QUINE AND DAVIDSON ON OBSERVATION SENTENCES

by

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ABSTRACT

The thesis consists of three chapters, an Introduction, and a Conclusion. In the Introduction, the question of the principal unit of meaning and empirical content is raised within the context of traditional empiricism. It is then indicated how the problem is tackled by Quine and Davidson.

Chapter 1 is devoted to Quine’s proposed resolution of the predicament of traditional empiricism consisting in radical holism and naturalism. The internal connection between these two tenets of Quine’s approach is specifically emphasized, especially on account of how each of these tenets withstands the criticism of more robust empiricism on the one hand, and of anti-empiricist approaches on the other.

Chapter 2 deals with the structure of Quine’s holistic picture of language and of scientific theory. The notion of observation sentences becomes prominent in this chapter, for its rethinking by Quine is what allegedly allows Quine to reform empiricism in a holistic vein.

Chapter 3 consists in the argument between Davidson and Quine as to whether the residual empiricism of the latter still amounts to an untenable dualism of scheme and content.

In the Conclusion, I assess the outcome of this discussion from the point of view of whether the road of reform inevitably leads all the way to an abandonment of empiricism, as Davidson suggests, or whether a middle-of-the-road position is feasible and desirable, as is retorted by Quine.
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For centuries, ever since Francis Bacon and John Locke, but especially after August
Comte and John Stuart Mill, the notions "empiricism" and "scientific method" were
considered virtually synonymous. The sense of synonymy emerged naturally enough when
science was trying to separate itself from theology and later from speculative "philosophy
of nature." This sense was further augmented by the success of the original empiricist
program in science. To be sure, there was an occasional anti-empiricist backlash, but it
was usually brought on by someone (e.g., Descartes, Leibniz, Husserl) who took
mathematics to be the paradigm of science, and mathematics had always been the white
crow in the flock (although a respectable white crow). Even Kant was anxious to point
out that his philosophy of science was an unconventional brand of empiricism; indeed,
all material, as opposed to the form, of scientific judgements comes from sensory input:
"Reason without senses is empty, senses without reason are blind."\(^1\)

However, the success of "empirical sciences" was never quite matched by a
success of the attempts to explain this success in terms of empiricist philosophy. For
instance, the birth of modern science was marked by the belief that science arrives at its

\(^1\) Two important exceptions in Kant which prevent one from seeing him as a bona fide
empiricist are "pure physics" and, to no surprise, mathematics, in both of which there is
no empirical content whatsoever but which are still supposed to be synthetic and therefore
about the empirical world. However, Kant's very aspiration to be a "moderate"
empiricist is very indicative of the general trend.
laws by way of induction; hence Bacon's picture of a scientist crawling up the ladder of knowledge, starting from the solid ground of observables towards generalizations of higher and higher level:

[The true method] derives axioms from the senses and particulars, rising by a gradual and unbroken ascent, so that it arrives at the most general axioms last of all ["Aphorisms" - Book 1, XIX - in: Bacon 1960, 43].

A century and a half later Hume showed that no matter how reliable induction may have been up to now, it would beg the question to assume that this past reliability justifies our continued reliance on inductive generalizations from now on. Ever after philosophical empiricism was haunted by "the problem of induction" (i.e., the problem of proving that induction, after all, is or can be made reliable).

But the troubles of philosophical empiricism did not stay purely internal (the conceptual troubles of giving a coherent and plausible account of science as an empiricist enterprise). In the XXth century the empiricist assumption of the nature of science was brought under scrutiny. Many prominent scientists (Albert Einstein, Niels Bohr, Werner Heisenberg, etc) made it clear that they no longer thought of themselves as of someone who is on the opposite end of the spectrum from "speculative metaphysics" (now that science was well established and revered in its own right and did not need any philosophical makeup that would make it look different from everything else). Despite all

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2 Another important legacy of Bacon, not appreciated enough until 1960s when Hanson, Feyerabend and Kuhn raised the issue of theory-ladenness of observation, was his insistence that critical method is required not only for erecting the edifice of knowledge, but also for laying foundations for it.
the attempts to find a plausible "criterion of demarcation" of science from metaphysics,\textsuperscript{3} to many it became clear that science may have, as its essential assumptions, certain principles that cannot be derived from or even confirmed (or infirmed) by sensory experience.\textsuperscript{4} Duhem's instrumentalism and American Pragmatism (James, Dewey, Mead) emerged as strong alternatives to the empiricist programme and subsequently influenced Quine's project.\textsuperscript{5} Even some hard-core empiricists hastened to abandon the very label of empiricism, e.g. Karl Popper, who gave his methodology the misleading name "Critical Rationalism."

In this situation it was gradually becoming apparent to some of the collaborators in the empiricist programme that this programme, characterized by the intent to unify science on the basis of logic and sensory data and in sharp contrast to other forms of knowledge (and "pseudo-knowledge"), was not viable.\textsuperscript{6} Willard Van Orman Quine,

\textsuperscript{3} In the verifiability (Vienna Circle) or falsifiability (Popper) of its statements.

\textsuperscript{4} E.g., all those philosophers of science with a taste for its history - Alexandre Koyré, Imre Lakatos, Thomas Kuhn, Paul Feyerabend.

\textsuperscript{5} Among other comprehensive alternatives to the empiricist programme were Gaston Bachelard's "New Rationalism," neo-Kantian, phenomenological and structuralist accounts of science. Regrettably, the influence of these on the mainstream Anglo-American philosophy, including Quine, has always been minimal if not non-existent.

\textsuperscript{6} Of course Quine was not the only dissident. Otto Neurath, with his coherentist tendencies, could hardly be described as an orthodox empiricist. Even Karl Popper who, in my view, is not less of a positivist than his Vienna Circle Genossen, rebelled against some of the principal convictions of the era.

Internal criticism was always decisively important in the evolution of the logical empiricist project. The movement was not overly responsive to external criticism which would often be dismissed as ensuing from "failure to understand the meanings of terms" or from lack of logic background. Feyerabend gives a telling testimony of the intellectual arrogance of the "young guns" of logical empiricism in his account of the early years in Vienna (cf. Preface to \textit{Science in a Free Society}).
educated on the works of the last classics of traditional empiricism (Bertrand Russell and the Vienna Circle), as well as of Charles Pierce, entered the ongoing intellectual process with the intent to strengthen the project. The result was a comprehensive reform of philosophical empiricism, which involved purging it of some of its assumptions (which also turned out to be non-empirical). This is a reform, not an abdication. Quine shares the empiricist view of the role and scope of science and wants to preserve the general empiricist idea that the statements of science obtain their ultimate justification from the evidence of the senses. But he proposes a very different view of both the nature of such statements and the nature of the evidential support provided by the senses. The traditional empiricist picture of the way in which statements in a language hang together and square with reality is, in Quine's view, the main source of the crisis. Chapter 1 of this thesis is devoted to Quine's critique of this picture.

Although Quine's criticism, as any successful criticism, is inseparable from giving a positive alternative, it is in Chapter 2 that I give the positive exposition more directly. Instrumental in Quine's reformist project was his radical rethinking of the notion and role of observation sentences. Being the key word of the whole project, "observation sentences" will feature most prominently in this chapter.

The main objective of Quine's work in philosophy is to give a naturalistic account of language and knowledge (including science and epistemology itself). Roger Gibson in his book on Quine (fully endorsed by Quine himself) says that

... Quine's philosophy is a systematic attempt to answer, from a uniquely empiricistic point of view, what he takes to be the central question of epistemology, namely, 'How do we acquire our theory of the world, and why does it work so well?' [Gibson 1988, XVII]
"Empiricistic point of view" here alludes to Quine’s conviction that the only evidence there is for a statement is, ultimately, the evidence of senses. Hence, science, drawing its data from the totality of sense experience, exhausts what there is to know. On these grounds, Quine denies that there is any legitimate "first philosophy" that would provide a non-scientific foundation of science. Thus, for Quine the scientific picture of the world includes an understanding of how science itself works and arrives at its results. He denies charges of vicious circularity using Otto Neurath’s picture of the scientist as a sailor rebuilding his ship plank by plank while staying afloat in it.

Quine is happy to accept whatever picture of reality science suggests. Granted, science has produced several quite different pictures: from Newton’s linear deterministic universe to Einstein’s curved world without simultaneity to Bohr’s "Universe of Chance" (Pierce’s metaphor). But all of them portray reality as a coherent, self-sufficient whole that can be explained uniformly, without recourse to a multiplicity of mutually irreducible entities. For Quine, scientific knowledge is fallible, but still by far the best buy. The latest theory of the world that makes the grade (whatever that might mean in a specific epistemic situation) and falls closest to universal acceptance in the scientific community is for him the highest court of appeal as far as knowledge is concerned.

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7 However, unlike the empiricists before him Quine does not believe that this thesis entails a stronger one, that the justification of a statement is exhausted by the sensory evidence that can mustered in its support.

8 Quine does mention, in [Quine and Ullian, 1978, Ch.Ch. 6,7] some criteria of initial plausibility: conservatism, modesty, simplicity, generality, refutability, and precision.
Donald Davidson, on the other hand, is less concerned with science as such and more with human agents, and hence with understanding the mind and natural language (as opposed to semi-formalized and formalized languages of science). His understanding of human agency is, in its own way, not less naturalistic than that of Quine, but the difference in emphasis has, as I hope to show, had significant doctrinal implications. Quine’s rethinking of the role of observation sentences does not seem radical enough to Davidson who subjects their privileged role in Quine’s philosophy to further criticism. The dualism of scheme and content, what Davidson calls the "third dogma of empiricism," is rejected, and that rejection leaves empiricist philosophy with very little to hinge on. Chapter 3 contains an outline of Davidson’s rationalist alternative to Quine’s reformed empiricism, prompted in part by the alleged inconsistency thereof.

At the level of substantive philosophical inquiry, Chapter 1 is intended as a defence of Quine’s critique of the view that observation enters directly into theory construction and assessment and constitutes the empirical content of each individual sentence. In Chapter 2 observation sentences are presented as the link between theory and reality and the providers of empirical content to theories taken as wholes. Finally, Chapter 3 contains an assessment of Davidson’s questioning of the very idea of an epistemologically privileged class of sentences and of empirical content.
Chapter 1
Quine’s Attack on Logical Empiricism

Any empiricist philosopher is explicitly or implicitly committed to some understanding of what makes a belief, procedure, etc, empirical (as opposed to a priori). Moreover, when "empirical science" is his immediate concern, we are entitled to knowing what exactly in scientific knowledge and practices makes them empirical; in other words, what demarcates science from other systems of beliefs and belief-producing practices. The obvious general answer to this question is that a belief is empirical if it possesses empirical content. Correspondingly, a cognitive activity is empirical if it produces empirical beliefs. This general answer is a tautology, but a useful one, since it allows us to reformulate the initial question more meaningfully: What understanding does the philosopher in question have of "empirical content"? My further exposition in this chapter will revolve around (1) the way in which empirical content was understood in logical empiricism, and (2) Quine’s misgivings about that understanding which led him to a dramatic reform of philosophical empiricism.

And an answer to this question also places the particular brand of empiricist philosophy in a specific position within the general empiricist range.

This term will be employed by me in a generic sense, so as to encompass those XXth-century empiricists who used the apparatus of formal logic but did not call themselves "logical positivists," e.g. Bertrand Russell and some of his British colleagues.
The Notion of Empirical Content in Logical Empiricism

§1 Following Bacon, the logical empiricists viewed progress of knowledge as a consistent application of strict method to sense data (although they differed from Bacon in their understanding of the nature of method\(^{11}\)). In general, the crucial role of sensations in producing scientific statements was never questioned.\(^{12}\) The logical empiricists (most notably, Russell and most of the members of the Vienna Circle) were concerned with incorporating sensory experience directly into the body of any (empirical) knowledge. This project took the form of systematic redescription of scientific statements in terms of sense data.\(^{13}\) To use Quine’s testimony in "Epistemology Naturalized,"

To account for the external world as a logical construct of sense data - such, in Russell’s terms, was the program. It was Carnap, in his Der logische Aufbau der Welt of 1928, who came nearest to executing it [Quine 1965, 74].

An important achievement of the logical empiricists was their emphasis on the role of a sentence as the principal vehicle of meaning and content. In that they followed Frege who, in *The Foundation of Arithmetic*, was one of the first to insist on the following fundamental principle:

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\(^{11}\) Unlike the logical empiricists, Bacon afforded deductive procedures only a purely expository role.

\(^{12}\) Of course, there were exceptions, even outside the idealistic tradition, e.g., William Whewell in *The Philosophy of the Inductive Sciences* who, while remaining on the empiricist ground in seeing sensations as the only evidential basis of knowledge, emphasized the tremendous role of regulative ideas in constructing a theory on that basis.

\(^{13}\) The other side of the coin was that logic, mathematics, etc, in which appeal to sense data cannot play more than an illustrative role, were denied any empirical content.
never to ask for the meaning of a word in isolation, but only in the context of a proposition [Frege 1960, XXII].

Those who (like Quine) do not believe in propositions, change "proposition" in this formulation to "sentence":

This idea of contextual definition, or recognition of the sentence as the primary vehicle of meaning, was indispensable to the ensuing developments in the foundations of mathematics. It was explicit in Frege, and it attained its full flower in Russell's doctrine of singular descriptions as incomplete symbols [Quine 1965, 72].

A very definitive hierarchy of sentences was suggested. It was based on Pierce's thesis that the meaning of a statement consists in the difference its truth would make to possible experience (verificationism). Empirical (= synthetic) sentences are those whose truth would make some impact on possible experience. The meaning of an individual empirical sentence is its empirical import, and we can proceed with the meanings of its constituent expressions from there. Since the empirical import of any sentence is exhausted by the set of all sentences about relevant observable states of affairs, the meaning of an empirical sentence is ultimately the set of all its observational consequences. Even hypothetical (general and/or abstract) statements about the world were supposed to be reducible to "observation sentences" - only thus, it was argued, could their relation with sense experience be maintained:

This view was then summed up in the famous slogan that the meaning of a proposition is its method of verification.

The assumption behind this slogan was that everything that could be said at all could be expressed in terms of elementary statements. All statements of a higher order, including the most
abstract scientific hypotheses, were in the end nothing more than shorthand descriptions of observable events [Ayer 1966, 13].

Ultimately, therefore, each sentence separately was believed to be subject to the tribunal of sensory experience:

The act of verification in which the path to the solution finally ends is always of the same sort: it is the occurrence of a definite fact that is confirmed by observation, by means of immediate experience. In this manner the truth (or falsity) of every statement, of daily life or science, is determined. There is thus no other testing and corroboration of truths except through observation and empirical science [Schlick 1930, 57].

All sentences with zero empirical content (= those irreducible, at least in some weak sense, to observation sentences) were regarded either as cognitively meaningless (if they nevertheless purported to be about the world), or as mere linguistic stipulations. Even when, later in the day, doubt was cast on the radical empiricist view of corroboration of (or "evidence for") theoretical sentences, that view of their meaning was alive and well. I shall emphasize that for the sentences about the world, on the empiricist view, their empirical content is all there is to their meaning. So, the distinction between meaning and evidential support can be restated as that of empirical content at large (all those states of affairs that are relevant to the truth value of a statement, one way or the other) vs. positive empirical content (all those states of affairs that support regarding the statement as true).14

14 Karl Popper tried to make much of this restatement for his "criteria of rational choice": how much a theory tells us about the world (overall empirical content) vs. how strongly the world supports the theory (confirmed empirical content). In Chapter 2 we shall find an analogous distinction between Quine's "stimulus meaning" and "positive stimulus meaning."
However, there is still a residual attachment to sub-sentential units as bearers of meaning. In his analysis of individual terms Carnap, arguably the most influential logical positivist, divides the meaning of a word into its syntax and semantics. The former is given through each term's "elementary sentence" - the shortest sentence in which the term can occur meaningfully - e.g., for "stone" it is "X is a stone," where "X" stands for a material thing ("this diamond," "this apple," etc) [Carnap 1932, 62]. If we label the elementary sentence of a term "S," then the term’s semantic component is determined by answering one of the following questions (which are considered by Carnap synonymous):

1. What sentences is S deducible from, and what sentences are deducible from S?
2. Under what conditions is S supposed to be true, and under what conditions false?
3. How is S to be verified?
4. What is the meaning of S? [Carnap 1932, 62]

Out of these four formulations, (4.) was seen as the least clear and therefore - the least helpful. In formulations (1.) - (3.), importantly, the meaning of a term is defined through a set of sentences, not vice versa. If we use (1.), then it is important to remember that, according to Carnap and others, any sentence is ultimately deducible from (or reducible to) a conjunction of "observation sentences" or "protocol sentences" whose particularity is that their referents are objects of direct observation. Hence, the meaning of any term (on the semantical side) is ultimately determined through the observation terms it is an abbreviation for.

However, the very nature of the objects of direct experience was controversial. The choice was between private sensations and feelings ("warm," "blue," "joy," "sharp," etc) on the one hand (phenomenalism - Schlick, early Carnap), and public physical macro-
objects ("liquid," "table," etc) - on the other (physicalism - Neurath, later Carnap). (We shall see later that certain oscillation between these two interpretations of what is reported in observation sentences also exists in Quine's reformed empiricism.) At any rate, although in general a sentence is recognized as semantically superior to individual terms, there is an important exception of the subclass of "observation terms" which signify "objects of direct acquaintance" (to use Russell's expression), no matter how these latter are understood.

§2 As I have tried to make clear, a traditional empiricist view of meaning and corroboration requires that every empirical sentence have a finite or at most denumerably infinite number of observation sentences as its consequences. This explains Quine's remark in [1965, 77-78] that Carnap's failure to define (even loosely) an arbitrary scientific statement through the conjunction of all its observable consequences, evident in Testability and Meaning [1936], spelled the end of hopes to develop empiricism at the sentential level.

