

ON THE IMPORTANCE OF AN HISTORICAL PERSPECTIVE
FOR THE ANALYSIS OF LANGUAGE AND MEANING

BY

RUSSELL TIMMERMAN

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfilment of the Requirements
for the Degree of

MASTER OF ARTS

Department of Philosophy
University of Manitoba
Winnipeg, Manitoba

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ABSTRACT

In this thesis I attempt to show how an historical perspective of language, as held by the linguistic community as a whole through it's own experts, plays a crucial role in determining the current meaning of many if not most expressions. I argue for this position in two ways. In Chapter 1 I introduce and then partially refute the views of Ferdinand Saussure, the first linguist to argue for an essentially ahistorical approach to the analysis of meaning. I do this by outlining and then criticising Saussure's central analogy between the analysis of a state of a chess game and the analysis of a state of a language.

In Chapter 2 I sketch V.W. Quine's account of stimulus meaning as an example of a modern ahistorical account of meaning and critique it through Hilary Putnam's division of linguistic labor hypothesis. Then in Chapter 3 I show how Putnam's division of linguistic labor clearly implies the need for an historical perspective as a part of a new second-order definition for the term 'meaning' based on the notion of "criteria of expertise". I then explore some of the implications of this new definition, with it's prominent role for an historical perspective, for certain views about meaning holism, and in particular Paul Feyerabend's claims concerning the incommensurability of scientific theories. Lastly I show how a definition of meaning based on criteria of expertise entails the possibility of an unusual (and not particularly troublesome) form of incommensurability.

CHAPTER 1

Most current accounts of meaning in language are ahistorical in nature. Among the main current contenders for accounts of linguistic meaning are truth conditional, stimulus meaning, and intentional theories. All of these theories, as developed by their main proponents,¹ share an ahistorical perspective for analyzing language. An ahistorical account is one which seeks to describe the meaning of an expression at a particular time using only facts, linguistic as well as non-linguistic, which obtain at that time. None of these theories, or the philosophers who have created them, necessarily discount the fact that the current meaning of an expression is tied in some sense to the past meanings of its own and other expressions. However, they do maintain that knowledge of the former meanings of expressions in a language is not required in order to determine what the current meaning of any expression is. This is the fundamental basis of an ahistorical approach.

¹I.e., Donald Davidson, W.V.O. Quine, and H.P. Grice, respectively. For representative expositions of their views, see Donald Davidson, "Truth and Meaning", Synthese 17 (1967), pp. 304-23, reprinted in Inquiries into Truth and Interpretation (Oxford University Press, 1984), pp. 17-36; Willard Van Orman Quine, Word and Object (Cambridge, Massachusetts: MIT Press, 1960), Chapter 2; and H.P. Grice, "Meaning", Philosophical Review 66 (1957), pp. 377-88, as well as "Utterer's Meaning and Intentions", Philosophical Review 78 (1969), pp. 147-77. Quine's views on stimulus meaning are discussed in detail in Chapter 2 below.

In contrast, an historical account of the meaning of an expression is one which conceives of the meaning of that expression as partially constituted by the relationships it bears to its own past meanings and the past meanings of other expressions. Unlike the ahistorical account, which conceives of the meaning of an expression as a static entity, an historical account describes the meaning of an expression as a dynamic entity. Describing the changes in the meanings of expressions from era to era, the reasons for those changes, and their relevance to the current meaning of particular expressions is the province of an historical account.²

Almost all accounts of linguistic meaning are compatible with adopting either an historical or ahistorical perspective. However, most contemporary accounts of meaning, as they are actually developed by their main proponents, are concerned with producing ahistorical

²A brief clarification concerning the term 'ahistorical': An ahistorical account describes the meaning of an expression for a specific epoch. The word 'epoch' refers to a period of time during which some aspect of an entity undergoes little or no change. For the purposes of this paper, an epoch describes a period of time during which little or no change takes place in the meaning of a given expression. What qualifies as little or no change is dependent on the specific account of meaning used, however. Thus a single ahistorical account of the meaning of an expression could well cover centuries or longer. An ahistorical account is restricted to using only those facts that obtain during a specific epoch in order to define the meaning of the expression for that epoch.

accounts of meaning, and reflect the belief that historical accounts of meaning are not necessary for the creation of ahistorical accounts. It is my contention that the two perspectives are vital to each other, and that the current meanings of many if not most expressions in any natural language cannot be accounted for comprehensively without reference to the historical meanings of expressions in that language.

It is more generally accepted that one cannot have an historical account of meaning, as I have described it, without also possessing at least several ahistorical accounts for the terms in question. This is because in order to realize that a change in the meaning of an expression has occurred, one must first have an account of that expression's meaning before and after the change. These two accounts can theoretically be produced and described ahistorically. The role of the historical perspective, therefore, is viewed as one of merely comparing and noting the changes in ahistorical accounts of the meaning of expressions over time.

Of course this assumption is wrong if one denies that a full ahistorical account of an expression's meaning can be created without reference to historical accounts. Once one realizes that knowing the history of the meaning of terms is

vital to knowing a term's current meaning, the strict distinction between historical and ahistorical accounts of meaning breaks down. In order to understand the historical meaning of a term one must understand its ahistorical states, but in order to fully understand its ahistorical states one must understand its historical meanings and the historical meanings of associated expressions.

The last line of the above paragraph suggests a dilemma. If one requires an historical account of a term in order to understand it ahistorically and also requires ahistorical accounts in order to understand it historically, how does one ever understand the meaning of a term? The answer to this apparent dilemma is that understanding comes in degrees. The process of language acquisition is an incremental one, not only in the sense that one can't learn the meanings of every word in a language all at once, but also in the sense that the meanings of individual words and expressions are acquired gradually over many years (a theme which is developed at the beginning of Chapter 3 below). It is not my position that one can know nothing about the current meaning of a term without an historical perspective, but that knowing the history of the meanings of terms can increase our understanding of their current meanings significantly.

The first person to draw a systematic distinction between ahistorical and historical accounts of language was Ferdinand Saussure. Saussure drew this distinction using the terms "synchronic" and "diachronic". While his use of these terms has implications which reach beyond the issue of ahistorical v. historical accounts of meaning, the basis for a synchronic account of language for Saussure is that:

The first thing that strikes us when we study the facts of language is that their succession in time does not exist insofar as the speaker is concerned. He is confronted with a state. That is why the linguist who wishes to understand a state must discard all knowledge of everything that produced it and ignore diachrony.³

As is apparent in the above quotation, Saussure favoured the synchronic over the diachronic perspective of language. His favourite example for comparing the two approaches was that of a game of chess. For Saussure the meaning of a term is derived from its relationship to all

³Ferdinand de Saussure, Course in General Linguistics (Glasgow: William Collins Sons and Co. Ltd., 1974), p. 81. In addition to demonstrating Saussure's ahistorical bias, this quote also shows that Saussure drew this bias from his view that studying language is essentially a matter of studying how individuals view and relate to their own language, as opposed to how language might relate to entire communities. Historical facts about language are irrelevant, according to Saussure, because "their succession in time does not exist insofar as the speaker is concerned." In Chapters 2 and 3 I show how Quine makes essentially the same individualistic assumption as Saussure, and how Hilary Putnam's criticism of an individualistic approach to linguistics implies the importance of the historical perspective for determining the current meanings of many expressions.

the other terms in a language.⁴ Similarly the value of a single chess piece is derived from the position of all the other pieces on the board and its relationship to them. Each arrangement of pieces may be taken to represent the state of a language at a given time. Each move in the game, on the other hand, is a diachronic event, a change in the arrangement from one state to another. The new arrangement that emerges from the move of a particular chess piece can radically alter the value of any of the pieces on the board. The new value of those pieces can only be determined by examining the new arrangement of the board. Knowing the previous state of the board or the move that changed it to its current state is irrelevant to understanding the current values of the pieces as they stand now:

In a game of chess any particular position has the unique characteristic of being freed from all antecedent positions; the route used in arriving there makes absolutely no difference; one who has followed the entire match has no advantage over the curious party who comes up at a critical moment to inspect the game; to describe this arrangement, it is perfectly useless to recall what had just happened ten seconds previously.⁵

For Saussure the role of diachronic studies is not to describe the state of a language, which is the important factor for determining the meaning of terms, but to

⁴I.e. Saussure's account of meaning constitutes a version of what is nowadays commonly referred to as "semantic holism". The position I am defending has implications for some leading forms of semantic holism which are discussed in the second half of Chapter 3 below.

⁵Ibid., p. 89.

investigate the series of modifications that particular terms have undergone and which have led to the current state. The value of these modifications can only be determined by the synchronic study of the state itself. Thus diachronics, for Saussure, gives us facts about the genesis of the current meaning of a term. Actually understanding the current meaning of an expression is the providence of synchronic study.

Saussure's chess analogy is central to his explanation of the synchronic/diachronic distinction. But is Saussure correct? Is a person with a diachronic understanding of a game of chess at no advantage over one who merely walks into the room in the middle? This presumably depends on what Saussure has in mind by "advantage".

