SOME FUNDAMENTAL ISSUES IN SEMANTICS

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ABSTRACT

A number of approaches to meaning have suffered from not taking into account all levels and aspects of meaning. The attempt is made here to relate together all the different types of meaning, linguistic and non-linguistic, and to show as well the relevance of such elements as the situational or pragmatic matrix and the fact that language is a dynamism, a process, not a static entity. The purpose of the paper, therefore, is to create an awareness of the complexities and problems that have to be faced when linguists deal with linguistic meaning.

1. Introduction

There are three fundamentally different aspects of meaning that must be distinguished if we are to make a comprehensive analysis of the meaning of language, and if we are to distinguish the proper role that language plays in human affairs. These three types are (1) information (or universal meaning), (2) referential meaning, which involves both language and the world of experience, and (3) meaning that is specific to language.

1.1 Information

Information is a level of meaning that is independent of language, but may be incorporated into language, and should therefore be described as pre-linguistic. If we define meaning as a relationship, whether natural or arbitrary, between two elements, one of which is a _sign_ of the other, we may observe that, in the world of experience, smoke means fire: smoke is a sign of fire. Or, alternatively, sunset means the coming of night. The relationships upon which the conveying of information depends are, in fact, equational, in the sense that if we are given X, we may expect Y. That all meaning involves this kind of relationship has been the linguistic tradition from the treatises on the _modus significandi_ of the Medieval grammarians to those of the present day: Saussure (1916:97ff) used the terms _signifiant_ (morpheme) and

signifié (sememe); Ogden and Richards (1923:11), with a quite different metaphysical bias, used symbol and referent; Hjelmslev (1935:xii) uses expression and content; Ullmann (1957:70) tries commonsense forms like name and sense; Lyons (1981:19) uses form and meaning. In all of these pairs the first element is the sign, the second is that which is signified.

In this way, if we return to information theory, X becomes the sign of Y and becomes capable of inducing a response of expectancy in an observer. If the expectancy is continuously induced in this way, the observer may in fact develop a conditioned reflex: either a positive reflex (if the expectancy is significant or important, e.g. a red traffic light) or a negative reflex to ignore (if the expectancy is trivial, e.g. the red light that indicates that the radio is in stereo mode).

Information in any channel is, of course, a function of improbability. If it is probable that the sign (or stimulus) indicates a trivial or insignificant expectancy, the observer will ignore it. If, on the other hand, it is improbable that the expectancy is trivial, the observer will tend to take note of it.

Consequently, many different observers, regardless of language, may observe a situation and draw similar conclusions from it because of their knowledge and experience of the world. And indeed, the higher animals, both wild and tame, interpret a great range of facts as being 'significant,' as having a meaningful relationship with other facts. All animals, it would seem, are capable of deriving information from observed movement: the slightest movement of a figure upon a background will attract the attention of an animal, and many animals have learned to escape observation by 'freezing,' by standing stock still.

It is well known, in fact, that information is conveyed by observed differences. Any item that differs or changes from the observed or the expected is a potential conveyor of information to the observer. Consequently, in information theory considerable importance is attached to the notion of redundancy: what is redundant is that which does not change in the channel of communication and consequently carries no charge of information, since information is contingent upon that which is different (Cherry 1964).

Much information is therefore of a 'negentropic' kind. Since entropy is the natural tendency of the universe towards a stable, formless state, negentropy is the converse: the featured informational forms that distinguish discrete elements of the universe from formless matter (Black 1969). Black, although

primarily concerned with the biological forms that are important and meaningful in medecine and microbiology, gives, as one of his most interesting examples of negentropy, the metal key that opens a door, a prime example of encoded information.

Necessarily, much of the pre-linguistic information of the universe also finds itself incorporated in some way into language. A swift survey of animal species impresses with the binarity of their structure and design: two eyes, two ears, two nostrils, two wings (or arms), two horns: one side of the body being a mirror image of the other. It would be difficult to imagine a language which did not have a word signifying two or duality; and languages are rich in all kinds of binary categories and binary structures. Where language entities closely reflect the structure of experience, we speak of the <u>iconicity</u> of language, and there is interesting recent work on this very topic, well illustrated in Haiman 1985, for example.

1.2   Referential Meaning

Referential meaning is, consequently, the interface between the prelinguistic information of the universe, which is universal to all human beings, and the language specific concepts that are the typical constructs of natural languages. If we observe a tree in a field, for example, there is no doubt that the sense-datum is the same for all humanity. As Hjelmslev shows us (1969:54), the tree in the field is <u>trae</u> in Danish, <u>Baum</u> in German, <u>arbre</u> in French, <u>tree</u> in English. When it is chopped down, however, it is still <u>trae</u> in Danish, but <u>Holz</u> in German, <u>bois</u> in French, <u>wood</u> in English. <u>Bois</u> and <u>wood</u> can also be used for a group of trees, but in German this is already <u>Wald</u>, which is also used where French and English use <u>forêt/forest</u>. Danish, meanwhile, uses <u>skov</u> for any group of trees, large or small, but this word may not be used for trees that are harvested, as is the case with <u>Holz</u>, <u>bois</u>, <u>wood</u>.

