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LINGUISTIC BEHAVIORISM AND THE CORRESPONDENCE THEORY OF TRUTH

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ABSTRACT: Linguistic Behaviorism (Place, 1996) is an attempt to reclaim for the behaviorist perspective two disciplines, linguistics and linguistic philosophy, most of whose practitioners have been persuaded by Chomsky's (1959) Review of B. F. Skinner's (1957) *Verbal Behavior* that behaviorism has nothing useful to contribute to the study of language. It takes as axiomatic (a) that the functional unit of language is the *sentence*, and (b) that sentences are seldom repeated word-for-word, but are constructed anew on each occasion of utterance out of units, words, phrases and turns of phrase, that *are* repeated.

On this view, the problem of discriminating the *true* from the *false* arises from the use of novel *declarative* sentences (statements) to *depict* or, to use Skinner's term, "*specify*" contingencies the like of which the listener need never have encountered and to which he would otherwise have no access. In such cases the listener needs to distinguish among the sentences he receives from other speakers between those where the *situation* depicted/specified *corresponds* to that which actually exists at the time and place specified in the sentence and are, therefore, *true*, and those to which *no* actual situation corresponds and which are, therefore, *false*.

"What is truth?"

According to the description of his interrogation of Jesus of Nazareth as recorded in St. John's Gospel (Chapter 18, verse 37), Pontius Pilate responds to Jesus' claim that he was born to bear witness to the truth with the rhetorical question "What is truth?". Pilate, it would seem did not wait for and did not expect an answer to that question. That, perhaps is not unconnected with the fact that "What is truth?" is a typical philosopher's question. the kind of question that philosophers debate endlessly without reaching any agreed conclusion. It is the kind of question that others can afford to leave unanswered, since no practical consequences appear to follow from adopting one of the various possible answers rather than another. For although we may not be able to put what we know into so many words, we all know what truth is, in the sense that we can all construct intelligible sentences using the words "true" and "false," and recognize circumstances to which those terms apply.

Earlier in the century that is now drawing to its close, Ludwig Wittgenstein suggested that the reason why these philosophical questions are so intractable is that they are based on a failure to understand how language works, in particular how what

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we say relates to the things we talk about. In his later work he was inclined to think that no positive answers could be given to such questions, that the best one could hope for from disentangling the conceptual confusions that underlie them is to remove the temptation to ask the question in the first place. But at the time when he wrote the *Tractatus Logico-Philosophicus* (1921/1971) Wittgenstein was prepared to offer positive answers to at least some philosophical questions of which Pilate's question in the form "What does it mean to say of a statement or proposition that it is true or that it is false?" is one.

Three Classical Theories of Truth

Wittgenstein's answer to that question is the one which is expounded in what follows. It is a combination of two of the classical theories of truth which emerged during the course of the 19th century, the *correspondence* theory and the *coherence* theory. The correspondence theory is the common sense theory which holds that a statement is true if what it asserts corresponds to the way things actually are. It is false if that is not how things are. According to Wittgenstein, this is the theory that applies in the case of the kind of statement whose truth or falsity is established by observation. As we shall see, if, as Wittgenstein did in the *Tractatus* and as I do here, you subscribe to a *picture theory* of the meaning of sentences, you are led inevitably to adopt a correspondence theory of the truth of all statements that tell us something about the world, as distinct from those that tell us only about the results of certain forms of symbol manipulation.

Up until the 19th century some version of the correspondence theory seems to have been taken more or less for granted by philosophers who addressed Pilate's question.[1] It was then joined in the early part of the century by the alternative *coherence theory* first advocated by Hegel and his followers, the so-called objective or absolute idealists. According to this theory the truth of a statement consists in its coherence or consistence with other true statements, such that all such statements, once they become known, form a tightly integrated logical structure. Any statement that is inconsistent with the structure as a whole is false. According to Wittgenstein, this is the theory of truth that applies in the case of the propositions of the *a priori* or deductive sciences of logic and mathematics.

In the late 19th century the American philosopher and psychologist, William James introduced the third of three classical theories, the so-called *pragmatic theory*. According to this theory a statement is true, if it proves a reliable guide to human conduct, false, if it does not.

Pepper's *World Hypotheses*

Earlier this century these three classical theories of truth, the correspondence theory, the coherence theory, and the pragmatic theory, were incorporated by the American philosopher Stephen Pepper (1942) into a theoretical account of the scientific enterprise which postulates four distinct "world hypotheses" or "world views" (apparently a translation from the German *Weltanschauungen)* between which every scientist is compelled to choose in deciding how to conduct his research.