15 We could put up with denumerable infinity of consequences if there is an effective procedure of sorting them into a finite number of "equivalence sets." Without going into too much logical detail, we can outline the two main principles of such a finitization procedure:

(1) If $P$ is an observational consequence of sentence $S$, then any disjunction of the form $P \lor X$ is to be eliminated (or clustered together with all other such disjunctions plus $P$ itself to form just one equivalence set);

(2) If $P$ and $Q$ are observational consequences of sentence $S$, then the conjunction $P \land Q$ is to be eliminated (or clustered together with either of the conjuncts to form just two equivalence set).
After all, an isolated sentence need not be afforded an independent meaning and/or evidential base. According to Pierre Duhem, sentences obtain their meaning and support not from experience, but from large consistent aggregates of sentences (theories) that themselves should be construed as more or less arbitrary instruments of prediction and technological success rather than summaries of experience.\textsuperscript{16} Duhem, in the face of its internal difficulties, felt the need to abandon empiricism altogether. However, Quine's reaction to the crisis of the "sentential-level" empiricism was not to abandon empiricism, but to reject the notion that the sentence is the appropriate unit of content and confirmation. It is this move which leads Quine to reject as dogmas the commitment to reductionism and to the analytic/synthetic distinction.\textsuperscript{17}

In short, the two extreme positions were that of the logical positivists: every meaningful statement about the world has independent empirical content, and Duhem's: theories do not have definite empirical content at all. Quine, in effect, takes the middle path:

It is that the typical statement about bodies has no fund of experiential implications it can call its own.

A substantial mass of theory, taken together, will have experiential implications; this is how we make verifiable predictions [Quine 1965, 79].

\textsuperscript{16} This position was prompted mostly by the underdetermination arguments which he was probably first to develop.

\textsuperscript{17} Quine's holism, although it resembles that of Duhem in many significant ways, was historically quite an independent invention: only after the publication in 1951 of "Two Dogmas" did Hempel and Philipp Frank draw Quine's attention to Duhem. - See Quine's testimony in "Comment on Koppelberg" [Barrett and Gibson (eds.), 212].
This is probably the simplest possible expression of Quine’s empiricist holism. As we shall see later, this holism is not only motivated by philosophy of science concerns, but also rooted in Quine’s theory of language learning.

2. Quine’s Critique of the Two Dogmas

§1 As we have seen, Logical Empiricism claims that there are two ways in which statements can be cognitively meaningful. They can be about the world (that is to say that they have empirical content),¹⁸ or they can be about language in the sense that they express linguistic conventions.¹⁹ According to Quine, the function of the first dogma, the analytic/synthetic distinction, is to demarcate statements about the world from statements merely expressing linguistic conventions and thus (alleged) knowledge about the world from (alleged) knowledge about language. Further, the second dogma, the traditional empiricist criterion of meaning based on (phenomenalist or physicalist) reductionism, is what demarcates statements with genuine empirical content (science) from statements that purport to have but in actuality lack cognitive content (religion and metaphysics).

¹⁸ The empiricist rejection of the synthetic a priori does not obviously follow from their conception of meaning and empirical content alone. Kant’s a priori judgements are such that their truth value can be ascertained by reason alone, without recourse to any experience. Nothing prevents there being empirical means of doing so, thus such judgements may possess some empirical content. However, empiricists always insisted that knowledge about the world can only come through the evidence of the senses. Perhaps we find the classical empiricist conception of the mind as a processor of sensory input at play here.

¹⁹ A statement can be about language either by stating its conventions explicitly, as in "Bachelor shall be deemed synonymous with unmarried man," or by expressing them, as in "All bachelors are unmarried."
In Quine's view, the "two dogmas of [traditional] empiricism" are jointly aimed at placing "positive science" in a very definite and prominent position. Quine shares this objective, but he insists that the two dogmas will not secure this position because they are tied to the fallacious view that the unit of empirical content is a separate sentence.

§2 In "Two Dogmas of Empiricism" [1951] Quine questions the presumption behind the thesis that knowledge about linguistic conventions can be achieved and/or expressed without any empirical assumptions, that meanings of linguistic expressions can be fixed before they are actually used to make statements about the world. Quine concedes:

It is obvious that truth in general depends on both language and extralinguistic fact. The statement 'Brutus killed Caesar' would be false if the world had been different in certain ways, but it would also be false if the word 'killed' happened rather to have the sense of 'begat'. Thus one is tempted to suppose in general that the truth of a statement is somehow analyzable into a linguistic component and a factual component. Given this supposition, it next seems reasonable that in some statements the factual component should be null; and these are the analytic statements [Quine 1951, 36-37]. Then the belief in the existence of an epistemologically privileged subclass of sentences (namely, analytic ones) results from the belief that each statement has a separate meaning and confronts experience separately. This presupposition is exactly what Quine denies.

Analytic statements, according to the positivists, merely express linguistic conventions - correctly (analytically true statements) or incorrectly (analytically false ones). For instance,

(1) No unmarried man is married
is believed to be analytically true, because any adjective substituted for "married" throughout will yield a true (although, possibly, grammatically awkward) sentence. We need not know anything about men or being married in order to establish its truth; we only need to understand the meanings of the logical auxiliaries "is," "no" and "un-." At the same time and for the same reason,

(1') Some unmarried men are married

is believed to be analytically false. A different example of analytical truth is

(2) No bachelor is married,

as opposed to

(2') Some bachelors are married.

In this case, we need to know a bit more - namely, the meanings of the words "bachelor" and "married." These two cases can be distinguished as examples of "logical" vs. "linguistic" analyticity, the difference being that in the former case we need to understand the language only insofar as its logical apparatus is concerned. However, some have argued that this difference can be shown to be purely quantitative (indeed, Carnap in [1956] treats both logical and other linguistic conventions equally, thus his "meaning postulates" underlie both kinds of analytic truths). On the contrary,

(3) John is a bachelor

is a synthetic sentence, because mere mastery of the constituent terms does not reveal its truth value; we also need to know certain things about the world (namely, about John).

Quine's attack on the analytic/synthetic distinction stems from his rejection of explanatory power and consistency claims for the notion of sameness of meaning. He
concentrates on sentences of the second type. It is claimed that they are analytic in virtue of being reducible to logical truths (tautologies, analytic-1 sentences) by substituting synonyms for synonyms. Analyticity-2 then hinges on the notion of sameness of meaning. (Two expressions are synonymous if and only if they have the same meaning.) What then is synonymy (sameness of meaning)?

§3 Quine considers two main ways of explaining synonymy. One is to appeal to definitions. Two expressions are synonymous if they are *defined* through each other. But where will the definition come from? In the questions of linguistic meaning, it is customary to rely on dictionaries, e.g., "Bachelor: an unmarried man." But dictionary entries themselves have empirical origin: their authors merely report current use:

The lexicographer is an empirical scientist, whose business is the recording of antecedent facts; and if he glosses 'bachelor' as 'unmarried man' it is because of his belief that there is a relation of synonymy between those forms, implicit in general or preferred usage prior to his own work. The notion of synonymy presupposed here has still to be clarified, presumably in terms relating to linguistic behavior. Certainly the "definition" which is the lexicographers's report of an observed synonymy cannot be taken as the ground of the synonymy [Quine 1951, 24].

The point is, in reporting current usage we must already be able to make synonymy-judgements (i.e., to recognize synonymy when we see it). Hence, we resort to the very notion we have set out to explain in the first place. The "established usage" route will not take us far away from the start.

Next Quine discusses Carnap's [1956, first published 1947] explanation of analyticity in terms of linguistic conventions, through "semantical rules" that define a
privileged subclass of L-true sentences. He notes that semantical rules are arbitrary and vacuous, for they merely label certain sentences without giving any reason for that designation. The only reason Carnap can give is that the sentences in the privileged class are, in some unclear sense, "analytic," which returns us to the original problem.

In a later article [1952] Carnap gives linguistic conventions another shot. He recognizes that ordinary language is too imprecise to ensure the meaning invariance required for analyticity. But in an artificial system natural-language fluctuations are irrelevant and therefore harmless. He bites Quine’s bullet and agrees that meaning must be fixed more or less arbitrarily (the only real constraints being consistency and convenience):

If logical relations (e.g., logical implication or incompatibility) hold between the intended meanings of the primitive predicates of a system, then the explication of analyticity requires that postulates for all such relations are laid down. [...]

Suppose that the author of a system wishes the predicates 'B' and 'M' to designate properties Bachelor and Married, respectively. How does he know that these properties are incompatible and that therefore he has to lay down the postulate P₁?²⁰ This is not a matter of knowledge but of decision. His knowledge or belief that the English words 'bachelor' and 'married' are always or usually understood in such a way that they are incompatible may influence his decision if he has the intention to reflect in his system some of the meaning relations of English words. In this particular case, the influence would be relatively clear, but in other cases it would be much less so [Carnap 1952, 224-225].

²⁰ (P₁) '∀x(Bx ⊃ ~Mx)' - M.M.
However, this avenue leads, in Quine's view, nowhere. Since Carnap's article was published after *Two Dogmas*, Quine did not address this proposal explicitly. In anticipation, he wrote:

Not all the explanations of analyticity known to Carnap and his readers have been covered explicitly in the above considerations, but the extension to other forms is not hard to see [Quine 1951, 36]. The extension "is not hard to see" if we keep in mind that an artificial system of signs is not a language until it is *interpreted*, and such an interpretation can only come, eventually, from ordinary language. At that stage Quine's point about the empirical nature of lexicography kicks in again:

In formal and informal work alike, thus, we find that definition\(^{21}\) - except in the extreme case of the explicitly conventional introduction of new notations - hinges on prior relations of synonymy [Quine 1951, 27].

§4 As an entirely different approach, Quine considers defining synonymy in terms of *interchangeability* of allegedly synonymous expressions. E.g., "bachelor" and "unmarried man" are synonyms iff they are interchangeable in all contexts. The immediate difficulty is in that no two expressions of different types (even as close as, e.g., "baby-sitter" and "baby-minder") are interchangeable in *all* contexts. Sometimes this failure of interchangeability is due to differences in surface linguistic form, sometimes to idiomatic difference. Quine's examples are the word-type "bachelor" and such idioms as "bachelor of arts" and "bachelor's buttons." Although the sentence

\(^{21}\) Be it in the form of a dictionary entry, "semantical rule" or "meaning postulate" - M.M.
'Bachelor' has less than ten letters

is true, the result of substituting "unmarried man" for "bachelor" is false. Quine tries to be charitable:

Such counterinstances can, however, perhaps be set aside by treating the phrases 'bachelor of arts' and 'bachelor's buttons' and the quotation "bachelor" each as a single individual word and then stipulating that the interchangeability *salva veritate* which is to be the touchstone of synonymy is not supposed to apply to fragmentary occurrences inside a word [Quine 1951, 28].

There are independent reasons to doubt the feasibility of this move, but moreover, Quine shows that even if it were justified, interchangeability would not take us far either. Interchangeability is always language-relative. Now, if we consider an extensional language, in which "any two predicates which agree extensionally (that is, are true of the same objects) are interchangeable *salva veritate*" [Quine 1951, 30] (and thus the problem of "bachelor's buttons" does not arise), then interchangeability is not sufficient for cognitive synonymy. Indeed, "renate" ("creature with kidneys") and "cordate" ("creature with a heart") would have to be treated as synonyms. If, on the contrary, we choose a language rich enough to contain intensional idioms ("necessarily" etc), then interchangeability *salva veritate* will indeed be sufficient for synonymy, "but such a

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22 Quine points out that this approach, should it ever be successful, would require a proper scientific account of the very notion of a word, which seems to him unlikely. However, elsewhere (notably, in *Word and Object*) Quine adopts a similar approach in order to argue that "opaque contexts" are not "intensional contexts."

23 One can also notice that defining synonymy through co-referentiality would make the distinction between meaning and reference, vital for Quine, collapse.
language is intelligible only in so far as the notion of analyticity is already understood in advance" [Quine 1951, 31].

3. Holism and the Web of Belief

§1 As we remember, the analytic/synthetic distinction is an expansion of the underlying thesis that the truth conditions of a statement are analyzable into its empirical and linguistic components.

If this presupposition were to stand, then the notions of analyticity, cognitive synonymy and meaning could be salvaged after all. Indeed, the verificationist theory of meaning states that "the meaning of a statement is the method of empirically confirming or infirming it" [Quine 1951, 37]. If the meaning of a statement allows precise determination (in terms of its verification and falsification conditions), then synonymy can be defined, traditionally, as sameness of meaning, and analyticity - as synonymity with a logically true statement. (Meanings of other linguistic forms then can be defined through the meanings of relevant statements - see the reference to Carnap [1932] above.) Hence, whether the analytic/synthetic distinction is defendable, depends on whether
to each statement, or each synthetic statement, there is associated a unique range of possible sensory events such that the occurrence of any of them would add to the likelihood of the statement, and similarly - for detraction from that likelihood [Quine 1951, 40-41]. The ultimate case is of those statements that are vacuously confirmed by any sensory event and infirmed by none, "come what may." Quine's counter-suggestion is that

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24 This claim, of course, hinges on Quine's thesis that necessity presupposes analyticity, which would be ill-received by modern modal logicians.
our statements about the external world face the tribunal of sense experience not individually but as a corporate body. [...] My present suggestion is that it is nonsense, and the root of much nonsense, to speak of a linguistic component and a factual component in the truth of any individual statement. Taken collectively, science has its double dependence upon language and experience; but this duality is not significantly traceable into the statements of science taken one by one [Quine 1951, 41-42].

Thus Quine draws moderately empiricist conclusions from the ideas which Duhem used to make anti-empiricist ones. Quine regards the theory rather the individual sentence as the primary bearer of empirical content. He prefers a holistic picture of verification to the notion of direct sentence - sensory event(s) correspondence. His reasons rest on the recognition of the fact that any statement stands in a logical relation\textsuperscript{25} with every other statement that can be made in a particular language. Sentences of a language form a "web of belief" such that some of them are on the periphery and so connect the web with experience ("observation sentences"), while some are in the centre and thereby keep the web together. The former are in a more or less direct relation to sensory events and therefore are highly prone to infirmation by recalcitrant experience, while the latter are extremely secure. The majority of sentences, however, lie somewhere in between and exhibit transitional behaviour. The difference between any two sentences is that of degree, not of kind. Quine writes:

\begin{quote}
Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system. Even a statement very close to the periphery can be held true in the face of recalcitrant experience by pleading hallucination or by amending certain statements of the kind called logical
\end{quote}

\textsuperscript{25} Understood broadly, so as to include e.g. probabilistic support.
laws. Conversely, by the same token, no statement is immune to revision. Revision even of the logical law of the excluded middle has been proposed as a means of simplifying quantum mechanics; and what difference is there in principle between such a shift and the shift whereby Kepler superseded Ptolemy, or Einstein Newton, or Darwin Aristotle? [Quine 1951, 43]

The only limitation (a purely pragmatic one) of our ability to preserve certain statements in the face of recalcitrant experience is the principle of conservatism, or "minimal damage" to our belief system: "our natural tendency to disturb the total system as little as possible" [Quine 1951, 44] leads us to focusing our revisions on those sentences whose truth value affects the minimal number of other sentences. Thus, analyticity and syntheticity of sentences becomes a matter of degree and turns upon our vaguely pragmatic inclination to adjust one strand of the fabric of science rather than another in accommodating some particular recalcitrant experience. Conservatism figures in such choices, and so does the quest for simplicity [Quine 1951, 46].

Here again Quine's naturalism is essential in understanding his insistence that logical laws are on a par with those of physics - see the Introduction.

4. An Assessment of Quine's Argumentation Against the Two Dogmas

§1 Quine's criticism of the two dogmas became enormously influential more because of the powerful philosophical intuitions embodied in it than because of its logical perfection. Indeed, Quine's direct attack on the analytic/synthetic distinction (a) concerns

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26 Feyerabend, in Against Method, gave this claim greater plausibility in his analysis of Galileo's and his predecessors' observations of the sky.

27 In this Quine follows James's Pragmatism.
only one subclass of purportedly analytic sentences ("linguistic conventions") and does not affect "logically true" ones; (b) is restricted only to some possible methods of drawing the distinction; and is therefore both incomplete and inconclusive. Only his holism (if correct) justifies the claim that a definite boundary between analytic (of any type) and synthetic sentences does not exist (and not merely resists an easy characterization).

Gibson [1982, 104] rightly notes that showing the difficulties arising from the two dogmas is insufficient to prove that the dogmas are false; Quine also has to provide a plausible alternative picture of language and scientific theory that avoids those difficulties. Meaning holism (i.e., Duhem’s thesis extended to the whole of language) is, in Quine’s view, just such an alternative. Although in "Two Dogmas" meaning holism is taken for granted rather than defended, other parts of Quine’s philosophy (namely, his naturalistic-behaviouristic picture of language learning) purportedly justify this view:

I think it is quite clear that if Quine were pressed today to support the antecedent of his conditional (quoted above), he would call attention to the way (theoretical) language is learned. Notice, too ... that Quine’s theory of language not only supports the claim that holism is true, it also provides a partial explanation of why holism occurs [Quine 1951, 106].

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28 "If this view [i.e., holism] is right, it is misleading to speak of the empirical content of an individual statement - especially if it is a statement at all remote from the experiential periphery of the field" [Quine 1951, 43; Gibson’s emphasis - M.M.].

29 And I have referred above to Quine’s testimony that he had not been familiar with Duhem’s thesis until after the first publication of "Two Dogmas."
§2 However, the relation between Quine’s use of meaning holism for critical purposes and the justification of holism he provides in his theory of language is not quite as straightforward as Gibson thinks. Gibson is right when he argues that Quine’s account of first language acquisition supports his meaning holism. It is less clear that Quine’s account of translation (including radical translation) sits entirely comfortably with his meaning holism. On the one hand, holism suggests that even laws of logic are revisable; on the other hand, Quine’s account of radical translation seems to demand that the laws of logic are fixed prior to further content ascription.

Quine defines radical translation as that unaided either by genetic kinship (and hence structural and semantical similarity) of two languages (e.g., English and Frisian), or by partially shared culture, e.g., English and Hungarian (which would provide established canons), "i.e., translation of the language of a hitherto untouched people" [Quine 1960, 28]. In radical translation (on which we shall more extensively dwell later) the linguist starts presuppositionless (except for the presuppositions of his own language which carry no guarantee of being true of the alien language). Lack of guaranteed commonalities between the two languages and the holist nature of language (namely, the fact that the truth of any statement can be preserved by revising the truth value of some other statements, there being no uniform way of doing so) lead to indeterminacy of translation: all overt behaviour of the aliens can be made consistent with the linguist’s tentative theory of translation by making alternative (but equally efficient) adjustments in his theory. However, translational indeterminacy is not without limits: Quine holds that
observation sentences and truths of sentential logic have unique equivalents in the home language, and therefore their translation is determinate.