Referential meaning is therefore the exploitation of quite different linguistic conceptions to refer to the same experiential reality. The blade of a knife, a lawn-mower, a razor, a shears, or other cutting tool, is in French <u>une lame</u>. But the blade of a camera shutter, a fan, a mixer or a propeller is <u>une pale</u> or <u>une palette</u>; the blade of a turbine, on the other hand, is <u>une aube</u> (also the vane of a windmill and the paddle of a paddle steamer), the blade of a windshield wiper <u>une raclette</u>, of a guillotine <u>le couperet</u>, of a tongue or an oar <u>le plat</u>, of a plane (carpenter's tool) or a spade <u>le fer</u>, of a set-square <u>la tige</u>, of grass <u>un brin</u>, and of cereals <u>une pousse</u>. An anglophone, therefore, would refer

to all of these entities using the English word (and necessarily the English concept) <u>blade</u>; a francophone, referring to the same experiential entities, uses a variety of words and concepts. Both speakers are referring to the same informational material of the experiential universe, but speaking different languages, both utilize quite different conceptual materials in making these references. The French word <u>fer</u>, for example, used for the blade of a plane or a spade, is also used for axe-heads, punches, horseshoes, and flatirons; here is a concept that is obviously very different from that of English <u>blade</u>. But if I present a spade to an anglophone and a francophone, and ask them both to refer to the blade, there is no doubt that what is referred to, the sense-datum, is identical in both cases, even if it is apprehended in culturally different modes.

1.3 Linguistic Meaning

Those who speak only one language are sometimes unaware that there is a fundamental difference between linguistic meaning and universal meaning (i.e. the pre-linguistic meaning inherent in the negentropy of the universe); indeed there is a well-known tendency, commented upon by Ogden and Richards (1923:2), to confuse <u>word</u> and <u>thing</u>. An examination of meaning differences between two languages quickly reveals, however, that linguistic meaning, no matter how close it may sometimes parallel universal informational meaning, is nevertheless always language specific. As Sapir puts it (1921:14) '...the typical linguistic element labels a concept.'

Even bilinguals or multilinguals, if they speak only Indo-European languages, may be under the illusion that siblings are always classified as to their sex: brother is a male sibling and sister a female sibling. But some language families discriminate age rather than sex, so that the Cree word nisim means <u>my younger sibling</u>, and there are no separate words in Cree for <u>younger brother</u>, <u>younger sister</u>. Or alternatively the discrimination may be same sex vs. opposite sex. Melanesian pidgin, for example, borrowed the words <u>brother</u> and <u>sister</u> from English, but then proceeded to use them in terms of the native culture, so that Melanesian <u>brata</u> means sibling of the same sex, and <u>sisa</u> means sibling of the opposite sex: a boy, for example, will call his brother <u>brata</u> and his sister <u>sisa</u>, but a girl will call her sister <u>brata</u>, and her brother <u>sisa</u>.

We cannot hope to avoid confusion, therefore, if we do not distinguish between linguistic meaning, which is the relationship between a language specific sign and its language specific significate on the one hand, and the use of this combined

sign-significate on the other hand to refer, as occasion may arise, to the information inherent in the world of experience.

Even words that appear at first sight to have identical linguistic meaning normally turn out to be significantly different in some small way. The French word porte and the English word door, for example, are two different signs, each with different lexical content, as the dictionary shows us: the door of a vehicle is portière, whereas porte is used of the gate of a city, which for speakers of English is not a door at all. If someone asks

1. Will you open the garage door?

they might equally say to someone who also understands French

2. Veux-tu ouvrir la porte du garage?

The door referred to in the real world (the external referent) would be identical in both sentences, but the notions underlying porte and door are different because the French notion includes the gates of cities whereas the English notion includes the doors of vehicles.

2.   Language Specific Meaning

2.1   Permanent and Contextual Meaning

But, it may be justifiably objected, in the sentences in question there is no reference to car doors or city gates, and it is a fundamental fact of language that the same word will mean different things in different sentences. This observation may well lead to the old squabble over permanent and contextual meaning. In this quarrel one side (e.g. Stern 1931:31ff) claims that a word has a permanent meaning, and that dictionaries are statements of such permanent meanings. The other side, claiming with Ogden and Richards that 'words, as everyone now knows, mean nothing by themselves' (1923:10), asserts that words only have meaning when placed in context. The contextualists, as I shall call them, would undoubtedly take arms against my term 'underlying meaning,' and would probably claim that there is no such entity. The supporters of permanent meaning, however, are defending the sememe or underlying significate, whereas the contextualists are defending a different entity, the alloseme or surface significate. The result is that in their arguments the two sides are not even talking about the same objective reality. The same kind of confusion would arise in phonology if one failed to distinguish between underlying phoneme and surface

allophone. It is surprising, therefore, that there are linguists who, while insisting on the necessity and importance of distinguishing between phoneme and allophone, would reject any kind of underlying meaning, and specifically reject the sememe, as does Bazell (1954).

