THE PICTURE THEORY OF MEANING AND ITS IMPLICATIONS
FOR THE THEORY OF TRUTH AND ITS DISCRIMINATION[1]

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Abstract
A synthetic proposition is true, if there exists a situation corresponding to that which the proposition depicts. Assurance that such correspondence obtains depends on the coherence of a body of pragmatically tested beliefs, anchored to reality by objective observation statements endorsed as correct by the relevant linguistic community. The coherence and pragmatic principles are invoked to explain how failures of correspondence are detected.

Introduction: the picture theory of the meaning of sentences

In a recent paper (Place 1992b) I argued that if, as seems likely, the neural network supersedes the serial-digital computer as a model for the way the brain functions, linguistic theory will be compelled to

> return to the empiricism and behaviorism which prevailed before it was driven by Chomsky towards nativism and mentalism.

I suggested, however, that linguists

> will not be persuaded to return to such a theory unless and until it can deal with the phenomenon of novel sentence construction as effectively as its nativist/mentalist rival.

From this point of view, the problem of novel sentences is to explain how a sentence which has never been encountered before can orientate the behaviour of the listener in a way it has never been orientated before. In the case of an imperative, the sentence can induce the listener to do something he or she has never done before. In the case of a declarative, it can provide information about an absent situation the like of which the listener has never previously encountered. What needs to be explained in order to account for this remarkable phenomenon is how a set of words and sentence patterns which individually have doubtless been associated with relevant aspects of situations which *have been* experienced can be combined together in wholly new ways and thereby enable the listener to adapt her behaviour to situations the like of which she need never have encountered. The way to explain this phenomenon in my view is by invoking a version of the *picture theory* of the meaning of sentences (Wittgenstein 1921/1961). According to this theory (Place 1990; Armstrong, Martin & Place 1996, pp. 27-28; Place 1992a; Place 1993), a sentence acts as a sign for the presence or availability of what B. F. Skinner (1969) calls "a contingency." A contingency in Skinner's sense is a complex situation whereby under certain *antecedent* conditions, *behaving* in a certain way will have a certain *consequence*. Sentences act as signs of the presence or availability of such contingencies by virtue of

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(a)   a semantic connection between its constituent concept words (mainly nouns, adjectives, verbs and adverbs) and the kind of object, property or relation they designate by virtue of associations between the two in the individual's past experience, and

(b)   an isomorphism between the structure of the sentence, as determined by its syntactic features and the structure of the segment of extra-linguistic reality that is thereby depicted.

I shall refer to the segment extra-linguistic reality depicted by a sentence as "a situation" following the usage proposed by Barwise & Perry (1983). Situations in this sense are of two kinds: *events* whereby the properties of or relations between things change either at a moment or over a period of time and *states of affairs* whereby they remain constant over a period of time. A typical contingency such as that specified by the compound sentence

If the baby cries, give it a bottle and it will go back to sleep

consists of three simple situations which constitute the three "terms" of the contingency. Each contingency term is specified by a single 'atomic' sentence. Thus:

The baby is crying	=	antecedent event
Give the baby a bottle	=	listener's behaviour event
The baby goes back to sleep	=	consequence event

Of the three events specified by the three atomic sentences two consist of intransitive behaviour on the part of the baby. These are depicted by a sentence of the simple subject and monadic predicate form. In both cases, the subject is the noun phrase *the baby*; while the predicate is in one case the intransitive verb *cry* and in the other the intransitive verb phrase *go to sleep*. The sentence which depicts the middle term of the contingency is based on the relational predicate *give/receive* which generates three argument places, a giver, in this case understood from imperative mood of the verb to be the listener, a receiver, in this case the indirect object, *the baby,* and the object given, in this case the direct object *a bottle*.

The correspondence theory of truth
The isomorphism postulated by this version of the picture theory is not a relation between the sentence and an actually existing situation. Even in the case of a true declarative sentence, such as the sentence *The cat is on the mat* when used to refer to a particular cat currently sitting on a particular mat, the situation *depicted* by the sentence is a range of possible cat-on-mat situations of which the actual situation is only one. If it turns out that the cat in question is not in fact currently on the mat, the statement is false, the situation does not exist, but the sentence still depicts it.

What this shows us is that the direct object of the verb *depict* is not strictly speaking a situation at all, certainly not an actually existing one. It is rather a disposition or orientation of the behaviour of the listener who understands the sentence. In the case of an imperative, such as *Give the baby a bottle,* the orientation consists in the ability to recognize the kind of situation which would constitute complying with the request, should one be minded so to do. In the case of a declarative, such as *The baby is crying* or *The baby will go back to sleep*, the orientation consists in expecting to encounter either a situation of that kind or some consequence of its existing or having existed at the time and place indicated by the sentence and its context of utterance. A situation answering to the description or specification provided by the sentence will exist, in the case of an imperative, only if the request is complied with and, in the case of a declarative, only if it is true.