The four "world views" are known as "formism," "mechanism," "organicism," and "contextualism." Each world view, according to Pepper, is distinguished by two things, a distinctive "root metaphor" and a distinctive theory of truth or "truth criterion." In the case of formism the root metaphor is the isomorphism or "similarity" in the geometrical sense between two or more formal structures. In the case of mechanism the root metaphor is the machine. In the case of organicism, it is the living organism. In the case of contextualism it is action in context. Since there are only three classical theories of truth and four world views, one theory of truth, the correspondence theory, appears twice, as the truth criterion in both formism and mechanism. However, what has to correspond with what differs in the two cases. In formism it is the correspondence between similar forms or structures within a class of such forms structures. In mechanism it seems to be the more traditional correspondence between a symbolic representation or picture and the state of the environment that is thereby depicted. Although, as we shall see, describing the correspondence theory as a "truth criterion" suggests that it is the correspondence between a theory and the evidence for it which Pepper has in mind here. In organicism the truth criterion is coherence. In contextualism it is the pragmatic principle—it's true if it works.

Despite the fact that he occupied what would now be regarded as the highly prestigious position of Mills Professor of Intellectual and Moral Philosophy and Civil Policy at the University of California, Berkeley, Pepper's book has never, as far as I am aware, received much attention from professional philosophers. This is no doubt because the practice of constructing grandiose interpretations of the history of ideas on the Hegelian model was already going out of fashion by the time Pepper's book was published (1942). It would not, therefore, deserve mention were it not for the fact that his ideas have recently been made the focus for discussions of scientific methodology by two groups of psychologists, one in developmental psychology (Reese & Overton 1970; Lerner 1986), the other in behavior analysis (Hayes, Hayes, & Reese 1988; Hayes, Hayes, Reese, & Sarbin 1993; Owen 1997).[2] Both these groups are attracted to Pepper's ideas by the desire to distance themselves from what they see as the evils of mechanism by adopting contextualism as their preferred ideology, combined in the case of the developmental psychologists with a touch of organicism. Where they differ is in their attitude to behaviorism. For the developmental psychologists all behaviorism is mechanistic and is therefore to be discarded. For the behavior analysts, it is only old-fashioned stimulus-response behaviorism which, along with cognitive psychology, is mechanistic in Pepper's sense. Behavior analysis as advocated by Skinner, though retaining some features from the mechanism from which it sprang, is contextualist and should move even further in that direction.

While in no way wishing to deny the importance of understanding each behavioral event as a response to the unique context in which it occurs, I believe that the theoretical framework derived from Pepper within which these ideas are formulated is profoundly misguided. However, in this paper I shall not attempt to specify all the respects in which this view is mistaken or explain why that is so. I shall be concerned in what follows only with the way Pepper's view misrepresents both the nature of truth and falsity and the character of the three classical theories of

truth which he incorporates into his theory in the form of the truth criteria adopted by those who subscribe to the four world views he distinguishes. I shall do this, moreover, by contrasting Pepper's view with that of my own position to which I have given the name "linguistic behaviorism" (Place 1996).

Linguistic Behaviorism

Linguistic Behaviorism (Place 1996) is an attempt to reclaim for the behaviorist perspective two disciplines, linguistics and linguistic philosophy, most of whose practitioners have been persuaded by Chomsky's (1959) Review of B. F. Skinner's (1957) *Verbal Behavior* that behaviorism has nothing useful to contribute to the study of language. As I have already partly indicated, the source of linguistic behaviorism lies in Wittgenstein's (1921/1971) *Tractatus Logico-Philosophicus*. It differs however, from Wittgenstein's position in that book in a number of respects, particularly in rejecting the idea that formal predicate and propositional logic represents either the structure of natural language or an ideal structure for a language of science. Linguistic behaviorism also rejects the idea that the propositions of the philosopher are part of the *a priori* science of logic in favor of the view that, in so far as they have a positive contribution to make to the body of human knowledge, philosophical propositions are empirical statements within the science of linguistics, considered as that branch of the science of the behavior of living organisms which deals with the phenomenon of linguistic communication and the social conventions on which the possibility of that communication depends.[3]

The fundamental principle of linguistic behaviorism is that *linguistic competence*, defined following Chomsky as the ability to construct and construe indefinitely many intelligible sentences in a particular natural language, is acquired by the individual and maintained within the verbal community constituted by speakers and interpreters of the natural language in question, through the process of operant reinforcement and occasional error-correction. That operant reinforcement and error-correction is supplied in the case of the speaker's utterance by the response of the listener. In the case of the listener's construal of the speaker's utterance, it is supplied by the response of the previous speaker to the listener's initial response to that speaker's utterance. For further details of the way listeners and speakers reinforce one another's behavior in everyday conversation and business transactions see Place (1997).