Indeed, the radical translator proceeds by eliciting natives' assent or dissent to "simple" observation sentences (e.g., "Gavagai!") and to the allegedly (truth-functionally) compound ones constructed thereof. The pattern of assents and dissents determines which sentential connective we have encountered. If the native sentence "SI pars S2" is assented to in all and only those situations in which the natives assent to both SI and S2 taken separately, the linguist is entitled to translate "pars" as the conjunction (roughly, "and"); similarly for other sentence connectives. This far no indeterminacy of translation comes into play:

We have settled a people's logical laws completely, so far as the truth-functional part of logic goes, once we have fixed our translations by the above semantic criteria [Quine 1960, 60].

At the same time, the apparatus of predication is subject to indeterminacy, for the class of objects over which predicates in the native language range is itself subject to inscrutability of reference ("rabbits" vs. "rabbit stages" etc):

Of what we think of as logic, the truth-functional part is the only part the recognition of which, in a foreign language, we seem to be able to pin down to behavioral criteria [Quine 1960, 61].

But why is the translation of truth-functional connectives determinate? Why are the behavioural criteria sufficient to pin down sentence connectives so decisively? In radical translation, because of the absence of genetic or cultural links, we have a high degree of freedom in constructing our manuals of translation. The only imperative is that the manual account for all dispositions of overt alien behaviour as well as or better than rival manuals (and here observation sentences are of utmost importance, which we will discuss at a later
The only other imperatives are those imported by the linguist from his home language. So, if the linguist ought to reproduce in the translation manual the apparatus of first-order sentential logic, it is because his home language demands that logical laws be preserved. In other words, systematic violation of logical laws is forbidden in the home language. We ought to portray the aliens as abiding by our logical laws to avoid seeing them as being, in our view, in constant error.

So far, nothing has been said that would pose a real problem for the Quinian, since Quine himself emphasizes that logic is in the very core of the web of belief and is therefore its least revisable part. However, this extremely low revisability falls short of actual irrevisability, because there may be other conceptual schemes in which the central core differs from ours. But then why does Quine claim, as he does, that the idea of a "pre-logical people" is a myth? If logical laws are revisable "in principle" (although not in our conceptual scheme), then a "pre-logical" (in our sense) people would appear to be a very distinct possibility. Perhaps Quine implies that a conceptual scheme inconsistent with ours, although possible, is not adequately describable from the outside (e.g., from our prospective)? In that case we would have to bend it into our own shape in order to comprehend. However, the history of civilization testifies to the opposite. We can describe alternative conceptual schemes (shamanism, ancient Greek religion, Zen Buddhism, etc), perhaps incompletely and inadequately, but not so to the degree of failing to portray them as radically different.

Alternatively, perhaps Quine means that "illogical" conceptual schemes are possible but never emerge, but in that case it is incumbent upon him to explain what he
means by possibility. It is well known that Quine's programme in logic excludes alethic modalities in favour of quantification. Construed in terms of existential quantification, the claim that there can be no illogical people amounts to saying that such people has never been and will never be encountered. The first part of this claim aside, it is difficult to see how Quine could justify the second, projective part. After all, existence or non-existence of a prelogical people is, unless we are convinced otherwise, a purely contingent matter and therefore cannot be a universal constraint in radical translation.

But maybe Quine entertains a different sense of impossibility - pragmatic impossibility, perhaps? (In other words, systems of belief that do not respect sentential logic are too cumbersome to facilitate a community's survival.) This would amount to saying that in any real (viable, natural, ever-having-a-chance-to-emerge) language the laws of sentential logic are irrevisable and therefore exempt from holism (which corresponds also to Quine's failure to provide, in "Two Dogmas," a critique of logical analyticity of sentences parallel to his critique of "analyticity by linguistic convention"). Neither of these options seems particularly palatable to Quine.

However, Quine's misgivings about the idea of a prelogical people can be explained by considering the boldness of the idea as applied to a particular society. Prelogical mentality has been claimed in many cases, but never established: a faulty manual of translation was to blame. Hence Quine insists on putting the burden of proof squarely on the claimant. He suspects (not without cause) that in the vast majority of cases the alien people would be better understood by devising our manual of translation so as to avoid ascribing them a logic different from ours. So, in my view, Quine's skepticism with
regard to "prelogical mentality" merely expresses a *regulative idea*, a requirement that diversions from basic logic be used as the last resort in our attempts to comprehend, and never the starting hypothesis. On the contrary, the revisability of basic logic thesis is a *descriptive* one, and therefore they cannot be inconsistent.

§3 A related concern with Quine's position on the status of sentential logic comes from the way his statement about the potential revisability of even logical laws is worded. What does he mean by saying that even logical laws are not immune to revision "come what may"? "Come what may" is good as a metaphor, but the seriousness of Quine's claim requires more precision in justifying them. If the possibility of revision is being discussed, then "come what may" probably serves as a qualifier. Indeed, speaking of possibility, necessity etc *simpliciter* is, in most contexts, futile: one has to specify whether e.g. possibility is logical, physical, practical, etc. Now what kind of qualifier is "come what may"? Obviously, it cannot be used to construe the revisability of logical laws as a *logical* possibility, for no system of logic allows violating its own principles.\(^\text{30}\) By Quine's own naturalistic standards, there is no higher court of appeal than the current theory; in the matters of logic it is, apparently, current logic. However, for Quine no discipline is the sole judge of "its own" subject matter, since science "corresponds to reality" not in a piecemeal fashion, but only in its totality. Thus "purely logical" possibility gives way to *physical* possibility (possibility with regard

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\(^{30}\) One could dismiss this tentative reconstruction of revisability as a *logical* possibility of revision on the grounds of Quine being suspicious of modal logic. However, in our present context "logical possibility" means merely lack of contradiction, or consistency.
to the whole of natural knowledge). If Quine means physical (in a broad sense) possibility, than current physics (also understood broadly) is the ultimate court of appeal in the matters of revisability of logical laws. Indeed, this interpretation is confirmed by his equating the epistemological status of the laws of physics and those of logic (cf. the relevant reference to [Quine 1951] above) and by his own suggestion, although in a different context, that "come what may" be understood as "come what stimulation may" (cf. [Quine 1960, 66], my italics).

Here Quine's naturalism (logical laws are on a par with those of physics) comes to the rescue of his holism (logical laws are revisable). But the reason why even logic is subject to naturalistic understanding is that the principles of holism apply to logic. Here we witness a circle of support. Is it a vicious circle? I do not think so. The purpose of any argument is either purely negative (to show that a certain view is flawed), or positive (to support a better alternative to the traditional view). In the former case, the critic ought to avoid circularity on pain of begging the question. But in the latter case a circular argument may be admissible if it is intended not as a direct refutation of the criticized view, but as a means of sketching the alternative. This is exactly what Quine does in "Two Dogmas" and elsewhere: he shows the common origin of the two dogmas (namely, the view that any meaningful statement has a fund of empirical content "it can call its own"), then suggests an alternative (the holism of meaning and empirical content31 and

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31 In fact, for Quine "meaning" = "empirical content." It is not so for "stimulus meaning," but then this latter notion fully applies only to observation sentences, while the scores of other sentences in language are perfectly meaningful without having any stimulus meaning. Also, Quine maintains the notions of stimulus synonymy and stimulus analyticity without having to restore the first dogma of empiricism.
urges that the alternative (a) better fits in with the way language is learned, (b) poses fewer theoretical difficulties. If we consider what it is the holism of (of a certain belief system, as opposed to other such systems), it also explains why we will sometimes be forced (by the need to adjust our beliefs elsewhere) to revise our logic without getting a free hand in translating an alien language as based on a "deviant" logic. Indeed, according to Quine, revisions occur as a result of internal tensions when a belief system is confronted with reality, not as a result of its interaction with alternative belief systems. Now we see that the worry expressed at the beginning of §2 is resolved. The revisability of logic demanded by holism turns out to be compatible with the requirement that domestic logical structure be preserved in radical translation.

§4 In philosophical polemics, where there is very little room for "empirical" evidence, one has to rely on logic, and the two main avenues of criticism are accusations of (1) circularity, and/or (2) inconsistency. We have dealt with the circularity dangers above, and now it is time to check whether irrevisability can be consistently (without ruining the whole edifice) denied all statements within a certain belief system. This "structural" line of criticism of Quine's holism is exemplified, e.g., by the argument of Michael Dummett [1973]. I shall return to Dummett shortly, after considering another worry.

It might seem that the status of the universal revisability thesis in Quine's own system of beliefs renders it problematic. This worry rests on an analogy between Quine's

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32 This latter thesis is itself controversial; e.g., according to Popper and Feyerabend, change results only from the interaction between "strong alternatives" (Popper's term).
universal revisability statement and the skeptical and perspectivist theses. One of the
general critical observations is that any such radical claim is self-refuting because, if it
were true, it would also apply to itself. Specifically, if the universal revisability thesis is
itself universal, it is subject to revision and therefore could come to be viewed as false.
If it is not universal, then Quine's holism is threatened.

However, the worry is unwarranted. The reasoning behind it shows that, if it is to
be taken seriously, the claim of universal revisability is itself subject to revision. But this
is OK with Quine; he will say that the thesis of universal revisability is true but rejected
(incorrectly) in some belief systems. So, what happens when it is revised so that its truth
value goes from "true" to "false"? We get a culture in which this principle is rejected and
hence there is a privileged subclass of irrevisable statements (like the dogmas of the
predominant religion in most of traditional societies). Then in the period of a "cultural"
(by analogy with "scientific") revolution the revisability thesis is again adhered to,
although not necessarily stated explicitly. Next the principle may be effectively abandoned
again, and so on. What Quine purports to show is merely that any statement is held true
(or false) always within a certain web of belief, or conceptual scheme, and may change
its truth value in the course of transition from one belief system to another. Quine clearly
does not need to maintain that the thesis of universal revisability will be held true in all
systems of beliefs.33

33 The reasoning presented here does not turn on the distinction between "being held true"
(rightly or erroneously) and "being true" (universally). For Quine, truth value ascription
to sentences is determined by the considerations of internal consistency of a belief system.
Questions of truth are always settled internally. Therefore, Quine's assessment of the
thesis of revisability as true does not imply that those belief systems where it is assessed
In other words, since the phenomenon of universal revisability does not require that it be recognized at all times, the objection (directed against the latter assumption) is beyond the point.\textsuperscript{34} This counter-argument can be repeated for any other statement central to a given belief system and therefore irrevisable within the limits of that system. There will be \textit{some} statements irrevisable within a certain belief system; but Quine goes on to saying that this privileged status will lapse outside the system’s limits.\textsuperscript{35}

Dummett’s line of criticism is based on the role of logical relation within any belief system. He observes that in any such system we need to fix certain logical truths so that pressure could be transmitted from the periphery to the centre, as Quine suggests is the case.\textsuperscript{36} Dummett’s criticism also leaves out the dynamic nature of language and knowledge. Suppose that at a certain point one or more of the fundamental logical principles (e.g., the Law of Identity) are abandoned. What happens in this specific case is that pressure can no longer be transmitted from the periphery to the centre in a conventional way, for the referent of expression \( X \) in a periphery sentence is not necessarily the referent of the same expression-type that occurs in a centrally located

\textsuperscript{34} This line of thinking was inspired by Ray Bradley [1993]. Bradley’s argument is more general, to the effect that \textit{some statement or other} must be irrevisable.

\textsuperscript{35} Alternatively, this relation can be stated thus: major systems of beliefs (conceptual schemes) are differentiated according to the statement(s) held irrevisable within each one. Quine denies only "across-the-board," but not "local," irrevisability.

\textsuperscript{36} Right off the bat, it appears that at least the rules of \textit{Modus Ponens} and \textit{Modus Tollens} and the Law of Identity are indispensable if the truth values of periphery sentences are to have an impact on those of central sentences.
sentence. We could still preserve the "pressure link" by stipulating certain rules of correspondence between expression-tokens in different positions on the web of belief. (E.g., instead of "a=a throughout the language" we could stipulate "a=b at x & a=c at y ... etc."[37]) Of course, to be workable, this system of meaning conventions would have to be also very complex. But, firstly, many fragments of our current conceptual scheme are extremely complex anyway, and, secondly, the (physical) possibility of a conceptual scheme without the law of identity does not entail that it will ever be even considered - on the grounds of inconvenience. This possible response also fits in well with Quine’s thesis, directed against the first dogma of empiricism, that functional distinctions between sentences in a language are those of degree and convenience rather than of fixed epistemological status. Note that

Mathematical and logical laws themselves are not immune to revision if it is found that essential simplifications[38] of our whole conceptual scheme will ensue. There have been suggestions, stimulated largely by quandaries of modern physics, that we revise the true-false dichotomy of current logic in favor of some sort of tri- or n-chotomy. Logical laws are the most central and crucial statements of our conceptual scheme, and for this reason the most protected from revision by the force of conservatism; but, because again of their crucial position, they are the laws an apt revision of which might offer the most sweeping simplification of our whole system of knowledge [Quine 1982, 3].

Two conclusions about Quine’s holism can be drawn from this passage (in conjunction with other relevant statements):

37 This line of reasoning is, essentially, Quine’s "permutation argument" (to be invoked again later) according to which we could refuse to take expressions of some language "at face value."

38 My emphasis - M.M.
(1) any conceptual scheme will have some logic (in a broad sense) whose principles provide the coherence of the whole system and a significant alteration of which brings about an altogether different conceptual scheme;

(2) this holist doctrine is not an endorsement of "Anything goes," for too cumbersome a change will never be implemented (albeit not for some "principled" but for purely pragmatic reasons).

In this part of the dissertation I have attempted to show that although Quine’s theses of holism and naturalism, some of whose consequences are Quine’s attacks on the analytic/synthetic distinction and on reductivism, could hardly stand on their own, together they form a coherent and plausible whole. At any rate, I hope to have shown that any attack on Quine’s holism is bound to fail unless it considers the latter in the context of Quine’s naturalism.
Chapter 2

Quine's Reformed Empiricism

In this chapter I shall look at the way in which Quine qualifies the overall holistic approach so as to explain how an individual project of theorizing or translation ever gets off the ground. The pivotal part of this will be Quine's notion of observation sentences. My exposition will depend heavily on Quine's reflections on radical translation. Radical translation itself will not be an object of my analysis but will serve to introduce Quine's behaviouristic transformation of semantics.39

The objective of Quine's "moderate" or "empiricist" holism is, ultimately, to show how ascribing empirical content only to more or less comprehensive sets of sentences (theories) can be made consistent with making some subsets thereof an evidential basis for other subsets. As will become clear, Quine achieves this objective by holding that although any sentence, taken in isolation, is devoid of empirical content, some are less devoid than others. (In Chapter 3 I shall expose Davidson's accusation that the price of "moderation" of Quine's holism is too high - holism itself.)

However, let us start without any mitigating amendments to the original bold claim, and see if there is an internal logic that leads Quine to eventually taking a relatively moderate position. One of the characteristic features of Quine's holistic

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39 Quine's behaviouristic semantics seems to have two main sources - his doctrine of first language acquisition, and the doctrine of radical translation in which a second language is acquired with the aid of linguistic capacities already in place. In this paper I shall concentrate on the latter.
understanding of a belief system is that it is perfectly "round": there is no "natural starting point," epistemologically or logically different from the rest of the system, where the enterprise of assigning truth values to sentences, be that in theory construction or in translation, should begin. (This is because only the system as a whole can be properly endowed with empirical content, and hence any "natural" hierarchy of sentences with respect to empirical content must collapse.) However, inquiry and translation have to start somewhere: truth values of some sentences comprising a system have to be assigned first to determine the truth values (or truth conditions) of all other ones.

We have seen, at the end of Chapter 1, how Quine's holism and behaviourism support each other. The softening of Quine's holism in *Word and Object* and thereafter can also be best understood if we remember his behaviourist convictions. If some of the sentences in a language, in their patterns of acquisition and use, are publically accessible in a more direct way than other sentences, than the former are the best starting point both in translation and in theorizing (and, arguably, should therefore be made the starting point in a philosophical theory of the language as well).

There are also pragmatic considerations that avert the dangers of arbitrariness and indecisiveness in the enterprises of theory construction and translation. Quine clearly states that the truth value of a sentence can have a greater or a lesser impact on the truth values of other sentences (compare the laws of logic on the one hand, and lunchtime chat trivialities - on the other). So, it makes sense, as a matter of convenience, to allow greater flexibility in our assessment of the latter and try to keep fixed the truth values of the former. (Note that truth-value fixation depends on the number and significance of other
sentences potentially affected.\textsuperscript{40} These two distinctions - in terms of degree of stability of truth value, and in terms of degree of public accessibility, form the framework of Quine's analysis of language.

5. \textbf{Occasion Sentences vs. Standing Sentences}

§1 In language stability co-exists with flexibility; and this co-existence is made possible by there being two classes of sentences - those whose truth value is stable \textit{(eternal sentences, like "2 x 2 = 4")}, and those whose truth value, being more directly related to the situation of utterance, may change from occasion to occasion \textit{(occasion sentences, like "The number of fish in this bowl equals 4")}. It is important to emphasize that the distinction involves socially agreed upon (at least, potentially) \textit{truth value}; the modes of speakers' \textit{ascription} of a truth value to a sentence (in other words, modes of eliciting their assent or dissent) form the basis of a different classification where \textit{occasion sentences} are now opposed to \textit{standing sentences}:

\textit{Occasion} sentences, as against \textit{standing} sentences, are sentences such as 'Gavagai', 'Red', 'It hurts', 'His face is dirty', which command assent or dissent only if queried after an appropriate prompting stimulation [Quine 1960, 35-36].