Needless to say, it is only in the case where a situation *corresponding* to that described or specified by the sentence either exists or comes into existence as a consequence of the listener's compliance that the

function of the sentence is fulfilled. As Skinner (1957, p. 85) points out in *Verbal Behavior*, whereas an imperative or "mand" works, assuming it is complied with, for the benefit of the speaker,

> behavior in the form of the tact [used here in the sense of a declarative sentence - see Place 1985, sense 3] works for the benefit of the listener by extending his contact with the environment and such behavior is set up in the verbal community for this reason.

What Skinner does not point out is that a declarative sentence can only perform this environment-extending function in a case where a situation corresponding to that depicted by the sentence actually exists at the time and place specified by the sentence and/or implied by its context of utterance, in other words, in a case where the statement expressed by the sentence is true.

It will be apparent from this that to adopt a picture theory of meaning leads inevitably to a *correspondence theory of truth*. This theory holds that a sentence is true if and only if the situation depicted by a declarative sentence corresponds to a situation (the sentence's "truthmaker") that actually exists at the time and place specified by the sentence or implied by its context of utterance in combination with such features of the sentence as the tense of the verb or the use of an indexical.[2] The issue as to whether a particular declarative sentence is true or false derives its importance from the fact that the listener's ability to acquire information about remote contingencies from novel sentences constructed by another speaker inevitably carries with it the danger that the listener will be misled by lies and other less deliberate forms of misinformation supplied in this way by others. However, it must be emphasized that the correspondence between the situation depicted and a situation that actually exists is what *makes* a declarative sentence true. It is not and could not be a *criterion* of truth, i.e. something that enables the listener to distinguish between those declaratives that she gets from others which provide information about what actually exists and can therefore be made the basis for action and those which describe what does not exist and cannot therefore, be relied on.

The reason why correspondence between sentences and the reality they depict can never be a criterion of truth is that it is something that we *never* observe. That is because what a sentence depicts depends on the set of linguistic conventions[3] which are endorsed by the verbal community constituted by the speakers and interpreters of the natural language which is being used. Even in the best case, an observation sentence such as the sentence *This is a table* uttered in the visible presence of an object of that kind, corresponds to the state of affairs to whose existence all of those present with normal vision can readily testify only by virtue of the linguistic conventions accepted by the verbal community constituted by speakers and interpreters of the English language. All those present can observe the table. None of them can observe the linguistic convention whereby the English word 'table' has application to things of that kind. We all know that the word has this application. That is something we learn when we learn English; but we learn it, not by observing the connection between the word and the kind of thing it stands for, but from observing both the kind of thing other people are referring to when they use the word and, more important, what happens to us and to others when we or they misapply it.

The coherence and pragmatic criteria in the discrimination of truth

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[2] The correspondence theory is not a complete account of what it is for a declarative sentence to be true, since it leaves out the case of the so-called "analytic propositions," declarative sentences which are true solely by virtue of the linguistic conventions governing the structure of the sentence and the meanings of the concept words it contains, and which do not require the existence of a situation corresponding to them to act as a "truthmaker." Such propositions are found not only in the *a priori* sciences of logic and mathematics, but also in the empirical sciences in the form of universal law statements. For a discussion of this point, see Place (1991; 1996).

[3] These linguistic conventions should not be confused with the rules of polite literary speech and writing as laid out in the traditional grammar books. A sentence such as *If it ain't broke, don't fix it* is not merely *permitted*, but in certain verbal communities would be the form *demanded* by the conventions.

Although we never observe the correspondence between a declarative sentence and the situation it depicts, there is no doubt that such correspondence exists in the case of an objective observation sentence such as *This is a table*, provided that it is uttered in a situation such that any competent interpreter of English would agree that, given the conventions of that language, it accurately describes the state of affairs to which it refers. But, important as they are in anchoring language to the reality it aims to depict, cases such as this are not the kind of declarative sentence on which the listener relies in order, in Skinner's words, to "extend his contact with the environment". From the listener's standpoint the important declarative sentences are those which specify remote contingencies to which she would otherwise have no access and whose correspondence with the contingencies they specify she is necessarily unable to check by her own observations.

In his classic paper 'An operant analysis of problem solving,' Skinner (1966/1988) points out that once human beings have acquired the ability to "specify" contingencies in the form of a verbal formula or "rule," as he calls such things, they cease to be restricted in adapting to the contingencies they encounter to what they have learned from encounters with similar contingencies in their own past experience or to what has become embedded in their genetic make-up as a consequence of what he elsewhere (Skinner 1975) calls "the contingencies of survival." Through the medium of linguistic communication they gain access not just to contingency-specifications based on the experience of other speakers, but to those based on the accumulated experience of a whole culture. Moreover, as Hull argues in his 1933 book *Hypnosis and Suggestibility* (pp. 83-85), there is evidence[4] that in learning to respond to declarative sentences specifying contingencies it has never encountered in reality, a child must first learn to treat those sentences as equivalent to an actual encounter with the contingency specified. As Hull remarks, this "primitive suggestibility"[5] becomes maladaptive in that

> if a person responds positively and indiscriminately to all suggestions made by others, he is likely
> to be taken advantage of by his associates in that the energies needed for his own welfare will be
> diverted to that of those giving the suggestions.