As is implied by the adoption of Chomsky's definition of linguistic competence, linguistic behaviorism takes two principles as axiomatic:

1. The functional unit of language is the *sentence*. It is the unit that the speaker must complete in order to effectively control the behavior of the listener and secure the reinforcement for the utterance which only the listener can provide.

2. As Chomsky (1957 etc.) has repeatedly emphasized, sentences are seldom repeated word-for-word. They are typically constructed anew on each occasion of utterance out of units, words, phrases and turns of phrase, that *are* repeated.

By constructing what Skinner (1957) calls "*mands*" or "*instruction stimuli*", as Goldiamond (1966) calls them, a speaker can instantaneously induce the listener to emit behavior the like of which he has never emitted before. By constructing novel

"*tacts*"—in the third of the three senses which I distinguish in my "Three senses of the word 'tact'" (Place 1985) in which the emission of a "tact" is the utterance of a declarative sentence—the speaker can provide the listener with information about contingencies the like of which he need never have encountered and to which he would otherwise have no access.

The Picture Theory of Meaning

Novel sentences, both mands and tacts, control the behavior of the listener in the way they do by putting words or phrases together in such a way as to depict what Barwise and Perry (1983) call "a *situation*." A situation in the Barwise and Perry sense is either an *event* whereby a *change* occurs at or over time in the properties of something or in a relation between two or more things, or it is a *state of affairs* whereby the properties of or relations between things remain the same over a period of time.[4] This depiction is achieved by virtue of an *isomorphism* between the structure of the sentence and the structure of the situation it depicts. In the case of a *mand*, the situation depicted by the sentence is that which the listener is being urged to bring about or prevent. In the case of a *tact* or statement, it is the situation whose past or present existence the speaker is claiming to report or whose future existence he is predicting. In either case it is a situation which the speaker is asking the listener to envisage, one which may or may not *correspond* to one which actually has existed in the past, exists now, or will exist in the future. In the case of a mand, if the listener complies, he will either bring about or prevent the coming about of a situation corresponding to that depicted by the speaker's sentence. In the case of a tact (statement), if a situation corresponding to that depicted by the sentence exists at the time and place specified in it, the sentence is true. If no such situation exists at that time and place, it is false. If a situation somewhat, but not exactly, like that depicted exists at the relevant spatio-temporal location, the sentence is strictly speaking false; but it may described as partly true.

The Correspondence Theory of the Nature of Truth

It appears from this that the truth value of a sentence (whether it is true or false) depends on two things:

1) the nature and spatio-temporal location of the situation it depicts (its *meaning*), and

2) whether or not a situation corresponding to that depicted by it actually exists at the time and place in question (its *truthmaker*).

The nature and spatio-temporal location of the situation *depicted* by a sentence (its *meaning*) likewise depends on two things:

1) the *linguistic conventions* governing the application and use of the words and expressions used in constructing the sentence, and

2) the *context of utterance* which determines the reference of such parts of speech as indexicals (*I, you, he, he, it, now*, etc.) demonstratives (*this, that, those, which, what, whose*, etc.) and many proper names, particularly those born by many

different individuals, as well as the precise meaning of some words (e. g. whether the word *bachelor* is or is not restricted to unmarried males of marriageable age).

This dependence of truth on meaning and meaning on convention and context of utterance means that the correspondence between the situation specified by the sentence and the situation that actually exists at the spatio-temporal location in question can *never* be observed. Even in the best case, the case where I say "This that I am writing on is a table" or "This I am sitting on is a chair," all I observe are the objects in question. What I cannot observe, though long experience leaves the matter in no doubt, are the conventions governing the application to situations such as this of the English nouns *table* and *chair* and the English verbs *writing* and *sitting*. The existence and nature of such conventions can, of course, be demonstrated empirically, but only by contrasting the reinforcement which the speaker receives when he applies the words in question correctly with the various forms of what Harzem and Miles (1978) have called "disinforcement" or "error-correction," as it is called by the connectionists, which he receives when he misapplies them.[5]

It will be clear from this that the correspondence theory of truth so described is an account of what it *means* to say that a declarative sentence is true or false as the case may be. It is not, as is sometimes supposed, a criterion of truth, a way of *telling* whether a particular sentence is true or false.