If, for instance, Saussure means by "advantage" some ability to tell which of the two sides in the game is more likely to win, it is plausible to assume that the observer with the diachronic perspective may have some advantage. While the synchronic observer might be able to tell the superior position⁶ by simply analyzing the state of the board in the middle of the game, the diachronic observer also has the advantage of seeing the game unfold. It is

⁶By "superior position" I mean simply the side which, if played in a theoretically perfect game, would win.

possible that the player in the apparently weaker position in the middle of the game is in fact the superior player, and is merely attempting to draw his opponent out. It could also be the case that one of the players may be so much more skilful than his opponent that he has "spotted" his opponent some major pieces at game's start and is just now beginning to equalize the odds. In either case the diachronic observer may be able to divine these facts more accurately than the synchronic observer. In cases like this it is the diachronic observer who is more likely to accurately predict a winner.

Perhaps what Saussure means by "advantage" instead is that neither observer would have an advantage over the other if they were to take up the game from its current state, replacing one or both of the current players. Whether taking up the game against a current player or against each other, however, the observer with the diachronic perspective may again have an advantage over his synchronic counterpart. The current state of the game, as described above, does not always show which side is in the best position to win. An apparently inferior position can in fact be the better when combined with superior strategy. Pitted against the synchronic observer, the diachronic observer might in some cases have an understanding of the strategy that led to the current state of the game and thus know how to proceed with

his/her current position, while the synchronic observer has no idea what, if any, strategy led to the current state of the game, and thus has to rely on his own intuitions and skills for proceeding from that point. The diachronic player knows why his/her position is the way it is and has the option of continuing the strategy that has led to this point or of abandoning it. In effect, the diachronic observer will have more choices than his synchronic opponent.

Thus the diachronic observer is likely to enjoy both a predictive and a competitive advantage over his synchronic counterpart. It is unlikely, however, that Saussure was referring to either predictive or competitive advantage in the previous quotation. His explicit claim is that a diachronic observer of a chess game possesses no advantage over the synchronic observer in "describing the arrangement" of the board.⁷

What Saussure probably did mean by "advantage" was that neither synchronic nor diachronic observers of a chess game would possess any advantage in describing the value of the

⁷Language, unlike a chess game, is not a competitive endeavour. One cannot gain a competitive advantage in language and one cannot predict a likely winner in language, because language does not have winners and losers. Thus if Saussure had meant either that no predictive advantage or that no competitive advantage would exist between synchronic and diachronic observers of a chess game, he would not only have been mistaken, but would also have been drawing a rather poor analogy between chess and language.

individual chess pieces on the board. Saussure characterizes the resulting analogy to linguistics as follows:

First, a state of the set of chessmen corresponds closely to a state of language. The respective value of the pieces depends on their position on the chessboard just as each linguistic term derives its value from its opposition to all the other terms.⁸

The value of a chess piece is a function of its position on the board as it relates to the position of all the other pieces. Similarly, the "value" or meaning of a term is a function of its relationship to all the other terms in the language.

So the question now becomes, does an observer who has watched a game of chess unfold from its inception have any advantage in describing the values of the individual pieces on the chess board at a particular stage of the game over an observer who has just stepped into the room? According to Saussure the value of a piece is a function of its relationship to the other pieces on the board. How those pieces ended up in that relationship is immaterial according to him. A game could have been played to its current position

⁸Ibid, p. 88. "Opposition", for Saussure, refers to the negative relationship that an expression has to all the other terms in the language. The term 'stream', for example, is partially defined by the manner in which it "opposes" the term 'river'. One comes to understand that the term 'stream' refers only to water flows up to a certain size by discovering that the distinction, or opposition, it has to the term 'river' is a matter of the size of the water flow to which they each properly refer.

in any one of several different ways, but the current value of the pieces is a function of their current relationship only.

Saussure's major mistake in making this claim is his apparent assumption that there is only one possible value for a piece on a chess board at any given time. In fact, any state of a chess game can be interpreted in a number of ways, each giving different values to the pieces involved. This is because the value of an individual piece is a function of the role it plays in the strategies pursued by the two players. From any given point in a game, conceived of as a synchronic state, one could plausibly infer that any number of different strategies are being pursued, each involving different values for the pieces on the board.

It might be objected that some super computer or grandmaster chess player should be able to synchronically determine the "optimal value" of the pieces, based on the best possible strategy that could be pursued given the current state of the board. There are two reasons why this objection is faulty. First, no such computer or chess player actually exists or is ever likely to. The complexities of chess are such that no optimal strategy can usually be calculated from an arbitrary state of the board.

Secondly, and more importantly, a piece is only of value in an actual game of chess to the extent that the actual players of that game realize its value and act on it. Even the greatest chess champion in all the world would be at a disadvantage in describing the value of the pieces in a chess game synchronically. This is because he would only be able to describe what the value of the pieces on the board would be to him if he were playing from that point on, not what the values are likely to be to the actual players involved. The "optimal value" of a piece, even if it were calculable, would very likely not be the actual value of that piece in a real game played by real individuals. The value of a piece in a particular state of a chess game can only be recognised by observers to the extent that they can understand its value as it is recognised by the players involved.

A synchronic observer can only evaluate individual pieces on a board by their relationship to each other according the rules of chess and the guidelines for good play. A diachronic observer, on the other hand, has a far better idea of the players' strategies that are involved and the role that the individual pieces play in them. A given piece in a particular position may be of great value to a conservative player and almost worthless to a flamboyant one. A naturally aggressive player may have begun the game

with an aggressive style and have been forced by his or her opponent into a conservative position not to his or her liking. By watching the game unfold a diachronic observer is in a better position to evaluate the pieces on the board according to how the players involved are likely to see it.

It might be objected that, even if it is true that how the players see the state of a board determines the value of its pieces, how the players see the state of a board is itself a synchronic fact. For instance, how one or both of the players interpreted the state of board one minute ago may have given all the pieces radically different values. These values can change even if no moves are made in the game at all. The perspective that a player had of the game a moment ago has no relevance to the value of the pieces on the board now. Only current perspectives of the game determine the current values of the pieces.

There are again two responses to this objection. The first is that the objection will not save Saussure's analogy. A diachronic observer is still in a better position to determine the current perspectives of the players involved than any synchronic observer might be. It may be extremely difficult to guess at how the players perceive the value of individual pieces at any point in time based on having observed the game unfold to that point, but it is almost

impossible to do so based only on observing a particular state of the game alone. But secondly, the current perspectives of the players are partially determined by their own current memories of how the game has unfolded to its current state. The same player is likely to have a different perspective on the state of a game of chess if his memories of having played to that point are removed or altered. Surely no one would argue that a player's memory of his or her own past strategy, even if the player should now choose to abandon it, combined with the player's perception of his or her opponent's strategy, does not influence how that player interprets the board at any point in time. It is not merely an epistemological fact that knowledge of the players' current perspectives of the game is aided by diachronic observation, but a metaphysical fact that the players' own perspectives are partially determined by their own diachronic understanding of the game.

Under normal circumstances it is the actual history of a game which is casually responsible for a player's current memory of the unfolding of that game. Although one could describe scenarios where a chess player was brain washed into believing a false history of the game, or scenarios in which the player may have deluded him or herself as to how the game had unfolded to this point, in the normal course of affairs it is the basically accurate past perception of the

actual moves of the game which are causally responsible for a player's current memories of them. If one allows that a player's current memory of the unfolding of a game partially determines the current value of the pieces on the board, and that in most cases the actual history of the game is causally responsible for those memories, then one can see how the actual history of a game plays a role in determining the current values of the pieces.

Saussure's chess analogy, and my criticism of it, directly parallels the main argument of my thesis. Saussure argues that one can fully determine the meaning of any expression without reference to linguistic history. I contend that a community's understanding of its own linguistic history influences, and in some cases even determines, the current meanings that it holds for many of its expressions. Knowing how chess players see the board lets an observer have a better idea of how they value the pieces, and thus what the actual values of the pieces are for that game at that time. Similarly, knowing how a linguistic community regards the relationships of its own expressions is vital to understanding the current meanings of those expressions as they are actually used. Thus if a linguistic community sees the current meanings for many of its expressions as being dependent upon historical relationships, then we as observers must endeavour to understand those historical relation-

ships if we are to fully comprehend the meanings that the community holds for those expressions. In the chapters to follow I will attempt to show how an historical perspective of language, as held by the linguistic community as a whole through its own experts, plays a crucial role in determining the current meaning of many if not most of the expressions in the language.

Having a concrete example of an ahistorical analysis will help to focus the discussion/argument to follow. A modern paradigmatic example of such an ahistorical theory of linguistic analyses is Quine's account of stimulus meaning. In the next chapter I shall explore Quine's behaviourist account of linguistic meaning and, by way of criticism, point out two seemingly unrelated aspects of it.

Firstly it will become quite clear that Quine's account is ahistorical in nature. Only those meanings of expressions that are held currently by speakers of a language are ever elucidated by Quine's methods. Secondly it will be shown that Quine's stimulus meaning account is individualistic in nature. Quine clearly believes that the meaning of an expression can be accounted for through the observation of individuals responding to various stimuli. Community notions like experts and correct and incorrect usages are not considered in Quine's account.