Standing sentences ('There is ether drift," "The crocuses are out," "The Times has come") may also be prompted by sensory stimulation (in the first case it would have been the Michelson-Morley experiment). However,

\textsuperscript{40} It seems intuitively clear that the sheer \textit{number} of other sentences potentially affected is not sufficient to determine the significance of a sentence, and that their \textit{kind} also has a bearing here. However, this may be an un-Quinean intuition.
... standing sentences contrast with occasion sentences in that the subject may repeat his old assent or dissent unprompted by current stimulation when we ask him again on later occasions, whereas an occasion sentence commands assent or dissent only as prompted all over again by current stimulation [Quine 1960, 36].

Of course, the notion of a *current* stimulation is vague enough to require qualification. Suppose it starts raining. Thirty seconds later the utterance "It has just started to rain" comes out true if we consider a thirty-second old event "current," and false otherwise. In this example the former course of action is probably warranted; but not so in a situation in which thirty seconds elapses after the beginning of a 100 meter run. We would rightly assess the statement "The run has just started" as false.

Not only does the length of "current" depend on the type of *stimulation* (here the juxtaposition of, e.g., a sunset and a drive-by shooting is illustrative enough). The same stimulation can be considered, other conditions equal, current in some contexts of communication (e.g., when the overall situation is changing slowly), and past in others (where the overall situation is changing quickly). The period of time during which a stimulation still counts as current is labelled by Quine as its *modulus*. We can safely conclude that the modulus of a stimulation is a function of the sentence which is prompted by the stimulation and its context of utterance.

After we have seen how Quine relativizes the analytic/synthetic distinction, and in view of his general holism, it should come as no surprise that the standing sentence/occasion sentence distinction is also one of degree only:

Standing sentences grade off toward occasion sentences as the interval between possible repromptings diminishes; and the occasion sentence is the extreme case where that interval is less than the modulus.
... the distinction between standing sentences and occasion sentences is relative to the modulus; an occasion sentence modulo \( n \) seconds can be a standing sentence modulo \( n - 1 \) [Quine 1960, 36].

However, given that the \( n \) is more or less determined by the situation of utterance, a tentative boundary between the two types of sentences can be drawn in the vast majority of cases.

The two classifications of sentences ("occasion" vs. "eternal," and "occasion" vs. "standing") are not entirely separate: eternal sentences are a subclass of standing sentences. This is natural enough, for if a sentence’s truth value is socially fixed, it does not need any stimulation to prompt assent or dissent, but only access to the stock of collective knowledge.\(^{41}\) Non-eternal standing sentences whose truth value depends on the occasion of utterance can be converted into eternal ones by removing overt and hidden indexicality through explicit description. E.g., "The King was there yesterday," true in some contexts of utterance and false in others (provided the context eliminates any ambiguity which would make the sentence altogether truth-valueless), will become "The person who was King of Spain as of 5:36 pm Greenwich, November 14, 1993, was at that

\(^{41}\) Of course, "knowledge" here is synonymous with "socially endorsed beliefs" (where the endorsement may well involve Putnam’s "division of linguistic labour," thus allowing for socially endorsed beliefs that are not held by the majority of speakers). This sociological interpretation of knowledge is not, strangely enough, inconsistent with the traditional "justified true belief" definition. Canons of justification are, for Quine, socially produced tools of intellectual labour; any perspective on truth is always given through the current scientific theory of the relevant subject area, which theory is itself a product of social development (let us not forget that the entities theories operate with are "posits" introduced to facilitate the tapestry of linguistic practices).
time in Toledo" which is true (or false?) in every context.\textsuperscript{42} The opposition "occasion vs. standing" is more important for Quine than "occasion vs. eternal" because assent and dissent are publically accessible to a much greater degree than truth value (truth value assignment is governed by theoretical considerations), which is essential for a behaviourist like Quine.

§2 Quine's second classification of sentences (occasion sentences vs. standing sentences) accords with their patterns of confirmation and infirmation. It is important to emphasize that although material objects are at the source of sensory stimulation (at least in our conceptual scheme), it is the stimulations themselves, not the objects, that prompt our assent or dissent. There may be (and are) conceptual schemes in which ontology is not based (or is believed not to be based) on material objects (e.g., early Buddhism - theravada - where ontology is based on a collection of dharmas - forms of givenness of any object to consciousness). This incompatibility of ontologies should not stay in the way of successful translation.

Some digression may prove useful here. We have seen in Chapter 1 that the direct predecessors of Quine, logical positivists, were in disagreement on what to count as the immediate content of statements of observation - public physical macro-objects, or private sensations. As we shall later see in connection with Davidson's critique, Quine sometimes takes the content of observation statements to be the former, and sometimes the nerve

\textsuperscript{42} The indexical "that" in the revised sentence is harmless to its "eternal" status, because its referent (5:36 pm Greenwich, November 14, 1993) is now provided by the sentence itself rather than by the context.
firings caused by them (not the sensations whose material substrate these firings are), thus oscillating between the two extremes in the causal chain leading from the external objects to the nerves. But his intent, prompted both by the difficulties arising from the extreme alternatives and from his behaviouristic methodology, is to be somewhere in the middle, and the surface of the body is the natural middle (we shall see shortly how this stance is theoretically motivated). A stimulation, on the most plausible interpretation, is a certain pattern of physical impact of the environment on the bodily surfaces. It is neither "out there," nor "inside," but right on the boundary. The following passage in Quine speaks for this interpretation:

> It is important to think of what prompts the native’s assent to 'Gavagai?' as stimulations and not rabbits. Stimulation can remain the same though the rabbit be supplanted by a counterfeit. Conversely, stimulation can vary in its power to prompt assent to 'Gavagai?' because of variations in angle, lighting, and color contrast, though the rabbit remain the same. In experimentally equating the uses of 'Gavagai' and 'Rabbit' it is stimulations that must be made to match, not animals.

> A visual stimulation is perhaps best identified, for present purposes, with the pattern of chromatic irradiation of the eye. To look deep into the subject’s head would be inappropriate even if feasible, for we want to keep clear of his idiosyncratic neural routings or private history of habit formation. We are after his socially inculcated linguistic usage, hence his responses to conditions normally subject to social assessment. (Cf. §2.) Ocular irradiation is intersubjectively checked to some degree by society and linguist alike, by making allowances for the speaker’s orientation and the relative dispositions of objects [Quine 1960, 31].

Similarly, we can define tactile stimulation as patterns of pressure on the skin, etc. Take the predicate "round." Certain patterns of pressure will prompt our assent to the statement "Round" (="This object is round"), some will prompt our dissent, some will fall within
the grey area of hesitation (hence we call this predicate vague). There is nothing else to know about the meaning of "round" (taken either as a predicate or as an assertion) other than the patterns of pressure that prompt (a) assent; (b) dissent.

§3 More generally, for each sentence Quine labels the class of all stimulations that would prompt a competent speaker's assent to it as its affirmative stimulus meaning, and the class of all stimulations that would prompt dissent from it as its negative stimulus meaning. The full stimulus meaning is the ordered pair of the two [Quine 1960, 32-33]. Note that the stimulus meaning of a sentence does not cover the whole spectrum of all possible stimulation. Some of them may neither prompt nor inhibit assent to the sentence, but be irrelevant to it (e.g., a blow with a blunt object will prompt neither assent nor dissent to the statement "Round!", for it is not the degree of curvature of the object's surface that is at test here). Others (e.g., a very loud noise, electric shock, or a heavy blow with a blunt object) may stun the speaker and thus inhibit both assent and dissent. So, negative and affirmative stimulus meanings are in the relation of contrareity rather than contradiction (they are mutually exclusive but not jointly exhaustive).

Quine notes that the stimulus meaning of a sentence is, unlike the traditional notion of "meaning," merely a summary of a speaker's dispositions to verbal behaviour related to this sentence [Quine 1960, 34], and hence can be studied empirically. But the trade-off is that, being defined behaviouristically, stimulus meaning is subject to alteration (from speaker to speaker and from community to community) and imperfect fit (from language to language). Such a discrepancy arises, e.g., where
The native may dissent from 'Gavagai' in plain sight of the rabbit's ears, because the rabbit is in no position for shooting; he has misjudged the linguist's motive for asking 'Gavagai?' [Quine 1960, 39]. The native may have understood the query as "(Shall we shoot the) rabbit?" Moreover, even two speakers of the same language may fail to have exactly matching patterns of assent and dissent: a very loud shout "Gavagai!" may prompt a meaningful reaction from one and stun another, of slimmer build. In this extreme case sensory stimulation simply transcends the boundaries of normal perception; but in the normal case such a divergence in assent/dissent patterns follows inevitably from the uniqueness of each individual history of sensory conditioning:

However fully the subject's present inner life is determined by the totality of past impingements [of physical stimuli upon bodily surfaces - M.M], it is not determined by present ones. This is why similar behavior is not in general to be expected in receptually similar episodes. But perceptual [my italics - M.M.] similarity is not to be expected of receptually similar episodes either, because of changes in standards of perceptual similarity, changes in second-order dispositions [Quine 1973, 21]. Quine notes also that "Color words are notoriously ill matched between remote languages, because of differences in customary grouping of shades" [Quine 1960, 41]. For these reasons, translation goes "not by identity of stimulus meanings, but by significant approximations of stimulus meanings" [Quine 1960, 40].

§4 Almost always, there is an asymmetry between a sentence's affirmative and negative stimulus meaning, and the degree of this asymmetry may vary greatly: compare
"The Sun is fully eclipsed by the Moon," and "There is oxygen in the air." In the former case, the affirmative stimulus meaning is infinitesimal and the negative stimulus meaning pretty much exhausts all the relevant stimulations; in the latter case, it is the other way around. However, neither of the two components of these sentences' meanings is altogether empty and therefore their truth values may change from occasion to occasion. (Note also that these examples are of occasion sentences, for they command assent or dissent only when prompted, which differentiates them from non-eternal standing sentences, e.g. "The Sun was fully eclipsed by the Moon," and "Usually there is oxygen in the air.") In certain cases, one of the two components is altogether empty: there is no situation in which I would be prompted to (correctly and honestly) assent to "The Moon is made of green cheese" or dissent from "All uncles are male." Sentences of this latter kind are, therefore, eternal, and assent to and dissent from them are independent of the context of utterance.

Above, I characterized eternal sentences so that assent and dissent in respect of them do not require anything more than access to the "stock of collective knowledge," but in some cases even less is required. Some physical impairments barred, any speaker will

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43 This is not to deny that in certain cases perfect symmetry between affirmative and negative stimulus meaning can exist: consider "It is between midnight and noon now." But even here one could argue that the symmetry is not perfect, for the majority of speakers are asleep predominately between midnight and noon rather than between noon and midnight, therefore there are more situations in which this sentences will be dissented from than those in which it will be assented to. This objection, however, could be neutralized by considering a community of never-sleepers.

44 Thus, a fortiori, assent to or dissent from them need not be prompted by any stimulation, by virtue of which, as I have mentioned, the class of eternal sentences is a sub-class of the class of standing sentences.
know the truth value of such a sentence (which is to say, will be able to assent or dissent correctly) provided he or she can sustain fluent communication with other members of the linguistic community.\textsuperscript{45} Those sentences that prompt universal assent or dissent, whose affirmative (or whose negative) stimulus meanings are universally recognized as (not merely "are") their whole stimulus meanings, are labelled by Quine "stimulus-analytic."\textsuperscript{46} Stimulus-analyticity, unlike analyticity \textit{simpliciter} (rejected in "Two Dogmas"), (a) is defined initially for an individual speaker and then obtains inter-subjective status by aggregation. And, of course, stimulus-analyticity (b) is not a product of "semantical rules" internal to a language, but a by-product of the language’s day-to-day functioning. This is a status to be gained and lost. On Quine’s model, a change in the social status of a sentence with respect to its stimulus analyticity can occur when a certain piece of knowledge (e.g., that amoebae are animals) becomes or ceases to be an object of universal awareness. Such a change, however, (c) need not involve any change in the intuitive meanings of terms (for the newly-universal piece of knowledge may have long been commonplace among the narrow group of specialists to whom, in accordance with Putnam, society defers with regard to the meanings of the terms concerned, in our

\textsuperscript{45} Alternatively, one could say "as long as he/she is linguistically competent," \textit{provided} this is understood behaviouristically, without alleging a sharp distinction between knowing a language and having knowledge about the world.

\textsuperscript{46} Of course, not every fluent speaker of English realizes, having looked at the proof of Goedel’s theorem, that it is true, but that is only because the theorem is not part of ordinary English and therefore one has to be edified first to become a fluent speaker of the appropriate language (the tongue of symbolic logic).
example "amoeba" and "animal". For Quine, there is no hard and fast line between stimulus-analytic and universally accepted "synthetic" sentences like "There have been black dogs."

We have seen above that exact match of stimulus meanings of different sentences is virtually impossible. This deficiency makes stimulus meaning even more unfit for defining synonymy in the traditional sense. However, stimulus synonymy can be defined in terms of stimulus-analyticity: $A$ and $B$ are stimulus-synonymous just in case "A iff B" is stimulus-analytic. Given that, according to Quine, words are learned on the basis of sentences (either directly, as "red" from "(This is) Red," or contextually), stimulus analyticity of words is also available. I hope to have shown, in the light of sections 8 and 9 of Word and Object, that stimulus meaning, stimulus synonymy and stimulus analyticity (these behaviouristic - or as Quine says, "vegetarian" - surrogates of the traditional notions of meaning, synonymy and analyticity) cannot provide a basis for the traditional distinction between knowledge about linguistic conventions and knowledge about the world - the distinction Quine set out to repudiate in "Two Dogmas."

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47 Putnam's notion of social division of linguistic labour entails that a speaker's use of a term (e.g., "beech") is mistaken, not merely idiosyncratic, if he fails to defer to the use of the term in the dialect of the community of experts (in this example, botanists). Thus, invoking this notion while maintaining the distinction, important for Quine, between individual and social stimulus-analyticity, we ought to distinguish between the situations in which deference to the experts is supposed to happen, and those in which it is not (e.g., where there are no such experts). Only in this latter case would social stimulus-analyticity result, a lá Quine, from individual stimulus-analyticities. In the former case, it would go the other way.

48 I say "even more unfit" because it is inconsistent with exact coextensiality. But in "Two Dogmas" Quine points out, in connection with "substitutivity salva veritate," that even exact coextensiality is insufficient for establishing synonymy.
6. Observation Sentences

§1 We have seen how learning the truth values of certain (stimulus-analytic) sentences becomes part of language acquisition, thus assuring universal assent to or dissent from those sentences by all competent speakers. This universality is provided, in part, by the fact that stimulus-analytic sentences, once learned, do not require further sensory stimulation to prompt assent or dissent, hence the differences in such stimulation from occasion of utterance to occasion of utterance cannot make any contribution to individual patterns of assent or dissent. In other words, sensory-stimulation neutrality/irrelevance in respect of a sentence is sufficient for it to command intersubjectively identical patterns of assent and dissent. But it would be fallacious to conclude from this that such neutrality/irrelevance is in some way necessary for the inter-subjective identity. We find this inter-subjective identity of individual patterns on the other end of the spectrum from stimulus-analytic eternal sentences - in observation sentences:

Occasion sentences 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].

While in stimulus-analytic sentences collateral information is everything and sensory stimulation nothing, in observation sentences it is the other way around.49 Unlike any

49 It is this "purity" (although of different kinds) of stimulus-analytic and observation sentences that is responsible for the inter-subjective identity of their patterns of assent and dissent (stimulus meanings). In all "intermediate" cases the interplay between collateral information and sensory stimulation produces a vast variety of more or less idiosyncratic patterns.
other sentences (where certain collateral information is required for an educated assessment of the truth value), ideal observation sentences can be judged solely on the basis of current stimulation:

As one says in the uncritical jargon of meaning, the trouble with 'Bachelor' [and other non-observational sentences - M.M.] is that its meaning transcends the looks of the prompting faces and concerns matters that can be known only through other channels. [...] The stimulus meaning of 'Bachelor' cannot be treated as its "meaning" by any stretch of the imagination, unless perhaps accompanied by a stretch of the modulus [Quine 1960, 42].

On the contrary, observation sentences like "Rabbit!", "Red," "The sky is dark," etc, "wear their meanings on their sleeves" [Quine 1960, 42]. Their stimulus meaning does match, more or less, the traditional notion of meaning. In the case of observation sentences, differences in individual history do not cause differences in assent/dissent patterns - so long as the individuals were raised members of the same speech community; e.g., any two competent speakers of English will assent to "Rain!" or "It's raining" in exactly the same situations. The situations do have to be genuinely similar for different speakers, at least to some reasonable degree. It means that the conditions of observation should match, in

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50 By "stretching the modulus" Quine means providing the listener with a fairly long observation of the man in question, so that the observation supplies enough collateral information to judge whether or not he really is a bachelor.

51 This is a very simplified picture, for a purist may call some weather phenomenon "mere drizzle" while others are likely to grant this phenomenon the status of bona fide rain. The important point, however, is that barring extreme cases, even the purist will agree that the phenomenon in question may be called "rain" at least in some "loose" or "corrupt" sense.

Even Quine's paradigmatic example of an observation sentence, "Red," is not fool-proof, for in boundary cases one might deny "Red" in favour of "Pink" or "Orange"; but once again, the speaker will agree that the tint in question at least borders on "red proper."
relevant respects, pretty closely. Where a surface reflects different frequencies of light, depending on the angle of reflection, even a small difference in the position of two observers may produce inconsistent verdicts, e.g. "Red" from one and "Not red, but blue" from the other. This is one of the reasons why Quine chooses surface irritations rather than physical objects for the role of sensory stimuli (and he refuses to go any deeper than the surface, in order to account for inter-subjectivity among physiologically\textsuperscript{52} different agents).