The Misguided Doctrine of Alternative Truth Criteria

We have seen that in recent years many behavior analysts have been seduced by the doctrines of the late Stephen Pepper (1942) into believing that the classical theories of truth discussed by the philosophers, the correspondence theory, the coherence theory, and the pragmatic theory, are to be regarded as alternative criteria that one may or may not choose to adopt in deciding which scientific statements are true and which are false. This view, it seems, goes along with a *relativist* view of truth and falsity which allows someone who subscribes to this doctrine to discount any assertion which conflicts with their own view by claiming that their opponent is relying on a different truth criterion.

The absurdity of this suggestion can be easily demonstrated by considering its application to any straightforward factual statement. Suppose we disagree as to what time it is. You think it's 11:20, I think it's 11:30. It's no use saying that this difference is simply a matter of our using different truth criteria. You are going on your watch and I am going on mine. That may be true; but we can't just agree to differ and let the matter rest there. There is still the question of what time it *really* is.[6]

The Law of Non-Contradiction and the Coherence Principle

Raising this question brings us face to face with the basic principle of logic, the *law of non-contradiction*. For either it is true, as you claim, that it's 11:20 or whatever time your watch *now* shows, or it is true that it's 11:30 or whatever time *my* watch now shows, or both estimates are false and it is *really*, say, 11:26. In other words, if two statements are contradictory, they cannot both be true. Either one is true and the other is false or both are false.

This Law of Non-Contradiction has one very important consequence. It means that true statements form a class *every one of whose members is consistent with every other member*. This is the principle that underlies the so-called Coherence Theory of Truth, the view that what makes a statement true is its logical connections with other true statements.

Three things need to be said about this theory:

1) Unlike the correspondence theory, it offers a way of *telling* when a statement is true; it cannot be plausibly represented as a theory of what it *means* for a statement to be true for the very good reason that it contains the word *true* which, if it were treated as a definition, would mean that it begs the question at issue.

2) But viewed as a criterion of truth, the coherence principle has the virtue of enabling us to move from statements whose truth or falsity we are able to check directly in some other way to that of statements we are not otherwise able to check ourselves.

3) The coherence principle enables us to do this only in so far as there is a core of statements whose truth is established on *other* grounds. Given such a core of true statements, we can infer that any statement whose truth is entailed by one or more members of the core is also true and that any statement whose falsity is entailed by one or more members of the core is false.

The Empiricist Principle: Subjective and Objective Versions

This leaves us with the question "How do we identify this basic core of true statements which impart truth and falsity to statements with which they are logically connected?" Traditionally two kinds of answer have been proposed for this role:

(a) *self-evident truths* or, as I prefer to call them, *self-verifying statements*, such as Descartes' "I exist" which you cannot deny without demonstrating the falsity of that denial and hence the truth of the statement denied, and

(b) *observation statements*.

Philosophers who support the former view are usually described as *rationalists*. Those who endorse the latter are described as *empiricists.* I don't think that I need spend much time persuading readers of this journal that the empiricist view which sees the basic core of true propositions as observation statements is to be preferred to the rationalist view which requires them to be a set of self-evident principles. However, within the empiricist camp there is an important difference between the *subjectivists* and the *objectivists.* The subjectivists hold that the basic observation statements which provide the foundation for empirical knowledge are statements describing the private sensory experience of a single individual, statements such as "Red patch here now." The objectivists hold that the basic observation statements which ensure the anchoring of true propositions to the reality they depict are statements, such as the statement "This is a table," which describe a state of affairs in the common stimulus environment of two or more competent speakers of the same natural language or technical code who all agree that *that* is a correct description in the language of the state of affairs in question.