Recognizing the critical fault in Quine's absence of historical perspective depends on fully appreciating the role and importance of Hilary Putnam's division of linguistic labor. Once one sees that meanings of expressions are not individualistic in nature, but rather community-based, the role and importance of the historical perspective for determining current meanings becomes more apparent. In chapter 3 of this thesis I will show how Putnam's division of linguistic labor clearly implies the need for an historical perspective as a part of a new second-order definition for the term 'meaning' based on the notion of "criteria of expertise". Later in Chapter 3 I will explore some of the implications of this new definition, with its prominent role for an historical perspective, for some current accounts of meaning holism, and in particular for Paul Feyerabend's claims concerning the incommensurability of scientific theories⁹. Lastly I will show how a definition of meaning based on criteria of expertise entails the possibility of an unusual (and not particularly troublesome) form of incommensurability between individuals, or cultures, with very different linguistic histories.

⁹P.K. Feyerabend, "Explanation, Reduction, and Empiricism", Minnesota Studies in the Philosophy of Science (1962).

CHAPTER 2

I hold further that the behaviourist approach is mandatory. In psychology one may or may not be a behaviourist, but in linguistics one has no choice. Each of us learns his language by observing other peoples' verbal behaviour and by having his own faltering verbal behaviour observed and reinforced by others. We depend strictly on overt behaviour in ostensible situations....There is nothing in linguistic meaning beyond what is to be gleaned from overt behaviour in observable circumstances.¹⁰

This line sums up the main question that Quine is attempting to investigate in the second chapter of Word and Object.¹¹ In brief, Quine's basic perspective on linguistic meaning is that the only empirical evidence (for Quine this means the only evidence period) we can have for determining the meaning of a phrase is the verbal behaviour of speakers and the evident relationship this behaviour has to non-verbal stimulation. Quine's account of the process of "radical translation" is both an embodiment of this behaviourist perspective and an exploration of its consequences.

Radical translation is defined by the assumption that the translator has no access to bilingual intermediaries,

¹⁰Willard Van Orman Quine, Pursuit of Truth (Cambridge, Massachusetts: Harvard University Press, 1990), p. 38.

¹¹Willard Van Orman Quine, Word and Object (Cambridge, Massachusetts: MIT Press, 1960).

and may make no suppositions based on resemblances of cognate word forms from some already known language to the "native" tongue. Quine relies on the example of radical translation in order to explore what a purely empirical account of an expression's meaning might look like.

It is important, for purposes of the criticisms embodied in this paper, to understand that Quine wants to investigate the current meanings of expressions as held by a given speaker, not any meanings he may have held for the expression in the past.

We are concerned here with language as the complex of present dispositions to verbal behaviour, in which speakers of the same language have perforce come to resemble one another; not with the processes of acquisition, whose variations from individual to individual it is to the interests of communication to efface....Reckon a man's current language by his current dispositions to respond verbally to current stimulation, and you automatically refer all past stimulation to the learning phase.¹²

Quine's behaviourist approach to meaning is captured in his "stimulus meaning" methodology for the radical translation of native expressions. The stimulus meaning of an expression for a speaker is determined by the dispositions of that speaker to assent to or dissent from the use of the expression given particular stimulations. The class of all stimulations that would prompt the speaker to assent to the

¹²Ibid., pp. 27-8.

use of the term is known as the affirmative stimulus meaning of the expression. The class of all stimulations that would prompt the speaker to dissent from the use of the expression is known as the negative stimulus meaning of the expression. It is the totality of these affirmative and negative classes of stimuli that constitute the stimulus meaning of an expression for a speaker at a particular point in time.¹³ By presenting a speaker with all possible stimuli¹⁴ and noting whether he assents to or dissents from the use of the expression in each case, an investigator may come to know the stimulus meaning that the subject holds for that particular expression.

In translation, stimulus meaning is used as the measure of a domestic expression's suitability as a translation for the native expression in question. Ideally, all the stimuli under which the native speaker would assent to the use of a native expression would be identical to the stimuli which

¹³Ibid., pp. 29-33. Quine points out that gradations of assent and dissent are possible to detect with this method, i.e. the speaker may be unsure whether or not the expression is properly applied to a given stimulus and so respond only hesitatingly when prompted to assent or dissent by the translator. By measuring and noting the degree of hesitation on the part of the subject a translator can get a rough idea of the degree of assent or dissent the subject is expressing.

¹⁴It is of course impossible to actually present a given speaker with all possible stimuli. Later in this chapter I discuss Quine's notion of "universal event forms", which addresses this problem.

would prompt the translator to assent to the use of the candidate domestic expression intended for translation. Similarly, all those stimuli which prompt dissent for a speaker of the native expression would also ideally prompt dissent for the translator and his domestic phrase. The degree to which a proposed domestic phrase matches, in its stimulus meaning, the native phrase is the degree to which the domestic phrase can be considered a good translation. Further, candidate translations adopted on the basis of stimulus meaning must not only attempt to correspond to the positive and negative stimulus meanings of an expression, but the indeterminate stimuli as well. Ideally, those stimuli which evoke neither assent nor dissent for the phrase of the native speaker would do the same for the proposed translation phrase.¹⁵

Quine provides a number of details and clarifications concerning his stimulus meaning criterion in order to show how a translator ought to use stimulus meaning for the purpose of radical translation. One such detail is that the investigator is interested in a speaker's response to stimulations, not actual events or objects. The stimulus meaning of "rabbit" can remain the same even if the speaker is only assenting to the use of the expression for a sufficiently life-like counterfeit. Quine notes that for

¹⁵Ibid., p. 33.

visual stimuli, one is interested simply in particular patterns of ocular irradiation and the responses they evoke with respect to a subject's willingness or unwillingness to assent to the use of a particular expression under those circumstances.

It is not adequate to think of the visual stimulations as mere momentary phenomena, however. Quine points out that one must take into account examples, like expressions referring to movement, which require an ocular stimulus that not only persists but changes over time. It is the limit or "modulus" of such persistent and evolving stimuli which must be determined by the translator; for there are expressions such as "the weather is fine today" which may require a fairly extensive modulus of stimulation in order to prompt assent or dissent.

Complications in determining the correct modulus must be considered when one notes that "[t]he stimulation is [supposed to be] what activates the disposition, as opposed to what instills it..."¹⁶ It is not too hard to imagine that a sufficiently long and evolved stimulus could play a part in forming rather than merely prompting a speaker's assent to or dissent from the use of a sentence. Stimuli which are too long and involved may end up playing a part in

¹⁶Ibid., p. 34.

the so called "process of language acquisition" which it is Quine's desire to ignore. If Quine were to allow stimulations to play a role in the subject's language acquisition then he would be analyzing not just the currently held meaning of an expression, but the meaning of an expression as it changes over time. By insisting on a strict limitation to the modulus of stimulation, Quine demonstrates the ahistorical nature of his account of meaning.

(Quine does point out that the stimulus meaning of expressions may change over time. It may be the case that a subject, given stimulation @ at time T1, assents to the use of expression X and then given the same stimulation @ at T2 dissents from the use of expression X. In such a case, says Quine, we simply assume that the meaning of the expression has changed for the subject. Knowing what the stimulus meaning of an expression at T1 was for a given subject is totally unnecessary, and in fact irrelevant, to investigating what the stimulus meaning of the same expression might be at T2 for the same subject.)

According to Quine it is not only those stimuli which actually evoke assent to the use of an expression which are categorised as part of its positive stimulus meaning, but also all those stimuli which "would" evoke such an affirmative response. Thus the translator identifies a "dispo-

sition" to assent or dissent on the part of the speaker to a range of possible stimuli. This disposition, according to Quine, may be presumed to be some sort of structural condition. Although Quine declines to detail the methodology of defining a speaker's disposition to assent or dissent from potential stimuli, he does state that:

we are familiar enough in a general way with how one sets about guessing, from judicious tests and samples and observed uniformities, whether there is a disposition of a specified sort.¹⁷

The stimuli which activate the speaker's dispositions to assent to or dissent from utterances must be conceived of, not as particular events, but as universal event forms. Quine demands this for a couple of reasons. First, if stimuli were considered only as particular events, then it would be impossible to assert that two speakers, who did not have access to the same particular stimuli, ever held the same stimulus meaning for an expression. If I assented to the use of the expression "Lo a rabbit" after being presented with a different rabbit than my brother, it would be impossible to assert that I held the same stimulus meaning as him, as I would have been prompted to respond to a different particular stimulus. Further, without construing particular events as universal event forms, it would be impossible to assess whether or not I would assent to the

¹⁷Ibid., p. 34.

use of the expression "Lo a rabbit" for any unrealised case.