Stimulus-analytic and observation sentences are alike in that both kinds prompt assent or dissent in equal patterns across the linguistic community. To avoid confusing them, it is important to remember that the former are \textit{eternal}, whereas the latter are \textit{occasion} sentences. The following situation indicates that such a confusion is more than just a formal possibility. Imagine an isolated community of speakers who live in artificially cooled homes in an otherwise hot climate, where day and night temperatures do not differ perceptibly (the former condition ensures that the opposition "cool/hot" does not become meaningless in their language, and the latter - that this opposition remains sharp enough, i.e. does not admit of any intermediate values). The sentences "It's hot outside" and "It's cool inside" \textit{seem} to be occasion sentences (because their translations into virtually all natural languages, e.g. English, are), and moreover observation sentences (for they command universal assent under similar circumstances). However, this intuition yields when we ask ourselves whether prompting stimulation is required to elicit assent

\textsuperscript{52} I am tempted to add "... and/or psychologically...", but Quine's physicalism (in the methodological rather than epistemological sense of the word) does not recognize a mental difference without a physical difference.
to or dissent from them from a native speaker. Since it is not, they are standing sentences - furthermore, of the stimulus-analytic kind: "... I call a sentence stimulus-analytic for a subject if he would assent to it, or nothing, after any stimulation (within the modulus)" [Quine 1960, 55]. Indeed, in my thought experiment each speaker's assent to the sentences in question is guaranteed by the universally shared information about the temperatures inside and outside, which information is acquired by every member of the community as part of social upbringing.53

§2 It looks clear now that Quine’s way of introducing the class of observation sentences that form the evidential basis for all other sentences in a language is perfectly consistent with his holism. Observationality, according to Quine, is a function that society grants a sentence (yet only temporarily) in order to facilitate communication in a certain way (and the same is true of stimulus analyticity - only the communication objectives pursued by society in each case are different). Further, observationality is also a matter of degree, the degree being determined by the amount of collateral information needed to supplement current stimulation so that a truth-value judgement could be made. Quine eventually confesses that, contrary to the original abstract picture, some amount of collateral information is ineliminable - e.g., even in the case of "Red" one needs information on lighting conditions. The amount of collateral information can be roughly measured through the modulus which makes the sentence observational (even "Bachelor"

53 That the typology of grammatical forms - sentences, parts of speech, etc, is not necessarily preserved in a successful translation, is part of the indeterminacy of translation thesis (Cf. Quine 1969).
can prompt uniform assent or dissent if the speakers involved are given sufficient time
and opportunity to observe the individual in question; in Quine's terms, "Bachelor" is an
observational sentence modulo several years). Hence, an observation sentence *par
excellence* will differ from others in a language only by being observational even with a
very short modulus (within a few seconds). It is an occasion sentence such that (1) any
competent speaker will judge it as true or false "on the spot," and (2) there is a high
degree of uniformity in such judgements.

Such peculiarity of observation sentences makes them unique both in *theory
construction* and in *language acquisition*. As far as the former is concerned, observation
sentences form the evidential basis for assessing theories with respect to their general
plausibility and in comparison with rival theories; they supply theories with empirical
content. How exactly this is supposed to be happening, according to Quine, will be
discussed later. The decisive point now is that, in traditional terms, observation sentences
perform their crucial function through linking reality and language. Being conditioned
wholly by specific patterns of observation, they are used to report those patterns ever
after. Can we then say that observation sentences link language (including theoretical
language) and the world *as it is presented in observation*?

The answer depends on how we use the term "observation." Traditional empiricism
reifies "observations," treats them as a special kind of entities (individual representations

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54 With regard to the latter, observation sentences provide the entering wedge into a
language (whereupon analogical substitution and the apparatus of reification kick in).
of a privileged, "direct" kind) that are reported in observation sentences. Quine also seems to make use of the notion of observations:

The reason for this basic role of observations, both in the support of theory and in the learning of language, is their intersubjective immediacy. They are what witnesses will agree about, on the spot. They are the common ground on which to meet when there is disagreement. Hence their basic role in the support of theory. And in their intersubjective immediacy they are basic also to language learning, because we learn the language from other people in shared circumstances [Quine 1973, 37].

However, Quine should not be understood as taking the notion of observations as basic and implying that observation sentences are merely those that report observations (with the latter being intersubjective, and the former enjoying shared patterns of assent and dissent). On the contrary, observation sentences are postulated first (in the manner described above), and only then is whatever is reported in them called "observations."

Strictly speaking, for Quine the very notion of observation, on any traditional interpretation, is at odds with their alleged role in observation sentences and therefore has no place in scientific semantics and epistemology. Indeed: if observations are sensory, they cannot be socially shared and therefore have nothing to do with observation sentences (which, do not forget, command quasi-universal assent or dissent in shared circumstances). If observations are those shared circumstances themselves, community-wide agreement is still unavailable:

... two men will assess it [their shared environing situation - M.M.] differently, partly because of noticing different features and partly because of entertaining different theories [Quine 1973, 38].

Unless one wants to assume that observations are something verbal (and Quine clearly does not), talk of observations (at least in the contexts of epistemology and semantics)
is better dropped in favour of talk of observation sentences themselves. These latter command intersubjective agreement in shared circumstances simply by definition:

A sentence is observational insofar as its truth value, on any occasion, would be agreed to by just about any member of the speech community witnessing the occasion. This definition depends still on the idea of membership in the speech community, but that presents no problem; we can recognize membership in the speech community by mere fluency of dialogue, something we can witness even without knowing the language [Quine 1960, 39].

As far as Quine the behaviourist is concerned, the notion of observations turns out to be worthless for general epistemology and semantics, because it contributes nothing to the key questions asked (or, according to Quine, supposed to be asked) in those disciplines: whether, and in what circumstances, there is community-wide agreement. This failure does not preclude the notion’s meaningful use in other contexts. What two speakers agree upon in assessing a certain observation sentence (and therefore, what is an observation), is decided by the current theory of nature (including the theory of human behaviour).

§3 Still, even this characterization does not shelter Quine from pointed criticism. The more radical critics of logical positivism in the philosophy of science, such as Norwood Hanson, Thomas Kuhn and Paul Feyerabend, argue that observationality of sentences depends on collateral information to a degree much greater than Quine would concede. Not only do they deny that there are such things as theory-neutral observations; they also deny that there are theory-neutral observation sentences. Hanson, in Patterns of Discovery,

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55 In Chapter 3, I intend to show why Q., under criticism, eventually gives up using the notion of a linguistic community as primitive, and what price he has to pay.
gives an example of a gadget that by a layman would be described as a weird glass-and-metal container, and by a trained physicist - as an X-ray tube [Hanson 1972, 15]. A natural consequence of this situation, although not explicit in Hanson's description of it, is that the physicist will always assent to the statement "There is an X-ray tube here" in the presence of the gadget, while the laymen may either dissent from this statement or suspend his judgement (of course, he may occasionally even assent to it, but only by way of guessing). So, what is an observation sentence for the specialist is not one for the laymen, although they speak the same language (e.g., English).

One of Quine's replies to this line of argument rests on his basic idea that observationality (along with all other semantic notions) is relative to a specific linguistic community. One could insist on the criterion of fluency of dialogue for a linguistic community. Hanson's example then illustrates the fact that membership in a community is not a given but rather results from achieving (through education, etc) fluency in communication:

If a sentence would qualify as an observation sentence for the scientist but not for the layman, it is couched in a technical sublanguage in which the layman is not a fluent communicant [Quine 1973, 41]. "There is an X-ray tube here" is an observation sentence for the community of physicists, but not for the wider community of English speakers. Alternatively, it could be denied the status of an observation sentence altogether,

For the specialist can always be driven back to the less technical level of evidence, though in practice he cites only what is needed for reassuring his trained colleagues [Quine 1973, 41].

Although Quine himself prefers the latter line of response, it appears that the other one is more consistent with his behaviouristic methodology. That any "technical" statement
(An objection to Quine similar to Hanson's could be raised with regard to stimulus-analyticity: compare "\( \lg 100 = 2 \)" for a university math student and for a first-grader. To this objection Quine could respond similarly: either by arguing that the math student and the first-grader belong to different linguistic communities, because there is no fluency of dialogue between them, or by denying that the sentence is genuinely stimulus-analytic, because the math specialist who claims that it is "can always be driven back to the less technical level".)

Something that is not an objection to the notion of observation sentences, even in Quine's interpretation of it, is that

... no datum is wholly safe from repudiation, if it conflicts with a theory that has overwhelming support from other quarters. Now we can accept this point as true but not as an objection. Our definition of observation sentence speaks only of concurrence of present witnesses, and sets no bar to subsequent retractions [Quine 1973, 41].

Quine here states that the observationality of a sentence is perfectly consistent with holism. In some cases we may alter truth value ascriptions to the sentence retrospectively, so as to accommodate our present theoretical needs; alternatively, the sentence may well be deprived of its observational regalia altogether if, in view of the commonly accepted theory with which it happens to be inconsistent, it should not command universal assent or dissent any longer. In other words, the special function of observation sentences in language does not entail, for Quine, their epistemologically privileged status and even

"can always be driven back to the less technical level of evidence," seems to revive the ghost of "protocol sentences" and the dogma of reductionism. Also, lesser and lesser reliance on the notion of linguistic community in Quine's later work poses difficulties for the whole enterprise, as I shall argue in Chapter 3 in relation to Davidson's critique.
does not grant observationality to any sentence for all time (which would be inconsistent with his critique of the reductionist dogma). The way in which Quine describes the nature and functions of observation sentences and their relation with other sentences in language provides his general holism about language and theory with important qualifications which do not, however, undermine the holism itself. More will be said about it in the next section.

7. Empirical Content

§1 Ultimately, observation sentences link theory with reality. But it would be a gross oversimplification to conclude that they form the empirical content (and, as the confirmed part thereof, the evidential basis) of theories - either as direct evidence, or as satisfied and failed predictions. Empirical content, for a certain theory formulation, cannot be defined as the set of all observation sentences that deductively follow from it. As Quine first puts the problem,

... observation sentences are occasion sentences, whereas theory is formulated in eternal sentences, true or false once for all. What logical connection can there be between the two? [Quine 1981, 26].

The solution is to eternalize observation sentences somehow. We could try to do it directly: "It's raining" becomes "Raining at 42°N and 71°W on March 9, 1981, at 0500," etc. However, this would require "determining places and times on an observational basis" [Quine 1981, 26], which seems unfeasible, especially with regard to moments of time. But

57 Traditionally, a theory is understood as a system of ideas or concepts. However, sometimes it is hard to tell when two ideas are "really" different and when they merely are two distinct formulations of the same idea. Since individuation of ideas poses such a problem, Quine proposes to talk directly about \textit{theory formulations}.
even if it were possible, eternalized observation sentences could not function as required for determining empirical content. Indeed, any prediction etc involves an observable situation only in relation to a set of auxiliary conditions. With an appropriate set of this kind virtually any observation sentence can be presented as a deductive consequence of virtually any theory formulation; without it, no observation sentence, eternalized or not, follows from any theory formulation. For instance, the sentence "The liquid is boiling" follows from classical thermodynamics (formulated in some standard way in English) under the assumption that the liquid is water heated to 100°C under normal conditions; but it may also follow from the "sorcery theory" according to which any liquid of any temperature boils when a certain spell is cast. Certainly, if the notion of empirical content should be of any use, it cannot be defined in such a vague way.

Instead, we can eternalize observation sentences by combining them into conditionals whose antecedents are conjunctions of observation sentences expressing the auxiliary conditions, and consequents - observation reports or predictions ("If φ then ψ"). Of course, resultant conditionals will no longer be observation sentences but standing sentences that Quine labels "observation conditionals." The new problem is now that the antecedent and the consequent may refer to different times and/or places; hence, although both are perfectly well verifiable, the conditional overall is not. To make an observation conditional subject to empirical test, we have to rewrite both its components in a uniform way, so that both prompt assent or dissent at the same time.
This can be done by incorporating generality into the structure of our conditionals. "Observation *categoricals,*" sentences like "Where there is smoke there is fire" and "When night falls the lamps are lit," help us circumvent the problem of specifying times and places and at the same time provide the degree of generality required in order to stand in a logical relation with highly general sentences of science. The general form of observation categoricals can be presented as \((t)(p)(P \supset Q)\), where "*t*" is a moment of time, "*p*" - a place, and "*P*" and "*Q*" - descriptions of observable states of affairs. Positive evidence for the categorical is any instance in which *P* and *Q* are the case at the same point of space-time: \(P(t_i,p_j) \wedge Q(t_i,p_j)\). Negative evidence against the categorical is any instance in which *P* is the case but *Q* is not: \(P(t_i,p_j) \wedge \neg Q(t_i,p_j)\). Finally, instances of the sort \(\neg P(t_i,p_j) \wedge Q(t_i,p_j)\) are irrelevant. Quine emphasizes the well-established asymmetry between confirmation and refutation:

And how do we know when an observation categorical is true? We never do, conclusively, by observation, because each is general. But observation can falsify an observation categorical. We may observe night falling and the lamps not being lit. We may observe smoke and find no fire.

This characterization fits Popper's dictum that scientific theories can only be refuted, never established. But we do see scope still for intuitive support of theories. An observation categorical gains our confidence as our observations continue to conform to it without exception; this is simple habit formation, or conditioning. A theory formulation, in turn, gains our confidence as the observation categoricals implied by it retain our confidence [Quine 1981, 28].

Observation categoricals turn out to be the principal link that connects theory (theory formulations) with experience (observation sentences). No wonder that Quine defines empirical content in terms of them. First he isolates the class of *analytic* observation categorical statements (in much the same way in which stimulus analyticity was earlier
defined in *Word and Object*: the affirmative stimulus meaning of the consequent is contained in the affirmative stimulus meaning of the antecedent. All other observation categoricals are synthetic. Now for each sentence or set of sentences (such as a theory) in the idiolect of a particular speaker, its empirical content "is the set of all synthetic observation categoricals that it implies, plus all synonymous ones" [Quine 1990, 17].

Empirical content for a community (e.g., scientific community) can be defined similarly by requiring that analyticity (with regard to observation categoricals) be shared in all idiolects.

Quine recognizes that the notions of empirical content and evidence (confirmed empirical content) are based on some pretty strong abstractions, e.g., that of sharpness of boundaries of stimulus meanings. However, the resultant concepts are "deceptively precise but withal instructive" [Quine 1990, 16].

§3 In the previous parts of this chapter I endeavoured to follow the development of the bold revolutionary holism of "Two Dogmas" into the qualified holism of *Word and Object*.  

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58 Unlike *Word and Object*, this current definition makes no reference to *full stimulus meaning*, but for a reason. For an arbitrary sentence X, let us use \{X\} to designate its affirmative, and \}X{ - its negative stimulus meaning. Then, the way these notions are constructed in *Word and Object* (they designate the sets of circumstances in which a sentence prompts assent and dissent respectively), for two observation sentences A and B 

(1) If \{A\}\{B\}, then "A \supset B" is stimulus-analytic; and
(2) If \}A{\{B\}, then "B \supset A" is stimulus-analytic.

To require of stimulus-analytic observation categoricals that both \{A\}\{B\} and \}A{\{B\}, would leave us only with biconditionals (one might call them "observation categorical equivalencies"). On the other hand, either (1) or (2) is sufficient, for in observation sentences affirmative and negative stimulus meanings are, to a high degree, complementary.
Object and then the doubly qualified holism of Quine's latest writings. The first qualification consisted in re-introducing, in a behaviouristic, non-positivist manner, of the notion of observation sentences as the entering wedge into language and theory. At that stage, evidential support (positive and negative) and empirical content for a theory were defined as classes of observation sentences implied by it: empirical content as the class of all such deductive consequences, positive evidence - as the class of all true, and negative evidence - as the class of all false such consequences.

The second qualification consisted in highlighting the class of eternal standing sentences such as observation categoricals in both above-mentioned roles. Empirical content is now defined purely in terms of observation categoricals. The question of empirical evidence is more complicated. On the one hand, Quine introduces a two-tier picture of confirmation and refutation: at the higher level, observation categoricals speak pro or contra the theory they deductively follow from; at the ground level, the categoricals are likewise judged in light of their instantiations - ordered pairs of observation sentences whose truth values, in turn, are directly established, on appropriate occasions, by any members of the linguistic community (so that the traditional notion of observation and the host of related problems are brushed aside "with one fell swoop").59 Importantly, this second tier is intuitively closer to extra-linguistic reality and therefore seems to be "more genuinely" the level where empirical evaluation takes place. On the

59 One of the reasons why the distinction between the two levels of confirmation is important is that observation categoricals that confirm or infirm a theory can either themselves be confirmed or infirmed by observation sentences, or gain support or refutation from other non-observational sentences.
other hand, Quine recognizes that empirical assessment on the lower, "more genuine" level functions only negatively:

Pure observation lends only negative evidence, by refuting an observation categorical that a proposed theory implies [Quine 1990, 13], whereas positive evidence, albeit inconclusive (but let us not forget that even negative evidence by counter-instances is inconclusive, due to holism), necessarily involves theoretical considerations. However, one can restore the principal status of ground-level evidence (in confirmation, not only in infirmation) by taking seriously Popper's idea that the only really positive evidence for a theory is the negative evidence that brings down its rival(s).

The theme of holism has emerged again, and this is far from accidental. Because observation sentences are defined by Quine (unlike "observation sentences" or "protocol sentences" in logical positivism) behaviouristically, without recourse to any distinction between "observation terms" (which purportedly refer to "objects of direct acquaintance") and "theoretical terms" (which are introduced as "useful fictions"), nothing prevents observation sentences and theoretical sentences from sharing any terms. No "bridge principles" are therefore needed between the two kinds of sentences in order to ferry empirical content and evidential support from observation to theoretical ones - only the usual logical relations:

Moreover, for Quine all terms are "useful fictions" (even those like "Mama," "red" and "milk") introduced to facilitate communication, and the objects to which they refer are "posits" ("ontological relativity"). The only distinction of the terms traditionally christened as those of "direct acquaintance," is that they can also be learned directly by reifying the corresponding observation sentences, not only contextually (as the rest of the terms in language).
No bridge is wanted, we see, and bridging is the wrong figure. Starting with sentences as we have done rather than with terms, we see no bar to a sharing of vocabulary that links them [Quine 1990, 8].

