quine 1990, pp. 60-73.
14. *Ibid*., p.71.

But to forestall premature celebration among friends of intentional realism, Quine has it that "there is good reason not to try to weave it into our scientific theory of the world to make a more comprehensive system." The grounds for this are an expressed preference for "the crystalline purity of extensionality" in science. Thus, Quine's hesitation on the mentalistic idiom appears to stand as firmly as before on the one hand, though "efforts to reclaim territory from the intensional side by dint of discoveries and reconceptualizations ... are to be encouraged and watched" on the other. Encouragement for scientifically motivated deviations from the master who otherwise lumps the inten*t*ional and the instens*i*onal into one category?

Theory formalization within the extensionalistic framework while not sufficient for full intelligibility, is "pretty nearly necessary." What else is required? Clearly, a science of the mental (or extensionalistic semantics in empirical linguistics) must also involve successful prediction. Where this is lacking (and a full-blooded anomalous monism seems to forbid the needed law-like connections among mentalistic predicates) we have at most bad science.

Thus a dilemma. On the one hand Quine appears to rule out a non-predictive science of understanding (leastwise as suitable for integration with our overall theory of nature) but on the other hand since naturalized epistemology is a chapter of science for Quine (centrally concerned with understanding, i.e., the progress from stimulus to science and the relation of the one to the other), and since the test of science is prediction, then either we must expect genuine scientific developments, or we must give up on naturalized epistemology as a chapter of natural science. Anomalous monism will be sustained only if such scientific developments are restricted to neurology and we get no genuine predictive science from (mentalistic) psycholinguistics or (intentional) developments (contra Fodor) in empirical semantics. The thesis or hypothesis of indeterminacy of reference and meaning is thus a projection (or hypothesis) concerning how naturalized epistemology will develop.

Turning to modality in §30, Quine develops his account of the contrary-to-fact conditional in terms similar to his familiar (and convincing) account of 'necessarily' as involving the "second-order annotation" that a sentence "is deemed true by all concerned, at least for the sake and space of an argument." Usage of 'possible' is treated in a similar fashion—its contextual relation to the state of a discus-

sion is recognized. At the end of the chapter, we return to the intentional where doubts are expressed concerning its animistic origins. However, seeing animism in the mentalistic idiom appears to be a kind of reversal and anachronism. For, some mentalistic notions "would seem to be as old as language," being involved in the teaching and learning of language at the observational level. Given this point, animism would then be a later elaboration. We cannot, in justice, always visit the sins of the child upon the father.

3. Truth and Reference

Section 12 on "Indifference of Ontology" introduces the theme of ontological relativity, now clarified as "indeterminacy of reference": "Reference and ontology recede thus to the status of mere auxiliaries." For "what particular objects there may be is indifferent to the truth of observation sentences, indifferent to the support they lend to the theoretical sentences, indifferent to the success of the theory in its predictions." If Quine is granted this much, along with its illustration by means of "our freedom with proxy functions," then it seems that Quine's characteristic and problematic semantic theses must also be granted. One senses a suppression of earlier (relative) joy in Tarski-inspired extensional semantics in favor of a more austere empiricism liberated from ontology in some fashion. Carnap's doctrine of ontological questions as "external" and instrumental seems to reappear in the form of a notion of a practical necessity to acquiesce in the ontological talk of the home language/theory. Thus, in reply to Stroud, Quine says: "As an indivduative general term 'rabbit' denotes each rabbit. Such is reference in the home language, relative to the usual or homophonic 'manual' of translation. These paradigms are on a par with Tarski's familiar paradigm for truth."[15] All things considered, this point appears to place the factuality of truth in question along with that of reference.

Having operated on a given theory by means of proxy functions, "we leave all the sentences as they were,...merely reinterpreting. The observation sentences remain associated with the same sensory stimulations as before, the logical interconnections remain intact. Yet the objects of the theory have been supplanted as drastically as you

15. Barrett and Gibson 1990, p. 334-35.

please."[16] Thus, there is no fact of the matter as to which objects we refer to or purport to refer to, and since choice of a manual of translation in not a factual manner, there can be little comfort to the factuality of (scientific) ontology in Quine's clarification of the notion of ontological relativity as relativity to a manual of translation.[17] Indeterminacy of reference undercuts scientific realism, and thus it will also undercut Quine's physicalism—like a snake devouring its own tail. Still, these point serve to suggest an alternative position: intentional realism in semantics is needed to support scientific realism in the philosophy of science.