Since assent and dissent are involved in the definition of stimulus meaning, and since speakers can only assent to and dissent from assertions, the expressions for which stimulus meaning is defined must be complete declarative utterances. Quine defines two types of complete sentences that relate to his stimulus meaning account, "occasion sentences" and "standing sentences". Occasion sentences are sentences which command assent or dissent only if prompted by an appropriate stimulus. Standing sentences, on the other hand, may be assented to or dissented from by a given speaker even in the absence of the appropriate stimulation immediately prior to questioning. An example of a standing sentence might be "It rained yesterday". Quine maintains that the meaning of such sentences can still be investigated via their stimulus meaning, so long as one catches the subject at a time when the correct stimulation has actually been presented. He does admit, however, that problems remain in identifying the meaning of sentences in general with their stimulus meanings, and notes that his methodology works best for relatively "observational" sentences like "Lo, a rabbit", which is generally only assented to in the actual presence of the appropriate rabbit-like stimuli.

Even for occasion sentences, though, intrusive informa-

tion is a problem. Intrusive information takes the form of any information relevant to the disposition of the subject to respond either affirmatively or negatively to an utterance given the stimulus at hand, and which is either unavailable or missed by the observer. These things include kibitzers, collateral information on the part of the subject, or simply some aspect of the stimulation noticed by the subject but not by the observer. Sentences such as "Red" or "This is red" are subject to very little in the way of possible intrusive information. On the other hand, sentences like "Bachelor" or "He is a bachelor" depend almost entirely on collateral information the subject has about the social status of the stimulus in question.

According to Quine the definition of an observation sentence is one of degree. Modulus of stimulation plays an active role in defining what the observationality of a given sentence might be. For instance, the case of the subject's assenting to the use of the sentence "Gavagai" given the stimulus of moving grass and the collateral stimuli of having seen rabbits in the area before, can be brought into increased accord with the translator's stimulus meaning of "Rabbit" or "Lo, a rabbit" if one increases the modulus of stimulation to include the previous sightings of rabbits in the area for the translator as well. Quine defines the observationality of occasion sentences as the degree of

constancy of stimulus meaning from speaker to speaker. That is to say, the degree to which a sentence would be identically assented to or dissented from by the community of speakers given the same stimulus meanings is the degree to which the sentence can be considered observational. Sentences which rely greatly on collateral information such as "Bachelor" will vary widely in stimulus meaning over a broad selection of native speakers, while those which rely greatly on directly presented stimuli such as "Red" will generally enjoy wide similarity in stimulus meaning from speaker to speaker. This is because while collateral information may or may not be shared from one speaker to the next, the direct information conveyed by the presented stimuli is, by virtue of the stimulus meaning test, universal for all subjects.

Stimulus meaning works best, according to Quine, as a criterion for the translation of, and hence the meaning of, observational occasion sentences. It works less well for sentences with few observational qualities, and standing sentences which don't refer to currently presented stimuli, although Quine points out that by adjusting the modulus, varying the times of testing and applying a great deal of common sense and prudence, many of even these troublesome sentences can be translated using stimulus meaning. As has been noted earlier, however, stimulus meanings can in any

case serve only as the meanings of complete declarative utterances. What of the meanings of sub-sentential expressions, of individual words and phrases?

According to Quine, synonymy of stimulus meanings for sentences, even one word sentences like 'Gavagai' or 'Rabbit', does not guarantee synonymy between terms:

For consider 'gavagai'.¹⁸ Who knows but what the objects to which this term applies are not rabbits after all, but mere stages, or brief temporal segments of rabbits? In either event the stimulus situations that prompt assent to 'Gavagai' would be the same as for 'Rabbit'. Or perhaps the objects to which 'gavagai' applies are all and sundry undetached parts of rabbits; again the stimulus meaning would register no difference. When from the sameness of stimulus meanings of 'Gavagai' and 'Rabbit' the linguist leaps to the conclusion that a gavagai is a whole enduring rabbit, he is just taking for granted that the native is enough like us to have a brief general term for rabbits and no brief general term for rabbit stages or parts.¹⁹

Meanings for individual terms are fixed, for Quine, by a sort of semantic holism.²⁰ Individual words have meanings only by virtue of the role that they play in sentences. For Quine sentences, not words, are the main bearers of meaning in a language. Stimulus meanings can only be effectively

¹⁸Note that Quine uses capitalization to indicate that expressions such as 'Gavagai' and 'Rabbit' are to be interpreted as one word sentences, and lower case to indicate individual terms.

¹⁹Ibid., pp. 51-52.

²⁰Semantic holism itself is discussed later, in Chapter 3 of this thesis.

applied to whole sentences, and individual words gain their meanings derivatively from them: "words mean [i.e. are meaningful] only as their use in sentences is conditioned to sensory stimuli, verbal or otherwise."²¹ And since, according to Quine, stimulus meaning is incapable of differentiating enduring rabbits and mere stages of rabbits, or all and sundry undetached rabbit parts, the meaning of individual terms is necessarily indeterminate under the stimulus meaning criterion. This is the basis for Quine's celebrated thesis of the indeterminacy of translation.

My main concern is not, however, with Quine's indeterminacy thesis, but rather his ahistorical point of view. It is my contention that Quine's stimulus meaning approach is fundamentally flawed due to its ahistorical nature. But this fact will be made clearer once one first understands the deficiencies inherent in the individualistic underpinnings of his approach. As has been noted before, an individual's stimulus meaning for an expression at time T1 is considered irrelevant, by Quine, to the stimulus meaning he holds for the same expression at time T2. Underwriting this assumption is the belief, on the part of Quine, that the meanings of expressions rest with individuals. Stimulus meaning is defined by Quine for individual speakers.

²¹Ibid., p. 17.

The best account of a "community meaning" for an expression that one can apparently construct on the basis of Quine's stimulus meaning account, to a first approximation, is a sort of statistical averaging of the stimulus responses of all the individuals in the community concerning a specific expression. Take the category of all those stimuli which prompt assent to a particular expression by all, or almost all, the members of a community and call it the community's affirmative stimulus meaning for the expression. Then take all those stimuli which prompt dissent to the same expression by virtually everyone in the community and call that category the negative stimulus meaning for the expression. In this way one could generate a community stimulus meaning but it would, by necessity, be no more than an aggregate of individual stimulus responses. Quine's stimulus meaning account of meaning is fundamentally individualistic in nature.

In order to understand the critical fault that lies with Quine's individualistic approach, one must first become familiar with Hilary Putnam's "division of linguistic labor". Probably the best place to begin describing Putnam's hypothesis of the division of linguistic labor is with his own summary of his discussion on the subject:

We may summarize this discussion by pointing out that there are two sorts of tools in the world: there are tools like a hammer or a screwdriver which can be used by one person; and there are

tools like a steamship which require the cooperative activity of a number of persons to use. Words have been thought of too much on the model of the first sort of tool.²²

Putnam believes that the meanings of expressions do not rest "in the head" of individuals, as he puts it, but rather in the sociolinguistic community. In his article Putnam is keen to show that the extensions of the expressions which an individual uses (i.e. the things in the world which the expressions apply to or "are true of") are in many cases not fixed by concepts or mental pictures which the individual associates with those expressions, but rather by the community, often through a network of experts. Just as on a steamship different individuals have different responsibilities in running the ship, so too in a linguistic community different people have different responsibilities in defining and being the repository of the extensions and ultimately the meanings of different expressions.

To see how the linguistic division of labor works and how it is not accounted for in Quine's theory of stimulus meaning, let us take Putnam's own example of the word 'gold'. Assume that many individuals in a given society might not be capable of distinguishing gold from pyrite. According to Quine's theory, if an individual assents to the use of 'Gold' when presented with pyrite or its equivalent

²²Hilary Putnam, "Meaning and Reference", The Journal of Philosophy LXX (November 8, 1973), p. 127.

stimulation, then cases of pyrite are included in the meaning of 'Gold' for that person.²³ According to Quine an individual capable of distinguishing gold from pyrite would hold a different meaning for the expression, because he or she would not assent to the use of 'Gold' for those cases in which pyrite was presented.

Thus we are lead to the conclusion that metallurgists, who presumably can and do distinguish stimuli of gold from stimuli of pyrite, mean something different by 'Gold' than do lay persons. This conclusion on the part of Quine's analysis is obviously incorrect. One may not know the precise difference between pyrite and gold, and may not be able to distinguish between them if presented with samples. A stimulus meaning account could show that a person would be inclined to assent to use of 'Gold' for most or even all cases in which he or she was in fact presented with stimuli of pyrite. In spite of this, persons do not generally mean that the correct use of 'Gold' should include cases of pyrite.

Quine's stimulus meaning account does allow for a com-

²³Note the capitalization. Although Putnam actually focuses his discussion on the meaning of individual terms like 'gold', the central issue for present purposes is the individualistic bias of Quine's general theory of meaning, which is independent of worries one may have about semantic indeterminacy which arise at the level of sub-sentential expressions.

munity standard of meaning of sorts. What Quine proposes is to "average out" the stimulus responses of all the members of a given community for a given expression. In order to do this one compares all the stimulus responses of all the individuals in the community to a given expression and eliminates all those responses not common to the group. If, for instance, one member of a group decides to assent to the expression 'Lo a rabbit' in the presence of a mouse, it does not necessarily mean that the entire community believes that mice are rabbits (or that sundry undetached mice parts are actually sundry undetached rabbit parts or whatever). By eliminating odd responses Quine can create a standardised meaning for any given community.