As a result, no "natural" boundary separates the two classes of sentences which form, instead, a rainbow-like continuum. Once again we have witnessed to what degree Quine's holism, naturalism and qualified anti-realism (=pragmatism) lend support to each other.
It should come as no surprise that Quine’s reformed empiricism, much too bold for some, is also viewed as insufficiently radical by others. Donald Davidson, for one, argues that Quine’s project in methodology, centered around a critique of the two dogmas of traditional empiricism, leaves intact a third one - the dualism of scheme and content. In this concluding chapter I shall present Davidson’s critique of the empiricist theory of justification and the consequences of this critique for epistemology. A further blurring of the boundary between observation sentences and other occasion sentences, initiated by Quine, characterizes Davidson’s abdication of the empiricist notion of empirical justification and of the correspondence theory of knowledge (although not of truth) in favour of coherentism (Section 8).

Later in the chapter I point out some salient assumptions of Quine’s philosophy as they are revealed in his defence against Davidson’s criticism (section 9). Assessing these assumptions in the light of Davidson’s philosophical position leads me to the conclusion that, in spite of Davidson’s call to abandon empiricism altogether on both pragmatic and logical grounds, as a methodological programme for a particular epistemic or semantic pursuit, his views are in fact not inconsistent with Quine’s residual empiricism as a theory of meta-epistemology and meta-semantics. I hope to make these claims clear and plausible in the subsequent sections.
Against the Empiricist Notion of Empirical Justification

§1 In his article "A Coherence Theory of Truth and Knowledge" Davidson takes as the starting point Tarski's Semantic Theory of truth. For any language, Convention T allows us to determine the extension of the truth predicate, and it is all we need and all we can hope for (for the purposes of semantics). Davidson's view of truth is a "modest" version of the correspondence theory:

... the truth of an utterance depends on just two things: what the words as spoken mean, and how the world is arranged. There is no further relativism to a conceptual scheme, a way of viewing things, a perspective. [...] ... truth is correspondence with the way things are. (There is no straightforward and non-misleading way to state this; to get things right, a detour is necessary through the concept of satisfaction in terms of which truth is characterized.) [Davidson 1983, 309].

Though he does try to explicate the notion of truth through the notion of satisfaction, for the purposes of the theory of knowledge Davidson takes it as primitive:

Truth is beautifully transparent compared to belief and coherence, and I take it as primitive [Davidson 1983, 308].

Taking truth as a primitive notion allows Davidson to adjust Tarski's semantics to the needs of his theory of meaning. Tarski's biconditionals (T-sentences) establishing the extension of the truth-predicate for a particular language can be derived thanks to "meaning," "synonymy" or other such intensional concepts being available in advance.

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61 Davidson is not a deflationist about truth - he thinks there is more to be said about the concept, though he does not think this "more" will be anything like a definition or a formal analysis (cf. Davidson 1990 (ii), particularly p.p. 283 ff).

62 Subsequently, Davidson has expressed regret for the earlier characterization of his theory of truth as a correspondence theory. Whatever the reasons for this change of heart, I think the earlier self-characterization does Davidson's views justice.
This is fair enough, because Tarski's project is one of giving a semantics for a formal language with a natural language (rich in intensional idiom) being the meta-language. Davidson, on the contrary, endeavours to provide a formal semantics for a natural language, hence his task includes accounting for the purchase of intensional notions in the apparatus of the meta-theory through the use of the extensional concept of truth. While Tarski employs "meaning" to explain "truth," Davidson employs "truth" to explain away "meaning."  

However, with respect to the theory of knowledge correspondence theories are, according to Davidson, untenable. They presuppose either an unintelligible "dualism of a conceptual scheme and a 'world' waiting to be coped with" ("internal realism" that relativizes truth), or "that all our best researched and established thoughts and theories may be false" ("metaphysical realism" that makes belief independent of truth) [Davidson 1983, 309]. According to Davidson, the notion of truth should be developed independently of the notion of belief, but not the other way around. Being, for the most part, true is one of the fundamental properties of beliefs:

I think the independence of belief and truth requires only that each of our beliefs may be false. But of course a coherence theory cannot allow that all of them can be wrong [Davidson 1983, 309].

The reason why a coherence theory cannot allow that all our beliefs can be wrong is obvious: in that case coherence would have nothing to do with true belief. One of Davidson's principal arguments against epistemic "realism of correspondence" in both its guises (and thus for coherentism), although not explicitly offered in the paper I have just

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63 "Our outlook inverts Tarski's: we want to achieve an understanding of meaning or translation by assuming a prior grasp of the concept of truth" [Davidson 1974 (i), 150].
cited, is that neither truth's dependence on a conceptual scheme, nor belief's independence of truth, allow for radical interpretation and for intersubjective rationality.

In the case of "internal realism," the argument can be presented as a *reductio ad absurdum*. Suppose truth *were* relative to a conceptual scheme. This would prevent us from finding a one-to-one correspondence between sets of T-sentences formulated in two languages based on different conceptual schemes, for their truth conditions would be incommensurable (in some intuitive, non-technical sense). Hence, interpretation (which, according to Davidson, proceeds by establishing such truth-conditional correspondencies) would be impossible. But since, according to Davidson's externalism, in interpretation intentional content (thoughts, beliefs, etc) is constituted rather than "found," we would have no reason to assume that the speakers of the conceptually alien language are rational agents rather than mere animals (or automata). But in that case, contrary to the assumption that they are speaking a language (to which truth is supposedly relative), we would have to conclude that *no* language is being spoken. Hence the notion, central to "internal realism," that truth is relative to a conceptual scheme, is, on Davidson's assumption, self-contradictory.

In the case of "metaphysical realism," one-to-one correspondence between T-sentences of two languages, although possible, would be of no help, for "being held to be true" would be totally divorced from "being true."

Here we already see how much in Davidson's critique of the realism of correspondence (in the theory of knowledge) and in his promotion of coherentism hinges on his externalist view of intentional content as constituted in rational, normatively
regulated interpretation. More about the role of normative considerations will be said later in this section in connection with the Principle of Charity, and in Section 9 that deals with the notion of a conceptual scheme.

§2 The common mistake of any empiricist theory of knowledge, according to Davidson, is that beliefs are supposed to be justifiable by reference to something which is not a belief (to non-doxastic entities). But why is this assumption a mistake? In answering this question, Davidson limits his consideration only to those attempts to provide an empiricist epistemology that he finds worth taking seriously, namely the attempts "to ground belief in one way or another on the testimony of the senses: sensation, perception, the given, experience, sense data, the passing show" [Davidson 1983, 310]. He then asks two questions: (1) what in the relation between sense data and beliefs (purportedly) allows the former justify the latter? and (2) why should we believe that the former are reliable?

The "easiest" way to answer (1) is by identifying sensations with certain beliefs (i.e., with beliefs that one is experiencing certain sensations). In this fashion, Hume identified perceiving a green spot and perceiving that a spot is green. The former not having any propositional content, it cannot (unlike the latter) have a truth value. Some of Hume’s followers (here Davidson is probably referring to logical positivists) tried to avoid

64 The coherence theory, on the contrary, is based on the assumption that a belief can be justified only by other beliefs, already held true: "What distinguishes a coherence theory is simply the claim that nothing can count as a reason for holding a belief except another belief" [Davidson 1983, 310].
the gap between sensation and judgement by formulating judgements ("protocol sentences") whose content coincides with the content of corresponding sensations (something like X's judgement "I am experiencing green" and X's sensation of green). Says Davidson:

Such theories do not justify beliefs on the basis of sensations, but try to justify certain beliefs by claiming that they have exactly the same epistemic content as a sensation. There are two difficulties with such a view: first, if the basic beliefs do not exceed in content the corresponding sensation they cannot support any inference to an objective world; and second, there are no such beliefs [Davidson 1983, 310].

I shall return to the first objection in relation to Quine's possible defence against Davidson's criticism. The second objection is based on Davidson's externalist view of content (as we shall see later, in his view sensations have no semantic or epistemic role to play).

However, these objections aside, there is, for Davidson, a further fundamental problem with the identification of the contents of such "basic" beliefs with those of corresponding sensations. Not only does this identification invite skepticism and even solipsism; it also makes justification impossible (it does not make sense to say that A justifies A):

The point is rather that such beliefs require no justification, for the existence of the belief entails the existence of the sensation, and so the existence of the belief entails its own truth. Unless something else is added, we are back to another form of coherence theory [Davidson 1983, 311].

So, if the empiricist makes beliefs about sensations the starting point, his empiricism lapses into coherentism. If, on the other hand, he insists on sensations themselves, no
justification is possible since justification is a logical relation whereas sensations do not have any propositional content.

§3 However, to deny any relevant relation between beliefs and sensations seems impossible. The ceaseless attempts to ground belief in sensation have as their source the obvious: the former are causally related to the latter. Apparently, the empiricist builds on the ambiguity in the terms "basis":

Sensations cause some beliefs and in this sense are the basis or ground of those beliefs. But a causal explanation of a belief does not show how or why the belief is justified [Davidson 1983, 311]. Moreover, this causal chain extends also from external goings-on to sensations themselves. (To do Quine justice, he is well aware of its causal nature which is apparent in his reflection on "stimulus meaning" in *Word and Object.*) But then, for the purposes of epistemology, why not skip the sensations altogether:

Introducing intermediate steps or entities into the causal chain, like sensations or observations, serves only to make the epistemological problem more obvious. For if the intermediaries are merely causes, they don’t justify the beliefs they cause, while if they deliver information, they may be lying. The moral is obvious. Since we can’t swear intermediaries to truthfulness, we should allow no intermediaries between our beliefs and their objects in the world. Of course there are causal intermediaries. What we must guard against are epistemic intermediaries [Davidson 1983, 312].

One of the criticisms Davidson has of Quine is that in his epistemology the latter oscillates between the *proximal* and the *distal* theories of stimulation (in logical positivism, the dilemma was an object of open debate between "phenomenologists" and "physicalists"). The distal theory places stimuli at the objects and events that ultimately
cause sensations and beliefs, "the objects and events our observation sentences are typically about" [Davidson 1990 (i), 72]. The proximal theory places stimuli at the sensory receptors. (In Chapter 2, I outlined the reason why in *Word and Object* Quine went along with the proximal theory.) Besides the *obvious* difference between the two theories, they also differ in which notions are taken as basic in epistemology and in the theory of meaning.

I stated above that one of Quine's main objectives in his reform of empiricism is basing both epistemology and the theory of meaning on the notion of publically accessible empirical evidence (cf. Quine 1965 and Ch. 1 of Quine 1960). Davidson characterizes it thus:

The opposition between the proximal and the distal approach to meaning may be viewed as the opposition between a theory of meaning that makes evidence primary and a theory of meaning that makes truth primary. While Quine does not ... identify evidence with sensory stimulations, he sees the role of sensory stimulations in defining stimulus meaning as the way to tie meaning to evidence, while the distal theory connects meaning directly to the conditions that make sentences intersubjectively true or false [Davidson 1990 (i), 75].

So, Davidson builds the theory of meaning on "truth." But is "truth" itself accessible? The truth of an individual belief can be ascertained (and thus the belief can be justified) in virtue of the support that the belief receives from other quarters in the totality of beliefs. Thus holistically interpreted evidence is available for individual beliefs. But it is clear
that, on pain of circularity, such justification is not available for the *totality* of beliefs.\(^{65}\)

Is it then for no reason that we assume that most of our beliefs are true? Not at all:

What we have shown is that it is absurd to look for a justifying ground for the totality of beliefs, something outside this totality which we can use to test or compare with our beliefs. The answer to our problem must then be to find a *reason* for supposing most of our beliefs are true that is not a form of evidence [Davidson 1986, 314].

As we shall see later, such a reason is available in the form of the set of normative principles loosely referred to as the "Principle of Charity."

§4 What constitutes a reason in accepting a belief? Here Davidson to a significant degree follows Quine. Both start with *prompted assent*. It is a perfect starting point because although "a speaker's assent to a sentence depends on both what he means by the sentence and on what he believes about the world, ... it is possible to know that a speaker assents to a sentence without knowing either what the sentence, as spoken by him, means, or what belief is expressed by it" [Davidson 1983, 315]. Both Quine and Davidson recognize that knowing which sentences are held true by the interpretee together with knowing their truth conditions does not provide the interpreter with a definite answer about his beliefs; there is always a trade-off between belief-assignment and meaning-assignment.

\(^{65}\) The following passage from Davidson is a good statement of the difference between the way in which support is available to individual beliefs and to the totality of beliefs: "The only perspicuous concept of evidence is the concept of a relation between sentences or beliefs - the concept of evidential support. Unless some beliefs can be chosen on purely subjective grounds as somehow basic, a concept of evidence as a foundation of meaning or knowledge is therefore not available. Of course each of us is inclined to trust some beliefs more than others, but this is a fact internal to our theories of the world, and so cannot be used to give them external support" [Davidson 1990 (i), 76].
assignment. The difference between Quine’s and Davidson’s approaches concerns the nature and scope of this trade-off, and it turns on the question of how much of our own beliefs we can read into others’ utterances and/or assent.

As we have seen in the previous chapters, Quine limits a priori attribution of belief to the interpretee to sentential logic only (the interpretee should not, without very compelling reasons, be viewed as illogical). A posteriori attribution of belief and, in the same act, of meaning, is limited to observation sentences (the interpretee should not, without equally compelling reasons, be viewed as blind, deaf, etc). All in between (the intermediate areas of the web of belief), insofar as it is logically consistent with the first two groups of beliefs and meanings, is subject to the indeterminacy of translation and of belief attribution. In other words, the interpretee may err, by our lights, in anything but the rationally basic and the obvious. Quine’s version of the principle of charity is therefore rather modest.

Davidson, on the other hand, expands the principle of charity to the totality of beliefs. This move is based on his rejection of Quine’s behaviourism (the thesis that all evidence there is for a linguistic theory, is non-intentionally characterized overt behaviour of the speakers). As Simon Evnine puts it,

Describing someone as holding a sentence true is not merely describing a piece of uninterpreted behaviour. It is describing a mental state in mental terms.66 [...] By admitting that the evidence for

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66 This points to one of the reasons why physical reductionist Quine rejects the expanded Principle of Charity. Davidson’s view of the mental and the physical as two mutually irreducible modes of description of the same phenomena looks to him as too great a concession to mentalism.

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a theory of meaning is not entirely non-semantic, Davidson is opposing reductionism [Evnine 1991, 100-101].

Sufficient evidence for a semantic theory can be obtained only if we describe overt behaviour of speakers in accordance with the normative requirements of the Principle of Charity. The additional evidence provided by these normative considerations drastically limits the scope of Quine’s indeterminacy thesis.

After all, most of our beliefs are neither about the "passing show" nor about logic but rather occupy the areas designated by Quine as indeterminate. We cannot allow that the majority of anyone’s (including our own) beliefs may turn out to be false, hence the indeterminacy must be much smaller both in degree and in scope.67 The premise of this argument is defended below, in §5.

§5 The defence of the Principle of Charity expanded to the totality of beliefs hinges on the notion of radical interpretation. (The following reasoning is based primarily on Davidson 1974 (ii) and Davidson 1973.)

First of all, the term "radical interpretation" implies only that we cannot, without good reason, interpret someone else’s utterances homophonically. The term does not (unlike Quine’s "radical translation") entail that we are dealing with an alien language and/or system of beliefs:

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67 Except in the innocuous sense of notational variancy.
Speakers of the same language can go on the assumption that for them the same expressions are to be interpreted in the same way, but this does not indicate what justifies the assumption. All understanding of the speech of another involves radical interpretation [Davidson 1973, 125].

Later (1984 ii) Davidson developed this intuition into a conception of linguistic communication as based not on shared languages at all, but on individual idiolects. When two idiolects are close, then the "prior theory" that we use to start interpreting someone else’s speech does not differ very much from the "passing theory" that sums up our understanding of it; when they are very distant, the gap to be transcended is enormous. But in any event, the difference is not principled but only one of degree.

Suppose now that a certain belief is false. Its content can be either a truth-functionally compound, or a truth-functionally atomic sentence.68 In the former case, given Quine’s convincing arguments that charity should extend at least as far as sentential logic, the whole sentence can only be false because the interpretee errs about the truth value(s) of its constituent part(s). In either case, the falsity of a belief comes down to an erroneous ascription of a truth value to a truth-functionally atomic sentence. All such sentences have a subject-predicate structure (possibly, with quantifiers). Hence, in the simplest case, a predicate is incorrectly attributed to an object or a class of objects.69

Suppose further that the majority of the interpretee’s beliefs come out false in interpretation. Then, for the majority of objects/classes of objects, the majority of

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68 Personally, I would rather say, "proposition."

69 Strictly speaking, Quine in the last chapters of Word and Object shows how in semantics we can get rid of individual objects and talk of classes only.
predicates are attributed to them incorrectly. But this presupposes that the translations of all terms for objects and predicates have been firmly established (otherwise we may be clashing the swords over nothing). There is nothing to justify this assumption, since the situation we are in is that of radical interpretation. It makes much more sense to assume that the terms are understood incorrectly by the interpreter than that they are systematically used incorrectly by the interpretee.

The above considerations apply most directly to radical interpretation. Could it be the case that the majority of our own beliefs are false? No, it could not, because in that case we would be systematically misusing the terms of our own idiolects. This, in turn, would amount to saying that the majority of terms in our idiolects have wrong extensions, which is inconsistent with the very idea of a home language and of one's idiolect.70 After all, according to both Quine and Davidson predicates are determined exclusively and learned primarily through their extensions, thus failure to systematically apply a significant number of predicates to the right sorts of object seems unintelligible.71

70 There is no authority external to the linguistic community (in the case of a language) and to the speaker (in the case of an idiolect) that could declare that accepted usage is incorrect. Such a declaration would be as absurd as someone telling Conan-Doyle that his story of Watson's first encounter with Holmes is "incorrect."