Thus, there is room for doubt on the conclusion that ontology or reference is always a matter of indifference. Taking referential semantics seriously, one must insist that a reinterpretation by means of proxy functions involves a change of theory—though this is not to say that every such alternative theory generated by proxy functions will be of any serious interest. Where we have changed theory, then, from a semantic perspective we no longer have "the same sentences" —and we no longer have the same observation sentences in particular. Does every similar reinterpretation (or shift in objects of reference) leave us with no empirically accessible difference? (That some do is not sufficient to support Quine's claims regarding "indifference of ontology," and his focus on "empirical meaning" construed in terms of ontologically innocent observation sentences. (Contrast the essays in Quine's *The Ways of Paradox*, where we read "That the ontology should be relatively definite, pending revision, is required by the mere presence of quantifiers in the language of science..."[18])

Can we agree that "the truth of observation sentences" is always indifferent to ontology? This is to say that "observation sentences are to be taken holophrastically from the standpoint of evidence," ("and analytically from the standpoint of theory.")[19] But it has been argued that we must look to theory to even know what to count as evidence, i.e., that we must look at observation sentences from a particular theoretical perspective in order to integrate them with theory. It is only when so interpreted that they lend support, or serve to discon-

16. Quine 1990, p. 32.
17. *Ibid*., p.51.
18. Quine 1976, *The Ways of Paradox*, p. 245.
19. Quine 1990, p. 26.

firm, particular theories. Viewed holophrastically, or as unstructured wholes, they are indeed indifferent to ontology, but indifferent to theory as well.

For example, Galileo and his more conservative inquisitors can agree on the holophrastic rendering of 'The sun rises in the morning and moves through the sky'. To this day we recognize the practicality of acquiescing in this common mode of speech. Still, as interpreted to support the Ptolemaic system, Galileo must reject the sentence as false. For he rejects the premise of such interpretation, i.e., that the sun is in motion around the earth. Moreover, it is only as so interpreted that the sentence serves to support the Ptolemaic-Aristotelian astronomy. Given our present theoretical perspective, we see that the sentence, as so interpreted, is in fact false. Thus, it seems false too that our ontology "is indifferent to the truth of observation sentences." A reinterpretation is required in order to render observation sentences once used to support the Ptolemaic astronomy suitable to support the Copernican alternative. The point is that there is a difference in meaning (or interpretation) between the two astronomical theories and that this difference is relevant to science. Thus, it cannot be that there is "no fact to the matter" between the two interpretations. Whether a given person (or culture) holds to the one theory or the other appears to be as factual as things come. Failing developments in neurology or non-intentional psycho-linguistics which would allow us to paraphrase out of commitment to such difference, Quine's indeterminacy theses remain unproved. But they continue to challenge empirical semantics.

Quine interprets the correspondence theory of truth by reference to a version of the disquotation theory,[20] though 'truth' is also needed for semantic assent both within logic and elsewhere. One must wonder if there is not some deep conflict between Quine on truth and Quine on reference and ontology. If reference and ontology are indeterminate, the argument might go, then so is truth. Yet, since a truth predicate is needed for semantic assent and for generalized statement of the logical truths as when "We say all sentences of the form 'If p then p' are true."[21] Quine seems to want to have his cake and eat it too.

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20. *Ibid*., p. 80.
21. *Ibid*., p. 81.

What are true, Quine holds, are sentences; but the truth of a sentence "...consists in the world's being as the sentence says,"—which seems a paradigmatic intentional claim. Carry this over to quantified sentences, and you get some ontology. For example, the truth of '$(\exists x)Fx$' consists of the world being as the sentence says—containing at least one object which is an F. But if all such ontological claims, and claims concerning ontological commitments, are radically indeterminate and unfactual, and if ontology is "indifferent" to science, then so are truth claims indifferent to science. Our mere acquiescence in the home language, where we say "There are F's" does not remove this indeterminacy according to Quine, (since radical translation begins at home), and thus we expect that the notion of truth must be similarly afflicted. That Quine carries on with talk of truth in spite of this is surely a point which introduces a considerable tension in his views, and it is a point which reflects back upon his title. If truth and truth claims are as radically indeterminate and unfactual as ontology, reference and meaning for Quine, then, what significance can he assign to a mere acquiescence in scientific inquiry and the pursuit of truth? Still, all things considered, Quine's work is a paradigm of the pursuit of truth; indeterminacy of reference and ontology retain their anomaly.

Such are the ways of paradox. Younger philosophers try to solve problems. Older philosophers try to formulate them anew. Quine in particular seems intent upon reformulating the problem of the relationship between scientific objectivity and the ontological claims of the sciences. We should be grateful for the earnestness of intent at the roots of Quine's ever impressive accomplishments, even while recognizing that the intent arises because the problem is one within Quine's own views.