This, however, still won't do because those who hold the "correct" stimulus meaning for an expression might be a minority in the community. If the majority of individuals in a community are incapable of discerning pyrite from gold, then Quine's averaging scheme would still entail that 'Pyrite' and 'Gold' are synonymous, or nearly so, for the community.

How is it then that one can, on one hand, mean different things by the expressions 'Pyrite' and 'Gold' and yet, on the other hand, be completely incapable of distinguishing between stimulations of pyrite and gold? The answer to this

question lies with Putnam's Hypothesis:

HYPOTHESIS OF THE UNIVERSALITY OF THE DIVISION OF LINGUISTIC LABOR: Every linguistic community exemplifies the sort of division of linguistic labor just described: that is, it possesses at least some terms whose associated "criteria" are known only to a subset of the speakers who acquire the terms, and whose use by the other speakers depends upon a structured cooperation between them and the speakers in the relevant subsets.²⁴

That is to say, in order to make a distinction between pyrite and gold one must rely on experts. One knows that a distinction between pyrite and gold exists and knows that a competent jeweller or metallurgist can tell the difference. What specifically that difference is an average person need not know. What he or she personally knows about the "criteria" of an expression is not the sum of what he or she takes that expression to mean. The correct criterion of application for an expression does not reside in any one individual, but rather resides in the linguistic community as a whole.

If an individual speaker accepts the existence and authority of experts relevant to a given expression, then he or she accepts the notion that the meaning of that expression is not necessarily exhausted by his or her knowledge of it. The fact that I am willing to be contradicted by experts as to what is pyrite v. what is in fact gold, shows that the actual meaning which I hold for the expressions

²⁴Ibid., p. 126.

involved is not always reflected in my behaviour, via my disposition to assent or dissent to the use of an expression in particular circumstances, or my mind, via my ability to describe or define the expression.

According to Quine's account there can be no standards of correct or incorrect meanings for expressions. Any meaning expressed by the behaviour of an individual's use of an expression is considered as equally valid as any meaning expressed by any other member of that individual's linguistic community. Yet every linguistic community on earth holds some level of distinction between acceptable and unacceptable uses for its expressions. It is not always simply the case, as assumed under the Quinean account, that if two individuals in a linguistic community hold radically different stimulus meanings for the same expression, that both are equally valid in the linguistic community. Linguistic communities have experts. Recognising and understanding experts and expert meanings for expressions is a fundamental part of fully understanding any language.

It has been so far shown that an individual's personal criterion of application for an expression does not exhaust that expression's meaning. If this is so then shared meanings between individuals do not require shared criteria of application. I mean the same thing by the term 'gold' as

a metallurgist and yet I have a different, certainly not as extensive, criterion of application for the same term. If shared criteria of application are not required for shared meanings, then what is? The answer is that individuals, in order to share the same meaning for an expression, need a common criterion of expertise for that expression. That is to say that individuals need to be able to mutually recognise the same experts. I can mean the same thing by 'gold' as a metallurgist only as long as both myself and the metallurgist recognise that she is an expert on gold and that I am not.

Quine might attempt to avoid the criticism that his theory has no way of accommodating Putnam's division of linguistic labor by maintaining that we could simply identify the (community) meaning of expressions which are subject to a division of linguistic labor with the stimulus meaning of that expression for some particular expert or group of experts. There are a number of problems with this answer. First is that in general no one person can plausibly be viewed as the repository of the community meaning of an expression. Many expressions have so many applications and nuances that no one person is ever in full possession of an exhaustive criterion for their correct application. Further, even experts make mistakes, and are subject to correction by fellow experts. In cases where experts do

make mistakes, averaging out the stimulus meaning of the entire community of experts will not work partially for the same reason why averaging does not work for the community as a whole: the odd man out may still be right and the rest, of even the expert community, wrong. Lastly, there is nothing within stimulus meaning itself that would allow Quine to recognise experts. In order to know which individuals to put into his expert community, Quine would have to ask questions outside of the affirmative/negative prompting allowed by his stimulus meaning method. The criticism of Quine made clear by studying Putnam's division of linguistic labor is that Quine's account of meaning for individuals does not reflect their membership in a linguistic community.

While Putnam's recognition of the division of linguistic labor is an important corrective to the individualistic bias displayed by Quine, Putnam himself provides no indication that he recognises the full implications of his discovery. In the next chapter I will show that fully understanding an expression which is subject to a division of linguistic labor requires an historical perspective.

CHAPTER 3

In order for someone to understand the meaning of the word 'gold', I shall maintain, he or she must be able to distinguish to at least some degree between experts on gold and lay persons. Putnam never explicitly states that having a criterion for distinguishing between experts and lay persons is required in order to understand the meaning of an expression. However, he does repeatedly state that the meaning of an expression resides with the linguistic community--a community of lay persons interacting with experts. It is hardly possible to have a community of lay persons interacting with experts without the lay persons possessing some means of identifying the experts.

The above argument may not be considered conclusive. The fact that cooperation between experts and lay persons is impossible unless the lay persons have some means of identifying experts doesn't entail that particular speakers must possess a means of identifying the experts. Given that some members of the linguistic community can identify experts, might not mere membership in the linguistic community suffice to secure the extensions of terms for others?

The difficulty with this interpretation of Putnam's thesis is that it places too heavy a burden on the unan-

alyzed notion of membership in a linguistic community. What constitutes membership in such a community? Geographic location will not do as an answer because it is entirely possible for someone within a geographic location to refuse to submit to the experts recognized by her peers, and so to mean different things by her words. To merely assert that a linguistic community is made up of individuals who share the same meanings for their terms is obviously question-begging. In this chapter I argue that in order to be a member of a linguistic community one must share a common means for recognising the relevant linguistic experts in that community. If an individual did not for the most part recognise the same experts as those around him and was unwilling to have his use of language corrected by those experts, then that individual could not be considered to be a part of same linguistic community as those around him. The following example illustrates how the development of criteria of expertise goes hand in hand with the development of a greater understanding of the meaning of terms in a linguistic community.

Suppose that little Johnny already knows some of the criteria for correctly identifying gold, although to a lesser degree than that of an average person in his society. For example, Johnny understands facts like: gold is a metal, is yellow, is soft, and is a very valuable substance. One

day Johnny finds a brass ring in the playground, but believes that he has discovered a gold ring. Taking the ring home Johnny insists, over his mother's claims to the contrary, that he has in fact found gold. In despair his mother takes Johnny to the jeweller's shop next door, explaining to him that this is the "gold man" who knows how to tell between gold and brass for sure. After having been assured by the jeweller that his new found ring is merely brass, Johnny is finally convinced.

Johnny has just acquired a greater understanding of the word 'gold', even though he has not learned anything new about the substance itself. This is because he has for the first time recognised the existence and linguistic role of experts in his society.²⁵ Further, Johnny has learned to identify and make use of an expert opinion for the correct application of the word 'gold'. However, Johnny can only recognise experts on gold by having them pointed out to him by his mother. For Johnny to have a more complete knowledge of the word 'gold', it seems that he must acquire some further criteria for distinguishing between experts and lay persons.

²⁵That is to say, Johnny now knows that there are people who know more about a particular subject than most others, and that it is these people who dictate whether or not a particular word is being applied properly in a particular case.

As Johnny grows older he learns to spot various sorts of experts independently of them being pointed out to him. Johnny learns that men and women in lab coats who walk around in hospitals tend to be experts on health; that the "gold man" is one of many individual experts on gold as recognised by the fact that they all work in jewellery stores, have funny eye pieces, and so on. What Johnny is doing is learning for himself how to distinguish between various sorts of experts, in order to be able to rely on them to inform him of the correct application of various words in his language. For instance, one of those men or women in the lab coat in the hospital is qualified to tell him whether an illness he may be suffering from is either a cold or the flu.

Notice that Johnny's ability to discover for himself who is and who is not an expert is subject to many possible errors. Not all individuals in white lab coats in hospitals are doctors, and not all persons working in jewellery stores are qualified to distinguish gold from pyrite. Johnny is currently recognising experts only on the basis of some very secondary characteristics. It seems that if Johnny is to gain a still greater understanding of the meaning of the word 'gold', he must have some better criterion for choosing experts in that field.

(Understanding an expression, it must be emphasized once again, is a matter of degree. Johnny's current criteria for identifying experts affects his ability to use and understand the expressions in his language. At this stage he is a reasonably competent speaker, and in a straightforward sense "knows perfectly well" what the term 'gold' means. But this is not to say that his understanding and application of the word could not be improved through an improved criterion for identifying experts. By now Johnny is also no doubt unlikely to mistake a brass ring for gold. The acquisition of better criteria of application generally proceeds hand in hand with the acquisition of criteria of expertise as one develops and extends competence in a language.)