71 Of course, this argument hinges on Quine's and Davidson's shared extensionalism. Someone who believes that predicates (and other expressions in language) are determined primarily through their intension, may rebut that whereas "correct" extensions are determined by their respective intensions "automatically," given how the world is, people will often err in calculating the extension of an expression as a function of its intension. Likewise, if a set is defined by enumeration, only rarely will one be mistaken about which objects are and which aren't its members; but if it is defined through a "characteristic property," error is possible for not always is it known whether an object does or does not possess the property.
The above argument is based on the distal theory, i.e., on the assumption that the entities language deals with are external objects. One of the reasons why Davidson rejects the proximal theory, i.e., assuming that the entities language deals with (at least directly) are patterns of sensory stimulation, is that it allows the possibility that a language is used absolutely correctly but the beliefs formed in the course of using it are predominantly false.\textsuperscript{72}

\textsection{6} A more general line of defence of the expanded Principle of Charity is based on Davidson's philosophy of mind. The concepts that describe human behaviour as human, must be consistent with the way we conceive of sentient human beings, otherwise nothing whatsoever will count as evidence that we are indeed interpreting human beings and their intentional states. In Evnine's words,

The concepts of belief, desire, meaning and intentional action are defined by what the 'theory', the Principle of Charity, says about them. If they do not apply in accordance with the Principle, there is no reason to take them as applying at all. To apply those concepts, we must assume that the Principle of Charity is true and measure interpretations against it. Good interpretations, like good empirical criteria of preference, will be those which conform to the constraints [Evnine 1991, 113]. In other words, Charity is not a dispensable assumption, gratuitous or even empirically confirmed, but a normative constitutive principle that governs any interpretation of human agency. Davidson believes that this principle allows the possibility of error and even irrationality in linguistic and non-linguistic behaviour, but those necessarily have to be

\textsuperscript{72} Such a possibility would arise because truth is a relation between language and external reality, whereas meaning, on the proximal theory, is defined without recourse to the latter.
"local," on the global background of true belief and shared rationality which alone makes error and irrationality intelligible.\textsuperscript{73}

Finally, Charity is not just a single principle that directly governs interpretation, but rather a categorical imperative that governs a whole cluster of normative principles. This cluster comprizes, among others, the Principle of Charity in the narrow sense (roughly, "try to interpret so as to make as many as possible of the interpreter’s beliefs come out true"), similar principles pertaining to the interpreter’s deductive and inductive reasoning, and the Principle of Continence (which requires that we interpret people as acting, most of the time, according to their best judgement),

which together regulate the ways in which beliefs, desires and actions rationally connect with each other [Evnine 1991, 110].

All these normative principles jointly narrow down the scope of indeterminacy of meaning and belief ascription without trying to achieve what cannot be, namely a comprehensive semantic theory based exclusively on behavioural evidence (and ultimately, on sense data).

\textbf{§7} Let us now return to the practical implications of the Principle of Charity. Since the \textit{bulk} of beliefs must be taken to be true, \textit{each} individual belief should be treated as true, as a default position. This default may be overridden in specific cases, but only if considerations of simplicity, consistency etc require that. In the majority of cases, this "charitable" default strategy will not fail us. Using it, therefore, is rational, because the

\textsuperscript{73} Force an ape to "use" a typewriter; the output could not be called "false" or "irrational," because nothing true or rational was expected in the first place.
opposite strategy of rejecting a belief (without proper justification) will fail us in the majority of cases. We take certain beliefs for granted (be that "at home" or "abroad"), unless there is reason not to do so, in order to justify other beliefs. This is a justificatory strategy not based on "evidence," which is exactly what we followed Davidson searching for.

The radical expansion of the Principle of Charity makes the special role of observation sentences (being the "entering wedge" into meaning and belief) redundant. Coupled with the rejection of the proximal theory of stimulation, this leads to Davidson's rejection of their very existence as a privileged sub-class of occasion sentences. In this regard, Davidson welcomes Quine’s rethinking (in the thirty years after the publication of *Word and Object*) of the notion of observation sentences. This rethinking is expressed, e.g., in the following definition:

An observation sentence is an occasion sentence that the speaker will consistently assent to when his sensory receptors are stimulated in certain ways, and consistently dissent from when they are stimulated in certain other ways [Quine, 1981 (i), 25].

Observationality for a linguistic community is then defined as observationality for each member thereof. Davidson notes, however, that this rethinking has some significant repercussions:

... Quine has apparently abandoned the social criterion of the observation sentence ... It seems to me that this characterization of observation sentence, while it less clearly distinguishes observation sentences from other occasion sentences, is superior in not assuming that the concept of a speech community is clear in advance of an account of meaning [Davidson 1990 (i), 71].

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That this characterization fails to support the distinction between observation sentences and other occasion sentences at all, becomes clear from the examples Quine gives of occasion sentences in (1980) and of observation sentences in (1981 i): "Examples are 'It's raining', 'It's milk', as before" [Quine 1981 (i), 25], and also from his admission that "their [observation sentences'] distinctive factuality is blurred now by the disavowal of shared stimulus meaning" [Quine 1988, 4].

There is an explanation of this virtual vanishing of the distinction: it hinged on the notion of social distribution of collateral information. In Word and Object, a sentence was characterized as observational when any member of the community would assess it identically in each given situation, regardless of their informational backgrounds, whereas non-observational occasion sentences would not command uniform assent or dissent precisely because of the differences in informational backgrounds. When observationality is defined initially for an isolated speaker, it becomes impossible to separate, in explaining his reaction to a sentence, the impact of stimulus meaning from the impact of collateral information.74

Davidson’s welcome to this development is not difficult to explain, either. Firstly, it undermines Quine’s original (empiricist) doctrine that at least for a limited class of

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74 The distinctiveness of observation sentences is not saved by Quine’s later suggestion to "account a sentence observational for a group if it is observational for each member and if each would agree in assenting to it, or dissenting, on witnessing the pertinent occasion." There are two reasons why not. Firstly, even if it helped to define observationality for a group more sharply, observationality for an individual would still not be any better off. But even for a group this addition does not work, for it requires using subjunctive mood (and thus intensional idiom) in setting the stage for the ambitious anti-intensionalist project like Quine’s.
sentences, meaning could be fully reduced to sensory stimulation. Thus it accords with Davidson's rejection of the epistemological and/or semantical significance of sensory stimulation. Further, this gives support to Davidson's insistence that the separation of meaning from belief is a matter of rational reconstruction.

Secondly, this development is in line with Davidson's own reorientation from the community to the individual, from language to idiolect (cf. Davidson, 1984 ii).

Finally, Davidson who rejects the dualism of scheme and content cannot but feel vindicated that Quine's notion of empirical content (defined in terms of, eventually, observation sentences) turns out to be misbegotten. If it should fail, both empiricist semantics and empiricist epistemology must give way to coherentism and rationalism.

§8 We have seen how little sense Davidson sees in defining meaning but through truth, and in justifying beliefs but through other beliefs. But what other beliefs? We have to start somewhere (remember, this necessity led Quine to softening, in Word and Object, the unqualified holism of "Two Dogmas"). Isn't there a danger of circularity?

Firstly, circularity is not necessarily bad, as I argued in Chapter 1 in relation to Quine's naturalism and holism supporting each other. Secondly, there is little if any circularity in Davidson's rationalist methodology. The distal approach provides, as a starting point, a vast collection of beliefs about observable macro-objects. These beliefs are used to develop science - in its best patterns, in a consistent and highly explanatory manner. The consistency, explanatory power and other commonly cited merits of our best scientific theories then, in turn, lend support to the initially accepted ontology of macro-
objects. (The support comes from the theoretical etc merits of the theories, not from their content, in which case the picture would, indeed, be circular.)

However, this view of justification comes under pressure when, following Quine, we entertain the question: what if higher merits are found in a comprehensive theory which is not based on the common beliefs about observable macro-objects? I intend to show that Davidson’s epistemology withstands this question but his ideology (especially with respect to the notion of a conceptual scheme) does not.

9. **Against the Relativism of Conceptual Scheme**

§1 According to Davidson, if we attempt to endow sensations with an epistemological, justificatory role, we have to stipulate a "conceptual scheme," which supposedly organizes the raw material of sense data into beliefs. Indeed, as Davidson rightly argues (e.g., in Davidson 1983), justification in a proper sense requires propositional content which sensations, by themselves, lack. Propositional content thus has to be imported in the form of a conceptual scheme. Davidson rejects this idea for two reasons.

Firstly, he rejects the empiricist dogma of sensations having a justificatory role, which makes the complementary notion of the organizing role of a conceptual scheme redundant. Second, even if empiricism were correct about the justificatory role of sensations, the notion of a conceptual scheme still would not make sense, and the following reasoning shows why Davidson thinks so.
Obviously, speaking of a conceptual scheme makes sense only if the same material of sensations can be organized in radically different ways. So, to have a conceptual scheme, we need at least two of these. What could the difference between the two consist in? Davidson argues that it could consist only in the mutual intranslatability of the languages which incorporate the two schemes (otherwise the initial problem would be unnecessarily doubled):

'Incommensurable' is, of course, Kuhn and Feyerabend's word for 'not intertranslatable' [Davidson 1974 (ii), 184].

But the intranslatability itself appears to be impossible. The gist of Davidson's argument to this effect is that to be intranslatable (i.e., to carve the world in radically different ways) the two languages would have to contain few (if any) of the predicates of each other. But to claim that two predicates P and R do not match, one would need to show that a significant number of objects which belong to the extension of P do not belong to the extension of R, or vice versa. This, in turn, presupposed that the two languages individuate objects in the same (or very similar) way(s). Hence, if two conceptual schemes are really different, they must yield identical ontologies, which makes no sense (cf. Davidson 1974 (ii), 192).

As an illustration of his thesis, Davidson cites some of the proponents of conceptual scheme relativism in an attempt to show that their claims are self-refuting:

Wharf, wanting to demonstrate that Hopi incorporates a metaphysics so alien to hours that Hopi and English cannot, as he puts it, 'be calibrated', uses English to convey the contents of sample Hopi sentences. Kuhn is brilliant at saying what things were like before the revolution using - what else? - our post-revolutionary idiom. Quine gives us a feel for the 'pre-individuative phase in the evolution of
our conceptual scheme', while Bergson tells us where we can go to get a view of a mountain undistorted by one or another provincial perspective [Davidson 1974 (ii), 190].

§2 This argument seems to depend to a high degree on identifying mutual intranslatability of languages and incommensurability of theories\(^{75}\) (or conceptual schemes embodied in them).\(^{76}\) But are Sapir-Wharf’s "calibration" and Kuhn-Feyerabend-Quine’s "commensuration" merely fancy synonyms for "translation"?

According to Quine, translation is based ultimately on stimulus meaning. One theory can be translated into the language of another if all its empirical content is preserved. Empirical content is defined, as we remeber, in terms of observation sentences (and observation categoricals built from them), which themselves are defined in terms of stimulus meaning. As long as there are, for the majority of observation sentences in one language, corresponding observation sentences (i.e., having the same or sufficiently close stimulus meanings) in the other, the two theories can be translated into each other. Since according to Quine observation sentences can be so matched even in radical translation (cf. Quine 1988, 6), he is bound to agree with Davidson that intranslatability is out of the question. As Bjørn Ramberg presents Davidson’s rationale,

The real point of ‘On the Very Idea of a Conceptual Scheme’ is simply that if we are extensionalists about meaning, we cannot imagine what it is for a language to have an ‘inside’, one that remains

\(^{75}\) By "theory," Quine means any consistent (or not apparently inconsistent) and more or less comprehensive (depending on the subject matter) set of sentences. The term here will be used in this non-technical sense.

\(^{76}\) A possible explanation of this identification is that a detailed account of incommensurability as a type of communication breakdown has been wanting.
inaccessible to us even if we have somehow managed to map the 'outside' of the language by the pairing off of extensions of sentences in radical interpretation. And this means that we cannot make sense of the idea of intranslatable languages\(^7\) [Ramberg 1989, 120].

The open question is: can there be incommensurability without intranslatability? There are several explicit statements by Kuhn and Feyerabend that the two are different phenomena, e.g.

Briefly put, what the participants in a communication break-down [i.e., the adherents of incommensurable theories - M.M.] can do is recognize each other as members of different language-communities and then become translators [1969 "Postscript" in Kuhn 1970, 202].

So, according to the proponents of the notion, incommensurability is not only consistent with, but even requires translatability. However, can this requirement be satisfied? Ramberg (1989, Ch. 9) proposes a novel way of looking at incommensurability as "a semantic obstruction other than intranslatability" [Ramberg 1989, 128]. He distinguishes between meaning or linguistic understanding as modelled by radical translation, and the production of meaning, as modelled by a conventionally constituted existing structure or social practice, that is, by a language [Ramberg 1989, 129].

\(^7\) At the same time, in intensional/modal semantics two sentences from different languages may have identical truth conditions and/or equally well fit in with the related observation sentences in the "actual world" but diverge wildly with respect to some other "possible worlds" (e.g., "renate" in language \(L\) may be consistently translated as "cordate" in language \(M\)). Davidson is quick to point out that such a divergence is extremely unlikely due to the need to account, in radical interpretation, for the effects of the principle of compositionality (after all, kidneys are not coextensive with hearts). However, intensionalism leaves at least a theoretical possibility that some differences in meaning may be undetectable extensionally, even with compositionality (take "the nucleus of a hydrogen atom" and "a proton," assuming that the most common isotop of hydrogen could happen to consist, e.g., of a proton and a neutron).
The critics of Kuhn et al. take incommensurability to supposedly obtain synchronically, between two fully developed conceptual systems. Ramberg warns:

To regard incommensurability as a relation between existing languages or conceptual schemes, is to fall back on the notions of intranslatability. Since we cannot make sense of this notion, it makes no sense to think of two different natural languages as being incommensurable. The reason is that incommensurability is a diachronic relation, not a synchronic one; it is not a relation between structures, but a symptom of structural change [Ramberg 1989, 131].

Whereas radical interpretation which produces truth-theories for another language (or idiolect) indeed is a synchronic enterprise, it only lays foundations for communication (of course, certain fragments of an incomplete truth-theory can be used, often successfully, in preliminary attempts at understanding). Communication itself is diachronic, it requires that a shared convention, however "fuzzy," be already available. From this perspective, incommensurability is a temporary halt rather than a permanent impossibility. As Ramberg puts it,

Incommensurability, as a communication breakdown, can be understood as breakdown of linguistic conventions, caused by changes in use that are too abrupt to be absorbed smoothly, or changes that a particular set of conventions are too rigid to accommodate. Semantically, then, incommensurability is a disruption in the ongoing interpretation-through-application of our linguistic conventions [Ramberg 1989, 130].

Does Ramberg's account limit incommensurability to the cases of swift development of the same tradition (e.g., Newtonian and Einsteinian physics), or it can also explain the cases of uneasy interaction between different traditions (e.g., modern science and Azande magic)? Ramberg believes that it can, for in the latter sort of cases we also deal with diachronic attempts to adjust to the alien tradition, change structurally (no matter how
slightly and invisibly) like an amoeba changes its shape to swallow and digest its tiny prey. In Ramberg’s words,

Such structural change can take the form of disintegration of a practice or a paradigm, as in scientific revolution, or it can take the form of a merger of separate traditions, as when Evans-Pritchard went to live with the Azande [Ramberg 1989, 131].

This explains, according to Ramberg, why the theorists of incommensurability insist on translatability:

Incommensurability in discourse can only begin to occur once we think we have begun to agree on linguistic conventions, but in actuality remain confused as to what language we are using [Ramberg 1989, 132].

I think that this account of incommensurability is a great progress on the way to understanding this phenomenon. However, it appears to me to be incomplete.

§3 The reason why it is incomplete will become obvious once we ask ourselves: what is the main concern of Kuhn’s inquiry in *The Structure of Scientific Revolutions* and Feyerabend’s - in *Against Method* and "Explaniation, Reduction and Empiricism"? It is not language per se, it is not communication, although these are viewed as important topics. But what concerns them most is scientific methodology and more specifically - criteria (if any) of rational choice between rival theories. Incommensurability is viewed,

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78 An illustration to this thesis that springs to mind is the first encounter of Christian missionaries with Lamaism. The first reports were of extreme proximity of this northern branch of Buddhism to Catholicism - in rituals, icons, monastic life, etc. This is, I suppose, when the failure of communication was most complete. Only when the missionaries recognized that the similarity was very superficial did communication, however halting, begin.
correspondingly, as something that not just hinders communication, but makes theoretical choice a matter of *non-criterial decision* rather than *calculation*. Consequently, any plausible account of incommensurability must take this into consideration.

This is not a treatise on incommensurability, therefore I shall not give a comprehensive theory of this phenomenon. Suffice it to say that in situations of theoretical choice, be that between Azande magic and modern science, or between modern science and that of the 17th century, the differences are so vast that there is no "meta-tradition" that would be an impartial judge between the two. Therefore, the adherents of each rival tradition have to make it the judge as well as the plaintiff. Just as in radical interpretation the language into which we interpret is at the same time the meta-language in which interpretative T-sentences are derived, our "home" theory sets out the standards of its own comparison with its "incommensurable" rival. It is not communication that is impossible in a situation of incommensurability, but "objectivity" and "impartiality" in the matters of judgement and choice. In a similar way, when it comes to a conflict between two radically different systems of morality, one does not try to weigh them up "objectively" but follows the inherited tradition - or else converts to the new one.\(^7\) Granted, conversion has its reasons, but such reasons are idiosyncratic, the individual’s attempts to adjust to a new situation.

The analogy with a moral or religious conversion is an important one. Ramberg’s account of incommensurability portrays overcoming it as a matter of achieving fluency

\(^7\) Of course, the range of possibilities is wider than that; a new position may emerge, different in a variety of ways from the previous two. The point is that the new position is arrived at *not* by consulting a set of criteria.
in a new language (or perhaps of completing the construction of a hybrid language born to the previously incommensurable "parents"). One can keep on switching from one language to the other ever after. Kuhn's idea is, however, that the conversion is final. Once a scientist raised within one tradition switches to another one, there is no jumping back and forth. Yes, there may be a "reverse conversion," however rare, but there can be no switching at will, unlike switching from one familiar language to another familiar language.

§4 Where does Quine himself stand in this regard? On the one hand, his explication of the notion of a conceptual scheme seems to fit Ramberg's interpretation:

Where I have spoken of a conceptual scheme I could have spoken of a language. Where I have spoken of a very alien conceptual scheme I would have been content, Davidson will be glad to know, to speak of a language awkward or baffling to translate [Quine 1981 (ii), 41].