It is, therefore, vitally important that listeners be able to discriminate, among the rules that come to them from others, between those that are true in that they specify contingencies that actually exist and the lies and other forms of misinformation to which the listener's ability to respond and the speaker's ability to construct novel contingency-specifying sentences lays her open.

In making this discrimination, the listener has two criteria that she can and must rely on, the *coherence principle* and the *pragmatic principle*. In contrast to the unobservable correspondence between what is depicted by the sentence and what actually exists, which is what *makes* a declarative sentence true, the coherence and pragmatic principles *are* criteria which we rely on to tell us which declarative sentences are true and which are false. Furthermore, they are *not* alternative strategies for determining the truth of declarative sentences. We need both. They complement one another.

The coherence principle has its source in the basic principle of logic, the *law of non-contradiction*. The law of non-contradiction holds that if a proposition *p* is true, its negation *not p* must be false. It follows from this law that if two propositions *p* and *q* are contradictories, i.e. if *p* entails *not q*, *p* and *q* cannot both be true. Either one is true and the other false or both are false. This has two further consequences:

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[4] Hull cites an unpublished experiment by Ramona Messerschmidt which shows that suggestibility in children, as measured by Hull's postural sway test, increases rapidly from the age of 5 up to a peak at age 8 after which it declines up to and beyond the age of 16 where the data run out. Hull's interpretation of this result is that "the rise of the curve .... represents the acquisition of a working knowledge of the language, which obviously must proceed a certain distance before its maladaptive possibilities may be encountered; and the gradual fall observed from about eight years on may be regarded as an indication of the progress in 'unlearning' those particular reactions to verbal stimuli which, having been established, have proved maladaptive." However, in considering this evidence, it should be born in mind that the suggestibility measured by this test is susceptibility to suggestions made by high prestige *adults*. Though I am not aware of any evidence bearing directly on this point, it seems likely that resistance to suggestions made by peers develops much earlier.

[5] I owe this phrase to my former colleague in the Department of Philosophy at Leeds University, Professor Peter Geach. Hull himself speaks less succinctly of "a primitive habit tendency (of responding directly to verbal stimulations)."

(a)   that true propositions form a system in which every true proposition is consistent with every other true proposition, and

(b)   that in order to ensure that the set of propositions which an individual accepts as true do indeed correspond to the way things actually are, any contradiction or "cognitive dissonance," as Leon Festinger (1957) puts it, within the system must be eliminated, and any statement made by another which contradicts what is already believed must be rejected, at least until some way of reconciling it with the rest of one's belief system can be found.

Without the coherence principle, we would have no way of determining the truth of declarative sentences which depict situations to which we have no direct observational access, statements about the past, to take but one obvious example. But coherence alone, however logically tight the links between different beliefs that make-up of an individual's belief system, is no guarantee that the system as a whole depicts reality as it really is. Nor does the anchoring of the system to a few objective observation sentences, such as *This is a table*, provide much assurance that it corresponds to how things really are. One reason for this is that, as Catania, Shimoff & Matthews (1989) have shown, behaviour that is initiated by a verbal specification of the contingency involved is much less sensitive than is pure contingency-shaped behaviour, as observed in the behaviour of pre-linguistic organisms, to subtle changes in the contingencies.[6] It is only in so far as such "rules" can be shown to be reliable predictors of the consequences of behaviour and those consequences "matter" to the agent, in other words they satisfy the pragmatic principle, that they are incorporated into the body of common sense knowledge which the agent deploys in deciding what to do in a problem situation. Only when it passes the test of practical experience, can we be satisfied that our system of means-end beliefs corresponds to reality as it actually exists.

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[6] There are three possible explanations of this phenomena. One explanation proposes that where, as in these experiments, the contingency-specification is supplied by the experimenter, the contingencies controlling the subject's behaviour are those involving the supply of social reinforcement by the experimenter, rather than those involved in the task itself. Another is that the expectation that is set up by a sentence is much more open and, consequently, less easily disconfirmed than one based only on previous encounters with the actual contingency. A third is that the consequences of failing to adapt behaviour to minor changes in the contingency are not drastic enough for those changes to impress themselves on the behaviour & prompt a reconsideration of how the contingency should be specified. Whatever the explanation, it is clear that mere disconfirmation of a verbal specification of a contingency will not by itself lead the listener to reject this way of formulating it, unless important practical consequences hang on getting it right.

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