As Johnny grows into an adult he learns not to rely on surface appearances in order to choose his experts. Johnny now knows that experts in most fields are members of groups of experts in the same or similar fields and that they tend to rate each other and give each other degrees and certificates verifying each other as experts. Johnny is often impressed by the predictive value of science and the wonderful technology made available to him and his society by experts. Further, many of the experts in fields like jewellery can perform work that lay persons cannot, feats like drawing wire from a lump of metal or correctly cutting

gem stones. Johnny has now made another big step in developing his criterion for identifying experts. He has gone beyond simply picking out experts on the basis of superficial features like clothing or place of employment and is beginning to learn the more discerning values for recognising expertise in his culture, values like predictive ability.

It is at roughly this stage of distinguishing between experts and lay persons that most members of a linguistic community stop. As long as a person has the requisite degree or certificate and can perform the requisite functions of his or her profession, like healing the sick or making jewellery, then the average person is usually satisfied to call him or her an expert and to take his or her advice on how a particular word should be applied in a given case.

So far the Johnny example has simply developed some of the details implicit in Putnam's thesis at somewhat greater length than he himself does. However, the example also points to the need for a more radical shift in current philosophic perspectives on the nature of meaning than perhaps Putnam envisaged. If one takes the definition of 'meaning' to be "that which determines the extension of an

expression",²⁶ then it is an individual's criterion of expertise, an individual's criterion for picking out experts relevant to a given expression and his or her disposition to heed those experts, which ultimately constitutes the meaning for many (perhaps all; on this point see below) expressions in that individual's language. By sharing a common criteria of expertise two individuals share the same meaning for those of their expressions which are subject to the division of linguistic labor; that is to say, they share the same means for determining the extensions of their expressions-- they consult the same experts for the same reasons.

It might be thought there is a marked difference between lay individuals and experts in this regard; that whereas the meaning of an expression for lay persons is constituted by their criterion of expertise for that expression, the expert's meaning is constituted simply by his or her criterion of application. However, even experts need the same criterion of expertise as the lay members of their linguistic community in order to share the same means for fixing the extensions of their expressions. Einstein may have possessed, at one point in time, the best extant criterion of application for the term 'mass', but even Einstein needed a criterion of expertise in order to possess the meaning of the term 'mass'. What a criterion of expertise

²⁶Cf. Putnam, pp. 26-7.

could tell Einstein that his criterion of application could not, was why he should rely on the criterion of application that resulted from his theories in order to fix the extension of the term 'mass', as opposed to the criterion of application that resulted from Newtonian theories or a lay person's criterion of application or even some crackpot criterion of application. Without a criterion of expertise no one, not even an expert, can have any way of determining how those expressions which are subject to the division of linguistic labor should have their extensions fixed. If Einstein did not share the same criterion of expertise as did the rest of his linguistic community then he could not share the same means for determining the extensions of his expressions, which is to say he would not mean the same thing as they did.

That the meaning of an expression for a community is constituted by a shared criterion of expertise is clearly implied by Putnam's division of linguistic labor. However, defining meaning in terms of criteria of expertise tends to refute, or at least complicate, a key claim that Putnam defends. He argues that two basic assumptions implicit in most philosophers' theories of meaning are not compatible. The first assumption is that grasping the meaning of an expression is a matter of being in a certain psychological state, of possessing an appropriate "concept" for that

expression. The second assumption is that the meaning of an expression determines the extension of that expression, i.e. the things in the world which it refers to or is true of.

One of the ways that Putnam points out that these two assumptions cannot both be true is by using a personal example. Putnam claims to have the same concept or criterion of application for the expression 'beech tree' as he has for the expression 'elm tree'; that is to say, he has no idea what the difference between a beech tree and an elm tree is. At the same time Putnam is able to recognise distinct extensions for the expressions 'beech tree' and 'elm tree' by consulting the relevant experts in his community. This example shows that the meaning of an expression for an individual, that which fixes the extension of the expression for him or her, is not simply a function of his/her psychological state, but often depends on a structured cooperation between the lay members of a linguistic community and a special subset of relevant experts. As Putnam says, "Cut the pie any way you like, 'meanings' just ain't in the head!"²⁷

The claim that meanings "ain't in the head" is a puzzling one, notwithstanding the persuasiveness of Putnam's examples. Surely grasping the meaning of an expression is

²⁷Ibid., p. 124.

in some sense a matter of being in a certain psychological state, so long as the latter is interpreted broadly enough to include the full range of speakers' dispositions with respect to the expression. The acquisition of linguistic competence is a psychological activity, and when individuals mean different things by the same expression, it must be in virtue of some psychological difference or other between them. I have shown that although a full criterion of application for an expression does not have to reside in an individual's head in order for him or her to possess the meaning of that expression, a criterion of expertise does. In this sense meanings for expressions are, contrary to Putnam's claims, "in the head". It is by virtue of sharing common psychological states or beliefs about experts, sharing the same criterion of expertise, that individuals can share the same means for determining the extensions of those expressions in their language which are subject to the division of linguistic labor. Whether one must possess a criterion of application for an expression directly, or merely possess a criterion for choosing someone else who has the correct criterion of application for an expression, the fact remains that every individual must possess some criterion or concept in his or her head which fixes the extension for an expression in order to possess the meaning of that expression.

Putnam never makes clear the extent to which the division of linguistic labor applies in a linguistic community. Does the division of linguistic labor apply to all the terms in a language or only some? The answer to this question seems to depend partially on the level of linguistic competence of the individual. For children and those just learning a new language it seems that the division of linguistic labor applies to almost all the terms in that language. New language learners tend to regard all competent native speakers as relevant experts for even the most common terms and commonly rely on them to help fix the extensions of those terms. As one grows in linguistic competence, however, one comes to regard oneself as the relevant expert with regard to the meanings of many terms and stops relying on others to help fix the extensions for those terms. In our culture a competent native speaker does not need to refer to outside experts to determine if the sensation that he or she is feeling is "pain" or not. Similarly, the application of primary colour terms to objects by competent speakers is not generally considered correctable by others.

Regardless of which terms are or are not subject to the division of linguistic labor, it can plausibly be maintained that the meanings of all terms in a language are constituted by common criteria of expertise. This is because although

criteria of expertise are what allows individuals to recognise others as experts with regard to certain terms and thus engage in the division of linguistic labor with respect to them, it also allows competent speakers to recognise themselves as the relevant experts with regard to certain terms and thus not engage in a division of linguistic labor. In our current linguistic community the criteria of expertise for expressions relating to self ascriptions of pain identify each individual as the sole relevant expert with regard to fixing the extensions of those expressions. On the other hand, our common criterion of expertise for the term 'gold' dictates that a certain community of experts can be, and in some cases should be, consulted in order to help fix the extensions of that term. Understanding meaning in this way allows us to provide a unified account of the meaning of all the terms in a language, while simultaneously respecting the fact that some of those terms are subject to a division of linguistic labor and some are not.

So far it has been shown that the division of linguistic labor implies the need for a new second-order "criterion of expertise" definition of meaning. The vital importance that historical analysis has for determining the current meanings of expressions may be missed if one fails to understand the importance that historical comparison has as a part of criteria of expertise. We left off Johnny's lin-

guistic development above at the stage where he was selecting experts on the basis of the more discerning values for recognising expertise in his culture, values like predictive ability. But in order for Johnny to feel secure that he has access to the best possible experts with respect to a class of expressions, he needs to feel secure that they possess the best extant understanding of the expressions in question.²⁸ Ultimately, as far as Johnny is concerned, the only relevant criterion for picking out the best relevant expert, which all other criteria are mere indicators of, is that the person in question has the best extant understanding of the expression.

How is it that experts ensure to themselves and to the public at large that they do hold the best possible understanding of the expressions relating to their field? The answer is that expert communities compare their currently held theories to all competing ones, including their own previous theories. The entire premise of having experts in a community is that they have access to knowledge that is

²⁸I do not mean to imply that Johnny needs to actually become a metallurgist in order to have a full understanding of the meaning of the word 'gold'. What I do mean is that even metallurgists themselves need to know why they ought to accept themselves as the experts on the use of the word. The general criterion that metallurgists must use to identify experts is identical to the criterion needed by lay persons.

superior²⁹ to that of anyone else. Defining this superiority means comparing it, not only to the current beliefs of the lay persons in the community, but also to any relevant past beliefs that have ever been recorded.

Experts rarely directly compare individual expressions but rather entire theories and belief structures in which individual expressions play a part. The current metallurgical criterion of application for the term 'gold' must be part of an overall theory that represents progress³⁰ over old alchemical theories, otherwise there would be no reason for Johnny not to ask alchemists whether or not the term 'gold' applies in some particular case instead of metallurgists. Einstein's criterion of application for the term 'mass' at one time fixed the extension for the term only because Einstein's theories about gravity and acceleration, theories which defined the term,³¹ had a particular and superior relationship to Newton's theories about the same phenomena. Likewise, the current criteria of application for all those expressions in our language that are subject to the division of linguistic labor owe their existence to the relationship the theories of which they are

²⁹By "superior" I mean to say superior by whatever lights are held by Johnny's current community.

³⁰Again, "progress" here is defined by the community of the individual doing the comparison.

³¹See my discussion of semantic holism below.

a part have to the theories which have gone before them.