On the other hand, the broader context of Quine's holism and naturalism speaks for interpreting conceptual schemes and their occasional incommensurability in terms of theories rather than languages. (Whereas Quine tends to equate the two notions in some contexts, e.g. when speaking of the role of observation sentences, he differentiates them in others. Of course, in all contexts he understands theory linguistically, as a system of interpreted sentences.) It is our current theory of the world that tells us what there is and how it all hangs together. A theory represents (embodies) a different conceptual scheme from ours if, in our view, after all notational differences have been sorted out, it is not a fragment or a trivial expansion of our theory. The difference amounts to incommensurability if reconciling the "alien" and the "home" theories (making them
comparable sentence-by-sentence) can only be done through radical transformation of either or both. On this account, conceptual schemes are not reified either (which would be what Davidson warns against), but the notions of a conceptual scheme and of incommensurability serve an important function that is not served by the notions of a language and of intranslatability (the function of showing, roughly, how much adjustment is required before direct comparison becomes possible). A hint to this interpretation of Quine's view can be found in the following statement:

Somewhere I suggested a measure of what might be called the remoteness of a conceptual scheme but what might better be called the conceptual distance between languages [Quine 1981 (ii), 41].

Quine's use of the term "conceptual" in characterizing the notion of distance between languages indicates that "language" is used here more or less synonymously with "theory."

Be that as it may, incommensurability of theories (in a broad sense) is not equivalent to, nor does it imply, intranslatability of respective languages. Hence, Davidson's arguments levelled against the latter leave the former unharmed. This, in turn, indicates that the idea of a conceptual scheme among other conceptual schemes is intelligible, after all. This conclusion is extremely important with respect to the debate between Quine and Davidson about the fate of empiricism with its alleged "third dogma."

We remember that the alleged unintelligibility of the notion of a conceptual scheme was one of the reasons why Davidson denied the epistemic significance of sensory stimulation (together with the distinctiveness of observation sentences) and rejected the notion of empirical content. If the notion of a conceptual scheme can be
salvaged (though the later Quine downplays its independent significance), then Davidson’s critique of the empiricist notion of empirical justification is based exclusively on his externalist views of epistemic content.

10. **The Issue of Pragmatism**

§1 As we remember, one of the reasons why Quine rejected the distal theory (rabbits as the positive stimulus meaning of "Gavagai!") in the first place, was that material objects often fail to produce uniformity in immediate linguistic reactions. Thus "Gavagai!" may be prompted by fake rabbits or rabbit-like mirages, while a *bona fide* rabbit may fail to prompt "Gavagai!" because of poor visibility or suchlike. Speaking generally, Quine does not want to be married to any particular ontology, because on his account of how language functions differences in ontology (at the level of common sense, not only at the level of theoretical speculation) cannot stall communication. (Although, as it follows from my reconstruction of Quine’s views on incommensurability, it can turn "opinion exchange" into mutual transformation.)

Davidson believes that Quine’s pragmatist transgression against the realism of ordinary things (describing them and other entities employed by science and common sense as "posits") is both (a) unnecessary and (b) unwarranted. It is unnecessary because the imperatives of interpretation dictated by the Principle of Charity can account for fake rabbits prompting "Gavagai!" and for real ones failing to do so. It is unwarranted because all modern discourse, including science, is based on the ontology of corporeal macro-
objects. (And Davidson believes that he has proved, in his assault on the idea of a conceptual scheme, the impossibility of it being based on anything else.)

However, I shall argue that Davidson is wrong on both counts. I shall start with (b). I have tried to show that Davidson's assault on the idea of a conceptual scheme has not been as successful as Davidson imagines it has. But moreover, Quine has other reasons for his pragmatism. Quine wants to be a naturalist first and foremost, and this means that he is prepared to accept whatever new idiom science may offer in the course of its development. We start with bodies, then allow their "ill-shaped and loosely knit" corporeal cousins like substances, and eventually have to admit mathematical objects as well - for the theoretical simplicity and fecundity they provide.

A way of dispensing with them and making do with a strictly physical ontology would have been exceedingly welcome, whereas the opposite reduction did not appeal to us.

It is ironical, then, that we at length find ourselves constrained to this anti-physical sort of reduction from the side of physics itself. [...] Bodies were best, but they needed to be generalized to physical objects for reasons that rested on physical concerns: we wanted to provide designata for mass terms, and we wanted to accommodate physical processes or events. Physical objects, next, evaporated into space-time regions, but this was the outcome of physics itself. Finally the regions went over into pure sets; still, the set theory itself was there for no reason than the need for mathematics as an adjunct to physical theory. The bias is physical first and last, despite the airiness of the ontology [Quine 1976, 502-503].

In the event (however unlikely that may seem to us now\textsuperscript{80}) that science abandons its corporealist bias as well as ontology, we philosophers will have to go along with that:

\textsuperscript{80} But ask Werner Heisenberg and others of his ilk, and they will say that it is too late to speak about this possibility in the subjunctive mood.
The key consideration is rejection of the ideal of a first philosophy, somehow prior to science. Epistemology, for me, is only science self-applied... Science tells us that our data regarding the external world are limited to the irritations of our bodily surfaces, and then science asks how it is that people manage from those data to project their story about the external world - true though the story is. 'Posit' is a term proper to this methodological facet of science. To apply the term to molecules and wombats is not to deny that these are real; but declaring them real is left to other facets of science, namely physics and zoology [Quine, "Reply to Smart" in Davidson & Hintikka (eds.), 293-294].

The emphasis on the necessity to always speak from the vantage point of one theory or another, never from "experience alone" or some other fiction of "presuppositionless philosophy" should naturally appeal to a coherentist and rationalist like Davidson. I hope to have shown, in the end, that the differences between Quine and Davidson are often exaggerated, and in many cases they are differences of terminology and/or of emphasis as well as differences in guiding explanatory interest.

§2 The freedom to treat, however respectfully, even the basic entities of science as posits comes from their dispensability in linguistic communication. It is sentences as wholes that are of utmost importance in producing publically observable and socially relevant effects, not their constituent parts such as terms; therefore there is a significant amount of flexibility with respect to the denotata of terms:

81 This attitude dates back to Word and Object where Quine wrote: "To call a posit a posit is not to patronize it. ... Everything to which we concede existence is a posit from the standpoint of a description of the theory-building proces and simultaneously real from the point of view of the theory that is being built. Nor let us look down on the standpoint of the theory as make-believe, for we can never do better than occupy the standpoint of some theory or other, the best we can muster at the time" [Quine 1960, 22].
Reference and ontology recede ... to the status of mere auxiliaries. True sentences, observational and theoretical, are the alpha and omega of the scientific enterprise. They are related by structure, and objects figure as mere nodes of the structure. 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 [Quine 1990, 31].

By the same token, publically observable and socially relevant effects of sentence utterances are insufficient to fix the reference of terms: a phenomenon described by Quine as "inscrutability of reference." (Quine's arguments why extralinguistic means, e.g. ostension, are of no help, are well known - cf. Quine 1969.) Even explicit ontological pronouncements like "There are rabbits" will not make reference scrutable, because assent to such a sentence does not guarantee that "rabbit" denotes the same class of objects for all parties, even if all the parties do agree that "rabbit" denotes rabbits, "thus 'rabbit' denotes rabbits, whatever they are, and 'Boston' designates Boston" (we can add, whatever it is) [Quine 1988, 6]. The "whatever they are" clause is extremely important, because it is the gateway to "ontological relativity" (relativity of reference to the accepted conceptual scheme, or "manual of translation"). The reference of "rabbit" and other terms is determined solely by the accepted theory.

§3 That we are not born with (and are not married to) our present referential apparatus, follows from Quine's reconstruction of its ontogenesis (in "Speaking of Objects," Word and Object, "Things and Their Place in Theories," The Roots of Reference, etc). For infants, "Ball" and "Water" are on a par with "Warm" and "Pleasant."
Only gradually does reification set in. I cannot fully follow Quine’s analysis here, but suffice it to point out that "the reality of gross bodies around us" is not a given:

It hinges on salient, integrated patches and sharp edges in the visual field, reinforced by correlated tactual or olfactory stimulations, and subject only to gradual distortion over time. Here is the route, surely, of reification. To begin with, however, the recurrent presentation of a body is much on a par with other similarities of stimulation that do not prompt reification. Recurrent confrontation of a ball is on a par with mere recurrent exposure to sunshine or cool air: the question whether it is the same old ball or one like it makes no more sense than whether it is the same old sunbeam, the same old breeze [Quine 1988, 7].

The main force behind reification, according to Quine, is the need to organize the stream of sensory stimulation in a form in which it can be coped with. And just as we reified gross bodies in order to stand up to the challenges of the infantile environment, science reifies other kinds of entities to achieve a simpler, more coherent and productive picture:

The things reified serve as the nodes or reference points in the structure that we have progressively elaborated as our theory of nature. Bodies were the main thing, but subsequently we gained further links for our growing theoretical structure by reifying numbers and other abstract objects, and reifying also imperceptible concrete ones. The technical contribution of all such reifications seems to consist in a tightening of implications between observations and high theory, by reinforcing loose truth-functional relations [Quine 1988, 7].

As we have witnessed above, Quine argues that the most intelligible ontology for modern science is that of sets, although in his ideology he is still committed to gross bodies and insists that any viable theory must "save the bodies" (just as Bas Van Fraassen calls upon science to "save the phenomena").
The situation now seems to be as follows. Quine has a strong case for ontological relativity and thus for the notion of a conceptual scheme which, as I have argued, withstands Davidson’s criticism based on the identification of incommensurability with intranslatability.\(^\text{82}\) It is worth emphasizing that ontological relativity does not entail (potential) incommensurability of theories (as we have seen, incommensurability has its grounds in the pragmatics of theoretical communication). It is rather one of the consequences of incommensurability. To defend the latter (along with the concept of a conceptual scheme) it was essential to show the intelligibility of the former. But this intelligibility has another extremely important consequence - namely, that Quine’s modified proximal theory of stimulation (based on surface irritations without awareness assumptions) is theoretically more reliable than Davidson’s distal theory.

We remember, however, that Davidson had also an indirect reason to reject the conceptual scheme/sensory stimulation distinction, namely that it correlated with the suspect idea of a crucial epistemological role for the latter. I shall argue that this idea need not be suspect, and indeed in its Quinean version it is not.

Remember, what Davidson rightly rejects in (1983) and in (1990) is the idea that a sensation justifies a corresponding belief. Nowhere in Quine can one find a trace of this idea. To start with, it would be inconsistent with his holism:

I define observations, better observation sentences, in terms of correlation with sets of sets of sensory receptors, these being my naturalistic surrogates for sets of sensibilia. On the other hand my

\(^{82}\) Davidson argues that ontological relativity should be rejected in favour of ontological inscrutability. He agrees with Quine, however, that reference is not fixed by behavioural evidence (cf. Davidson 1979).
coherentism is evident in my holism, however moderate [Quine, "Comment on Haack" in Barrett & Gibson (eds.), 128].

Next, the role that sensory stimulation plays in Quine's epistemology is radically different from its role in more traditional empiricism, in that he is fully aware of the causal (as Davidson has been urging) nature of the relation between sensory stimulation on the one hand, and belief on the other. Let us examine whether this claim is consistent with the following statement of Quine's, offered in reply to Davidson:

The proper role of experience or surface irritation is as a basis not for truth but for warranted belief.

If empiricism is construed as a theory of truth, then what Davidson imputes to it as a third dogma is rightly imputed and rightly renounced. Empiricism as a theory of truth thereupon goes by the board, and good riddance. As a theory of evidence, however, empiricism remains with us, minus indeed the two old dogmas. The third purported dogma, understood now in relation not to truth but to warranted belief, remains intact. It has both a descriptive and a normative aspect, and in neither aspect do I think of it as a dogma. It is what makes scientific method partly empirical rather than solely a quest for internal coherence. It has indeed wanted some tidying up, and has had it [Quine 1981 (ii), 39].

It does look like Quine has missed Davidson’s point, for the main thrust of Davidson’s criticism is indeed against the empiricist theory of justification, not of truth. I think this mutual misunderstanding can be cleared away by acknowledging that in Quine’s version of empiricism justification of a belief is secondary to and based on its causal explanation. Quine’s edifice is built on two major assumptions: (1) that sensory stimulation provides us with the only clues we have to the external world; and (2) that the goal of epistemology is explaining how, using only those clues, we build our theories of the external world. What becomes immediately apparent, is that sensory stimulation is first and foremost an object of causal explanation, not a means of justification. In other words,
in building our theories of the world we must explain how we get the sensory stimulation that we do, and failure or success at such an explanation is what for Quine is paramount in "empirical justification."

However, in the context of Quine’s philosophy, this last locution can be misleading; the subject matter is "empirical," not the justificatory mechanism. A certain sensory stimulation caused by a physical event does not justify the belief that the person is having the corresponding sensation (as in phenomenalism), nor does it justify the belief that the event in question has occurred (as in pre-Quinean physicalism). What it does justify, indirectly and partially (subject to holism), is the theory that best explains why the physical event in question should have occurred and caused the irritation of nerve endings. The appeal to "success" in explanation as a means of justification is what makes Quine a pragmatist, and the criteria of success such as simplicity, internal coherence and the like support his self-characterization as a coherentist.

§5 So, what is the outcome of Quine’s quest to reform empiricism? I think this question really concerns two related issues: the issue of meaning, and the issue of belief. In the theory of meaning, moderate empiricism can be salvaged only if one resists the temptation to follow Quine in eliminating the social criterion in defining observation sentences (which is (a) based on ignoring the social character of language and communication and (b) leads to losing the distinctiveness of observation sentences altogether). A fuzzy and fluctuating lot of observation sentences obtain their meaning primarily through social conditioning by sensory input, other sentences have their
meanings inculcated *primarily* through their logical (including deductive and probabilistic) relations with observational ones.

In the *theory of knowledge*, the basic stock of beliefs about macro-bodies are justified in virtue of being deductive consequences of a theory of nature that best accounts, by way of causal explanation, for the patterns of sensory stimulation we receive. The choice of theories is governed by pragmatic and coherence considerations. Once the best theory is established, we can settle for the ontology that it offers and derive further beliefs about the posited objects. (In classical science, those happen to be the objects of Davidson's distal theory.) Once the accepted theory makes a vast stock of beliefs it claims to be true available, we can construct, following Davidson's suggestion, a Tarski-style semantics for all sentences, including observation sentences.

The account of meaning and belief just outlined is empiricist in that it emphasizes the epistemological and semantic role, limited but indispensable, of sensory stimulation. This account is rationalist and coherentist in that it insists that the role of sensory stimulation is primarily causal and only indirectly - justificatory. This limited (even in comparison with the Quine of *Word and Object*) empiricism preserves the notion of empirical content (although elevated to the level of theories as wholes) and in general remains vaguely within the empiricist tradition, for the *logical* starting point both in meaning inculcation and in theory construction is still sensory stimulation. But the *chronological* starting points in each semantical and epistemic endeavour are truth and belief, for both have been fixed by the background theory, and this makes the whole picture rationalist and coherentist. What I have outlined in this paragraph and take to be
Quine's latter-day philosophy, is the end of empiricism as a development and at the same time - its reaffirmation through "almost" becoming its rationalist "other."
Conclusion

In this dissertation I undertook to evaluate Quine's reformist efforts with regard to philosophical empiricism (both in semantics and in epistemology) (1) as a reaction to the internal dialectic of the traditional empiricism; (2) as a consequence of the dynamic tension that existed between the empiricist starting point and the equally strong holistic convictions; and (3) as influenced by the criticism coming both from more tradition-minded empiricists and from anti-empiricists (especially Davidson).

What I see as the final result of all three dialectics is an approach that makes the causal relation of sensory input to belief an indirect basis for the justificatory relation. Thus Quine's "indirect" empiricism is no longer in opposition to Davidson's or other intelligent forms of rationalism and coherentism (and to throw in more "isms," it is Quine's pragmatism and naturalism that make all the rest hang together).

In semantics, I think Quine should not have reneged on his initial bold account of observation sentences which I find both defensible and indispensible. But in general, his semantics based on stimulus meaning (for observation sentences) and on truth conditions (for other sentences) becomes equivalent to Davidson's semantics based on truth conditions throughout, once the ontology is fixed. That the fixing has to be done

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83 Empiricism is, after all, a heteronomic doctrine, while holism is the apotheosis of the autonomy of reason.

84 Unfortunately, I cannot offer a comprehensive defense of the original bold account here.
first, onto- and philogenetically (with sensory input giving the "boundary conditions" for any theory that is devised for that purpose), is the main empiricist tenet that separates his semantics from Davidson's.

In general, the approaches of Quine and Davidson on a charitable interpretation of each appear to be mirror images of one another (Quine: "Agreement between us runs pretty deep" - "Comment on Davidson" in Barrett & Davidson (eds.), 80), the apparent differences being differences in accent accounted for by an appeal to their respective domains of application. Quine's philosophy is best viewed as a meta-theory of language (and belief) acquisition and invention, whereas Davidson's - as a description of how language functions once the background assumptions are in.

Having said that, it is not my intent to downplay the residual differences. The main difference, as far as the problems raised in this dissertation are concerned, is on the question of whether ontology is fixed in advance (Davidson) or is a function of current theory (Quine). Quine's position on this issue stems from the fact that non-intentionally interpreted behavioural evidence is insufficient for such a fixation, and being an eliminative materialist, he does insist on purely non-intentional descriptions.

On the contrary, Davidson insists that physical and intentional ways of description are mutually irreducible. This invites normative considerations in gathering behavioural evidence whereby ontology (the ontology of physical bodies) is fixed in advance.

This disagreement is genuinely deep, in part because at its root it is ontological (and I agree with Quine that ontology is under-determined). But by the same token, it often has little methodological relevance, an example of which is Quine's and Davidson's
congenial efforts in the project of devising a purely extensional semantics for natural languages.

Finally, what I deem to be the most charitable (and plausible) interpretation of Quine’s residual empiricism in light of Davidson’s rationalism may not be accepted by either of the main characters themselves. However, I do hope that a possible loss in hermeneutic value would leave the philosophical conclusions reached in the course of this exegesis unharmed.
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