It is a surprising fact that in philosophy the dominant empiricist tradition ever since it was formulated by George Berkeley nearly three hundred years ago has been

empiricism of the subjective variety, so much so that many philosophers have been tempted to equate empiricism with subjectivism. Although objectivism has had many advocates amongst scientists, particularly in biology and psychology around the end of the last century (one thinks in particular of such figures as Sechenov and Pavlov in Russia and Loeb and Watson in the United States), the only significant philosopher to have adopted this position was the early 19th century French philosopher Auguste Comte (1830-1842). Wittgenstein's (1953) private language argument in his *Philosophical Investigations* is a decisive *reductio ad absurdum* of the subjectivist position; but, since he appears, in his later writings, to have rejected the idea that truth needs any kind of empirical anchor, he never explicitly formulated the objectivist alternative. Skinner, although his objectivist sympathies are obvious in most of his work, was philosophically influenced by two dyed-in-the-wool subjectivists as far as epistemology is concerned, Ernst Mach and Bertrand Russell. Other behaviorists have fallen under the equally subjectivist thrall of the logical positivists. I think that I can reasonably claim that linguistic behaviorism is the first standpoint in philosophy to maintain explicitly that in order to establish the claim that a statement depicts things as they actually are and is, therefore, true, it must be anchored directly or indirectly to sentences that record observations of an objective state of affairs. An objective state of affairs, for the purposes of this definition, is one which any competent observer would agree is a correct description of that state of affairs, given the linguistic conventions of the natural language or technical code in which it is formulated. In this it is the true inheritor of the tradition of objective empiricism begun by Comte, continued by Watson (1913) and made philosophically tenable, even if it was never endorsed, by Wittgenstein.

The Pragmatic Principle

In conclusion I should say a few words about the so-called "pragmatic theory of truth," the claim that a statement is true, if it enables the believer to achieve practical success in some enterprise in relation to which it is a relevant consideration. In relation to this principle I have the following points to make:

1) Given the distinction between a theory of what it *means* to say that a statement is true and a theory of how we *tell* that it is, it is evident that the pragmatic principle is a theory of truth only in the latter sense.

2) In those cases where it applies we can have no more convincing evidence of its truth than its consistent success in enabling the believer to achieve practical success.

3) However, there are many statements, such as those concerning the remote past or the remote parts of the universe which are only of practical relevance to someone in so far as they become part of some academic curriculum or some expensive research program.[7]

4) So far from being an alternative to the combination of the coherence and empiricist principles, as a criterion of the truth of a statement the pragmatic principle is simply a special case of the coherence-empiricist combination.

For the statements to which the pragmatic principle has its most direct application are those which Skinner calls "*rules*" which, in his words, "specify a contingency."[8] By "a *contingency*" here is meant a causal relation between behavior to be possibly emitted by the individual in question on the one hand and the probable consequences of so behaving on the other. In other words, a rule is both a prediction of what *would* happen, if the individual *were to* perform the behavior in question and, after the event, a retrodiction of what *would have* happened or not happened, if the individual *had not* done what he did. In neither case can we observe the situation specified by the rule. All we can observe is what actually happened in a particular case when the individual performed the behavior. We cannot observe what would have happened on other occasions when he could have performed the behavior but didn't. Nor can we observe what would or would not have happened if he had not done what he did. Yet it is of the essence of what Skinner calls "a rule" and what others call "a causal law statement" that they cover these possible but non-actual cases. The most we can hope for in such cases is observational evidence that such laws and principles apply. Such evidence is provided by observation of what actually happens when the conditions specified in the antecedent of the conditional in which the rule or law statement consists are fulfilled. But in order to move from the observation of what actually happened on a particular occasion to the claim that that is what invariably happens in such cases and would have happened if those conditions had been fulfilled on occasions when in fact they weren't, we have to rely on the principle of coherence.

Conclusion

I have tried to show that the traditional theories of truth, the Correspondence Theory, the Coherence Theory, the Empiricist Theory and the Pragmatic Theory, are not, as represented by Pepper (1942), alternative criteria for deciding which scientific theories to accept and which to reject, criteria which we can adopt or reject depending upon which "world view" we prefer. Nor are they, as others would have us believe, alternative accounts of what it is that makes a statement true only one of which is correct. I have argued that of these four only the Correspondence Theory is a theory of what *makes* a statement true. I have argued that, while the Coherence, Empiricist and Pragmatic theories draw attention to *criteria* which we use to *tell* whether or not a statement is true, we need all three of them. We need the Coherence Principle in order to extrapolate truth beyond what we can observe. We need observation in order to ensure that our extrapolations are anchored to the reality they purport to depict. But, while there can be no more convincing test of the truth of a statement than a demonstration of its ability to yield predictions of the consequences of behaving in one way rather than another, it turns out that this Pragmatic criterion is a special case involving both the Coherence and the Empiricist principles, rather than a criterion of truth in its own right.