It must be admitted that for many terms in a language no comparisons of "superiority" are appropriate. Just because the French term 'cheval' may have meant something different 300 years ago does not mean that the current understanding of the term is regarded as being in any sense "superior" to the 17th century understanding. The importance of an historical perspective therefore only applies to those terms which are relevant to expert fields which require a progressive history in order to justify their current theories and meanings for terms. For our culture this would include, but is not limited to, all terms relevant to the sciences and for many of our other academic institutions as well. As has already been shown, even fairly commonplace terms like 'gold' are subject to this form of historical influence.

Although "scientific" terms provide the clearest examples of the importance of historical analysis, the fact that the need for historical analysis stems directly from criteria of expertise which select some applications of a term as being superior to others, rather than from the division of linguistic labor per se, implies that historical analysis may be important for non-scientific or "folk" terms as well. Terms not normally subject to the division of linguistic

labor (i.e. terms for which all competent speakers are deemed relevant experts), but which are part of "folk theories" which have superseded previous theories (which may or may not in turn have been "folk theories" themselves) could also be subject to this form of historical perspective. The term 'witch', for instance, no longer applies to semi-mythical evil women who supposedly had the power to turn princes into toads or put fair maidens to sleep for centuries, etc., but rather to persons with certain religious beliefs. The current meaning of the term figures in a "folk theory" about ancient and modern pagan practices which is commonly considered to be superior to the older mythical theory which it replaced.

In summary, the ability to possess the meaning of a term requires that one can determine who holds the best extant understanding of the term. Holding the best extant understanding of a term is usually a matter of holding the best extant theory of which the term is a part. Therefore the ability to determine who holds the best extant understanding of a term often requires that one can determine who holds the theory which will compare most favourably against all other relevant theories. Lay individuals may not themselves possess the capability to directly compare the theories of experts, but it is the purpose of their criteria of expertise to pick out those individuals who possess the

best extant theory relevant to a given term.

Certain recently popular views in the philosophy of science make claims about scientific theories which are in conflict with the requirement for theory comparison. Specifically, P.K. Feyerabend among others denies that comparisons between scientific theories are possible at all. Feyerabend's position is one of general "incommensurability" between scientific theories, based on a holistic approach to meaning. In the next few pages I will show how historical analysis and criteria of expertise have important repercussions for semantic holism in general, and for Feyerabend's position specifically.

Following Fodor and Lepore, we may take semantic holism to mean the following:

[I]t's about the doctrine that only whole languages or whole theories or whole belief systems really have meanings, so that the meanings of smaller units--words, sentences, hypotheses, predictions, discourses, dialogues, texts, thoughts, and the like--are merely derivative.³²

According to Fodor and Lepore semantic holism generally bases itself on two premises. The first premise is that all sentences are "anatomic" in nature. That is to say, all sentences are such that you can't believe in their truth

³²Jerry Fodor and Ernest Lepore, Holism: A Shopper's Guide (Cambridge, Massachusetts: Basil Blackwell inc, 1992), p. x.

unless you also believe in the truth of at least one other sentence. The second premise is that for any given anatomic sentence p , there is no sentence q such that necessarily one must believe q in order to believe that p . This second premise follows from the rejection of the analytic/synthetic distinction, as outlined by Quine in his famous paper "Two Dogmas of Empiricism".³³ According to Fodor and Lepore, the conjunction of these two premises yields the conclusion that two speakers cannot mean the same thing by p unless they share beliefs in all or almost all sentences other than p .

A possible basis for belief in the first premise of the argument given above comes from a widely held philosophical view that meanings are functional. That is to say, many philosophers are of the opinion that the semantic properties of a symbol, especially the property of meaning, are determined at least in part by its role in the language. As early as the nineteenth century linguists such as Ferdinand de Saussure proposed that the meaning of an individual term is largely a function of that term's relationship to all the other terms in the language. According to the Saussurian view one cannot fully understand the expression 'creek' unless one also understands the expression 'river', because

³³W.V. Quine., "Two dogmas of empiricism" in From a Logical Point of View (Cambridge, Mass: Harvard University Press, 1953) pp. 20-46.

the maximum size of the referent to which the expression 'creek' properly applies is determined in English by the minimum size to which the expression 'river' properly applies and vice versa. In effect the expressions 'river' and 'creek' partially define each other. Thus one cannot understand sentences about creeks, and hence believe them true, unless one also understands, and believes true, certain sentences about rivers.

The second premise of the argument requires the rejection of the analytic-synthetic distinction. Analytic sentences are sentences which are true in virtue of the meanings of the terms involved in them. For instance, the sentence "All bachelors are unmarried" is supposedly true because the meaning of the term 'unmarried' is a part of the meaning of the term 'bachelor'. The synthetic sentence "All crows are black", on the other hand, is not true (simply) in virtue of the meanings of the terms involved, but in virtue of the way the world is.

Despite the prima facie plausibility of the distinction between analytic and synthetic sentences, Quine argues in "Two Dogmas" that the distinction cannot be upheld, and that there is at best a graded distinction between sentences which we are more and less likely to give up in the face of "recalcitrant experience". The rejection of the a/s dis-

inction is vital to the cause of semantic holism because if there were analytic sentences--sentences true solely in virtue of the meanings of their terms--then presumably in order to understand the meaning of any expression one would need simply to believe in the truth of all or at least a substantial number of the analytic sentences which contain it. (In order to understand the word 'creek', for example, one might have to believe the sentence 'Creeks are smaller than rivers' and a variety of other "analytic" sentences relating to creeks.) With the rejection of the a/s distinction there appears to be no principled way of distinguishing between sentences which an individual would have to believe in order to understand an expression, and merely "synthetic" sentences whose truth is peripheral to the meaning of the expression.

In conjunction with the first premise, one might therefore argue that in order for two individuals to share the same meaning for an expression, and so believe in the truth of sentences which contain it, they must also share beliefs about all the sentences in their language, not merely those sentences made "analytically" true by virtue of the meaning of that expression.

Fodor and Lepore point out that this argument is of the "slippery slope" variety and as a result may not be conclu-

sive. Just because there is no principled way to determine exactly which beliefs are required for an understanding of p does not necessarily imply that one must share all of someone's beliefs in order to share the same meaning for p. Some theorists³⁴ have defended a more limited version of semantic holism on which only the meanings of those propositions which are more or less directly related to a given theory are necessarily distinct if any of the propositions that make up that theory are not identical.

Whether one takes a radical approach to semantic holism or a more limited one, the implication remains that if theories define meanings for individual expressions, then holding different theories implies holding different meanings for at least some expressions.³⁵ On an individual basis this would imply that in order to mean the same thing by an expression two individuals need to hold the same theory of which that expression is a part. However, Putnam's division of linguistic labor has already shown us that meanings are not necessarily a matter of individual belief in anything but an appropriate expert. Whatever theories of gravitation two individuals may hold, they still

³⁴Eg. Quine in his more recent work; see Pursuit of Truth, pp. 1-16.

³⁵By "theory" here I mean simply the totality of one's beliefs, particular as well as general, concerning the domain in question.

might mean the same thing by the term 'gravity' as long as they are willing to modify their beliefs according to the dictates of mutually recognised experts, presumably physicists. I may have a totally wrong-headed idea about the nature of gravitational attraction, but as long as I can recognise and am willing to be contradicted by the experts in my society, I do mean the same thing by the term 'gravity' as does the rest of my society. It is therefore possible for two individuals to hold very different theories of gravitation and yet mean the same thing by the terms used to express those different theories, as long as they share a common criteria of expertise.

Feyerabend's approach to semantic holism, however, directly contradicts the possibility that members of different theoretical communities could ever share a common criterion of expertise. Feyerabend specifically phrases his position this way:

[T]heories are ways of looking at the world and their adoption affects our general beliefs and expectations, and thereby also our experiences and our conceptions of reality. We may even say that what is regarded as 'nature' at a particular time is our own product in the sense that all the features ascribed to it have first been invented by us and then used for bringing order into our surroundings.

[I]ntroducing a new theory involves changes of outlook both with respect to the observable and with respect to the unobservable features of the world, and corresponding changes in the meanings of even the most "fundamental" terms of the

language employed.³⁶

Thus for Feyerabend any change in a theory changes the meanings of all the expressions in a given language. Individuals or communities who hold different theories about a particular aspect of the world, say different scientific theories of gravity, will as a result hold different meanings for all of the expressions in their languages. Further, they can share no common experiences to which their expressions could mutually refer, because experiences, for Feyerabend, are affected by and interpreted through the theories that are held by the individual. It follows that no two scientific theories are ever comparable, because they do not rest on a common world view. There are no common "facts" to which the theories can be held accountable, and there are no common meanings for any of the terms which might make the theories commensurable.

On a community level Feyerabend's approach implies that because communities which hold different theories also hold different meanings for all the terms that make up those theories, the two theories themselves are incommensurable. Peter Achinstein says of Feyerabend that, "stated in the manner proposed by Feyerabend, the doctrine has several unacceptable consequences. First, if it were true, no

³⁶P.K. Feyerabend, "Explanation, Reduction, and Empiricism", Minnesota Studies in the Philosophy of Science (1962), p. 45.

theory could contradict another."³⁷ Achinstein goes on to show how Bohr's theory of the atom, which claims that angular momentum and radiant energy of electrons do not have continuous values, fails to deny the classical view of electrodynamics which asserts that the radiant energy of electrons is continuous, according to Feyerabend's approach. This is because the classical theory and Bohr's theory simply mean different things by all of the terms in their languages, including terms like 'electron' and 'radiant energy'. When Bohr talks about noncontinuous radiant energy from an electron he simply means something different by the term 'electron' than do the classicalists and thus does not contradict them. Indeed, comparing Bohr's theories about electrons to classical theories about electrons would literally be like trying to compare apples to oranges according to Feyerabend.

As a result there can be no better or worse theories. If there are no better or worse theories, then there can be no best extant theory and hence no "holders of the best extant theory", which forms the basis for being the "holders of the best extant understanding of an expression". In essence Feyerabend's position implies that there is no such thing as an expert, for purposes of the division of linguis-

³⁷Peter Achinstein, Concepts of Science (Baltimore, Maryland: The Johns Hopkins Press, 1971), p. 92.

tic labor, as I have defined it. Further, historical comparisons of older theories to newer ones are simply impossible, according Feyerabend, as there are no common facts and no common terms between them. In short, Feyerabend's assertions about the nature of theories imply a direct contradiction of the position I have been defending.

On the other hand, Feyerabend's argument seems to involve the assumption that although common meanings cannot exist between theoretical communities, they can exist within a theoretical community. An individual who believes in Bohr's theory of the atom may not mean the same thing by any of his or her terms as someone who believes the classical account, but it would seem that he or she could mean the same thing by his or her terms as someone else who also believes Bohr's theories. I contend that if Feyerabend wishes to allow any form of common meaning within a theoretical community, it must be based on some form of common criterion of expertise. A community of Einsteinian physicists, for example, must accept among themselves that there is a correct and incorrect interpretation and application for their theory. They must be able to determine that when one of them makes a mistake he or she is not simply pursuing a different, and thus incommensurable, path but is making a mistake within Einsteinian theory. Determining who is mistaken and who is correct within Einsteinian theory is a

function of that community's criterion for who holds the best extant interpretation and application of the theory, in other words a criterion of expertise. Without a criterion of expertise there can be no way of determining what it means to be a member of the same theoretical community. There can exist no such thing as a community of Einsteinian physicists if any interpretation of Einsteinian theory is considered the equivalent of any other.

The role of a criterion of expertise within a theoretical community is to allow individuals who disagree on certain points of interpretation or application of a theory to then go on to determine who is correct and who is wrong. A criterion of expertise therefore allows for substantive disagreement among members of the same theoretical community. In the absence of a common criteria of expertise substantive disagreement becomes impossible, because any differences in the beliefs of the disputants implies that they simply mean different things by their terms. With a common criteria of expertise the fact that the disputants have some different beliefs about the subject matter does not automatically entail that they're talking about different things. (Just because we may disagree about whether some object is made of gold does not entail that we mean different things by the term 'gold'.)

The mere fact that people hold different beliefs within a theoretical community doesn't entail that they're talking about different things, so long as they're willing to be corrected by whomever their common criterion of expertise identifies as the relevant experts. In the case of expert disagreement, much depends on their willingness to submit their claims to the review of their peers. As soon as someone refuses to do this, he or she has in effect adopted a new criterion of expertise. In the end such individuals could hold distinct and irreconcilable meanings for all the terms in their distinct theory and may be considered members of a different expert community, possibly even a different linguistic community. However, most new theories are produced by individual experts with an eye to being comparable to the current theories held by their peers. (Current experts are recognised as experts on the basis of their theory's succession over the beliefs of their peers.)

Given that substantive disagreement can exist within a theoretical community, the distinction between disagreements within a theoretical community and disagreements between theoretical communities becomes one of degree. If one allows that substantive disagreement can exist within a theoretical community then one must define that community in an open ended way, such that its members do not necessarily have to hold all the same beliefs in order to qualify as

members of the same community. If this is the case then deciding when a set of beliefs becomes distinct enough to qualify an individual as being a member of a different theoretical community becomes a matter of degree.

What holds between individuals and within theoretical communities holds across theoretical communities as well: so long as there are shared criteria of expertise, genuine disagreement is possible. In practice criteria of expertise are commonly shared across so-called "theoretical communities". Einstein's theories replaced Newton's only because Newtonian physicists shared the same criterion of expertise as their Einsteinian counterparts.

To summarize, the argument against Feyerabend's notion of radical incommensurability between scientific theories runs as follows: Feyerabend must allow that a common criterion of expertise can be held by individuals within a theoretical community in order to make sense of what it means to be a member of that theoretical community. A common criterion of expertise implies that substantive disagreement can exist between individuals within a common theoretical community. Substantive disagreement within a theoretical community makes the distinction between a disagreement within a theoretical community and between theoretical communities a matter of degree. In practice a

common criterion of expertise is often shared between members of so called distinct theoretical communities and serves to fix the meanings of common terms between them and for the linguistic community at large. Thus Feyerabend can not have radical incommensurability between members of distinct theoretical communities unless he is willing to have that same radical incommensurability exist between members of the same theoretical community as well.

So far it has been shown that if one accepts Putnam's division of linguistic labor, then one is inevitably led to the conclusion that meaning for an expression is not a function of its criterion of application or of the theories in which it plays a part, but rather a function of the criterion of expertise possessed by the members of the linguistic community. Individuals in a linguistic community mean the same thing by their expressions because they generally share the same criteria for choosing linguistic experts. Experts in turn, generally determine the "correct" criterion of application for an expression³⁸ by comparing all extant theories in which the various criteria of application for those expressions play a part. Comparison of these theories is a matter of historical as well as current investigation.

³⁸Of course, an expression can have several meanings, each being correct in different contexts. This why the criterion of application held by one expert or expert community does not necessarily articulate the entire meaning of an expression for the community.

The current criterion of application for an expression exists because it, and the theory it plays a part in, has a particular and "superior" relationship to those theories with alternative criteria of application for the same expression which have gone on before.

What finally constitutes the common meaning of an expression for all the individuals in a linguistic community, then, is that they all have, or at least assent to, a common means for determining the best possible criterion of application for the expression in question. Not everyone in the community needs to know the means that physicists use for determining the best criteria of application for the terms relevant to physics; but, by commonly recognising physicists as experts, they assent to them.

What follows from all this is the possibility of a rather unusual form of incommensurability. Even if two people shared exactly the same criterion of application for an expression, they might not necessarily mean the same thing by that expression if they did not share the same criterion of expertise. The conditions under which the two individuals involved would not share the same meaning for an expression would be those conditions which would prevent them from recognising each other's experts as experts. This is because recognising the same experts is what ultimately

dictates whether or not two individuals, or two communities, do in fact hold the same meaning for an expression.

Let us say that the two communities, of which these individuals are members, basically share the same criterion of application for the expression, but that the former criteria of application for the same expression were very different for each society.³⁹ Under these circumstances it might be the case that although the experts from each community currently hold the same criterion of application for the same expression, they hold that criterion for very different reasons. What justifies a particular criterion of application for an expression as being the common criterion for the society is that it holds a particular and "superior" relationship to all other criteria of application for the same expression known to the society. If the previous criteria of application for an expression are different enough between two communities it is possible that the current criterion of application, even if identical, holds a very different relationship to its own previous meanings in each of the communities involved. In such a case the relevant experts in each community would not be able to recognise the reasons that the others would give justifying why

³⁹It is important to note that the former criteria of application of related expressions should also be considered. For the sake of simplicity they have been left out of this example.

their criterion of application ought to be considered the common criterion for the society. Simply parroting a correct answer is not enough to be considered an expert. One must be able to prove why a given answer, or in this case, criterion of application, is the correct one.

When a lay person recognises an expert community he or she tacitly accepts that community's reasons for holding those criteria of application that relate to their field of expertise. In this way the entire community shares not only the experts' criterion of application for an expression in a particular context, but the experts' reasons for holding that criterion as well. If the reasons for holding a particular criterion of application for an expression differ between two expert communities, then they differ for the two linguistic communities as a whole and for all the individuals in those communities respectively. Thus the two individuals from different linguistic communities who hold the same criterion of application for an expression may not assent to the same reasons for holding those criteria as "correct", and thus in fact mean different things by the expression.

This form of incommensurability is almost certainly confined to science fiction, however. The chances of two communities with radically different histories for an

expression having an identical criterion of application for that expression is minute to say the least. By comparison, Feyerabendian incommensurability is pervasive to the point of absurdity.

In short, this thesis has shown that for many expressions meanings are not simply determined by what the linguistic community's individual members believe. The meanings of many expressions are their "correct meanings", which are the "best meanings" according to the community's experts. The experts are determined by the members of the linguistic community in virtue of a common criterion of expertise. A criterion of expertise determines who holds the criterion of application for an expression, as part of a theory, which has the best relationship to all alternative theories, past or present. Thus the current meaning of an expression is often a direct result of its relationship to the former meanings of expressions as expressed through successive theories.

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