As far as the truth of statements describing matters of empirical fact is concerned, this, I would argue, is the whole story. What is omitted, however, is an account of the nature and method of determining the truth of mathematical and other so-called "analytic" statements, a category which, in my view, includes many, if not

all, the established principles of empirical science, such as "Water is H_2O," Ohm's Law and the Law of Effect. In these cases, I would argue, the Coherence Principle provides a correct account both of what *makes* such statements true and of how we tell that they are, an account which, in the latter case, does not need anchoring, at least not in the same way as do factual statements, to a core of observation sentences. But this is a highly controversial topic. Even the very existence of analytic statements has been called into question in a well known paper by Quine (1951/1980). But since it is primarily with the truth of factual statements with which the behavior analyst is concerned, the issue of the truth of analytic statements, if such there be, is one which we can safely leave to the philosophers.

Another category of statement whose truth and falsity I have not discussed are value judgments, particularly moral judgments like *Stealing is wrong* or *You shouldn't have done that. It's wrong*. Despite their surface structure and the fact that we are disinclined in such cases to operate the principle *Chacun á son goût*, as we do in the case of aesthetic judgments, it should be evident that such statements are not straightforward information-providing declarative sentences of the kind we have been discussing. *Stealing is wrong* is functionally equivalent to the mand *Don't steal!*, while, as I have argued elsewhere (Place 1986), *You shouldn't have done that—It's wrong* operates as a verbal punisher. It cannot be seriously denied that what is considered right and wrong is often relative to the mores of a particular social group at a particular stage in its historical evolution. But that does not in any way justify the extension of the social relativity principle to what are or purport to be straightforward factual statements. They are relative to the conventions of the language in which they are formulated. But, given those conventions, either they correspond to the way things are, or they don't—"And there's an end on't."

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NOTES

1. As will be apparent from the references, the inspiration in the case of both groups comes from Professor Hayne W. Reese of the Department of Psychology, University of West Virginia, Morgantown.

2. Although he would undoubtedly have rejected out of hand the suggestion that what he was doing was anything remotely like constructing an empirical science of linguistics, in these respects at least, linguistic behaviorism is moving in the direction of Wittgenstein's later philosophy, while retaining features of his earlier philosophy such as the picture theory of meaning which Wittgenstein himself appears to have abandoned.

3. I prefer the term "situation" to the term "fact" used by Wittgenstein in his exposition of the picture theory for two reasons:
(1) "fact" is systematically ambiguous as between the *state of affairs* (or event) whose existence makes a statement true and the *statement* that is thereby true;
(2) "fact", even when used of what is depicted rather than its linguistic depiction, cannot be used to describe (a) what does not exist, as in the case of a statement that is false, (b) what does not yet exist, as in the case of that which an imperative instructs the listener to bring about or a prediction asserts will exist in the future, or (c) what would have existed in the past, if certain conditions had been fulfilled, but, since they weren't, did not in fact do so, as in the case of a counterfactual conditional. The term "situation" avoids all these difficulties.

4. It might be claimed that the experience of being reinforced when using a particular word correctly and of being corrected or simply failing to receive the anticipated reinforcement when using it incorrectly is a form of observation. But, since such "contingency-shaping" of one's linguistic behavior rarely results in the individual being able specify in words the conditions under which such reinforcement and error-correction are received, my linguistic intuitions do not allow me to accept this as a natural use of the verb "observe." Do yours?

5. For a more extensive discussion of three different versions of the relativist theory of truth, including the view which I accept that the truth of a statement is relative to the meaning of the words used to express it, see Place (1991).

6 The fact that many scientific truths which appear at first sight to be of no practical relevance turn out later to have important practical applications shows (a) that the truth of a statement can often be decided independently of any assessment of its practical utility, and (b) that, considered as criterion of truth, rather than as an account of what it means for a statement to be true, practical utility is useful only in so far as it can be currently assessed. A criterion of truth is not much use if you have to wait to see if it has practical applications before the truth of a statement can be determined.

7. Strictly speaking, Skinner's concept of "a rule" embraces two kinds of conditional statement: conditional imperatives or prescriptive rules (Zettle and Hayes, 1982, call them "plys"), as in the example *If the baby cries, give it a bottle* which specifies the antecedent condition and the behavior to be performed under that condition, and conditional declaratives or descriptive rules (Zettle and Hayes call them "tracks") as in the example *If you give it a bottle, it will go back to sleep* which specifies the behavior and its consequences. It is rules in this latter sense which are at issue here.