There is, in fact, a positivist or anti-mentalist tradition that runs from Malinowski (1923), Ogden and Richards (1923) through Firth (1935) to present day writers such as Lyons (1968, 1978, 1981), although Lyons prefers to hedge and ask questions rather than state the position categorically:

> Shall we say that the meaning of such words as truth, beauty and goodness is the 'concept' or 'idea' associated with them in the 'minds' of those who know the language to which the words belong - and, in general, that 'meanings' are 'concepts' or 'ideas'? If we say this, we shall find ourselves once again in the midst of philosophical, and psychological, controversy. For many philosophers and psychologists are extremely dubious about the existence of 'concepts,' or indeed of the 'mind'. (Lyons 1968:401).

This passage regrettably suggests that we should give a greater weight and importance to the metaphysical beliefs of certain philosophers and psychologists than to our own rational discussion as linguists. Opinion has fluctuated somewhat on this issue over the last twenty years, but Lyons is still adamant that an 'ideational, or mentalistic' theory of meaning is unsatisfactory (1981:31). It will be my contention here that no sensible discussion of meaning can ignore either the sememe (Lyons' 'concept') or the alloseme, and that the two must be reconciled within the bounds of a single coherent explanation.

2.2   The Nature of Underlying Elements

Any analysis of language that does not make some kind of distinction between -emic and -etic entities is headed for unnecessary trouble and confusion. That is essentially what the Saussurean and neo-Saussurean dichotomy of langue (tongue) and parole (discourse) is all about: the -emic entities are all elements of langue, the fundamental contrasts of the tongue we learned as children, permanently stored in the subconscious mind. The -etic entities, on the other hand, are elements of parole, they describe

the infinite variation that is found in discourse, which is
exteriorised, conscious, and momentary - what is said is normally
lost on the air waves in a matter of seconds. The -etic elements,
as items of discourse, are normally elements of such momentary
sentences, whereas the phoneme, the morpheme and the sememe are
all permanent elements of tongue, elements of systems, stored in
the subconscious mind, out of awareness. We may even say stored
in the somatic mind, to use Black's term (1969): the somatic mind
(Greek sōma = body) is a permanent part of the total physiological
person, since its functioning (such as the production of spastic
vowel sounds) can be triggered by the touch of the neurosurgeon's
electrode on the surface of the cortex, as Penfield has shown
(Penfield & Roberts 1959:199). The mental effects, such as memory
replay, that were triggered by the touch of Penfield's electrode
demonstrate the absurdity of the assumptions of positivist
philosophers and old-fashioned behaviorist psychologists, who
believe, according to true Cartesian orthodoxy, that what is
described as mental is 'non-physical' and consequently has no
empirical reality whatever.

It is more than three centuries since Descartes created this
dualism between the res extensa (physical) and the res cogitans
(mental), each one completely independent of the other, in his
view. This unacceptable dualism in turn leads to arguments between
'empiricists' and 'rationalists' that are self-defeating because
the two sides simply have hold of different ends of the same stick,
each one concentrating on one aspect of the phenomenon, and neither
side taking a holistic or global view. A true twentieth century
view, in the Einsteinian tradition (space and time are not separate
entities, but different aspects of the space/time continuum) would
see mental organization (Descartes' res cogitans) and physical
existence (Descartes res extensa) as indivisible aspects of all
experiential reality. Belief in the 'non-physical' status of the
mind, in fact, is totally refuted by the experiments of
Penfield: such beliefs ultimately have nothing whatever to do with
science, since science is not a philosophical or metaphysical
position, but a fundamental way of proceeding in coherent and
rational fashion.

The -emic entities, however, the elements of langue, being
stored in the subconscious mind or somatic mind, out of awareness,
are not amenable to direct observation, but only to indirect
observation; they must be worked out by persistent and careful
analysis, in much the same way that the historical linguist works
out the data of (unobservable) prehistoric protolanguages. A
phonological system, for example, can never be observed directly
(if it could, there would be no need to train linguists), but has
to be worked out from observation of the function and deportment

of the directly observable allophones in the stream of speech.
The -emic entities are therefore theoretical, and the -etic entities
empirical. As in all science the theoretical constructs are based
upon the empirical data, and are justified or disproved on the
basis of empirical evidence.

In sound theoretical method, therefore, the underlying
theoretical substructures are a reconstruction of that part of the
reality that is not directly observable, and consequently not
amenable to empirical investigation and description. The application
of sound theoretical method to linguistics requires that theoretical
constructs be a reasonable reflection or model of the underlying,
unobservable aspect of the phenomenon.

2.3 The Observation of Meaning

What part of linguistic meaning is amenable to empirical
description, and what part must be reconstructed by sound theoretical
method? If we listen to someone speaking a completely unfamiliar
language, all that we are capable of observing is the phonic string
that vibrates on the air waves. We are not capable of observing
what such speakers mean when they speak. Because we have never
learned the underlying tongue (langue) that these speakers are
utilizing, we do not have the appropriate medium of observation,
and are therefore not in a position to observe what they are saying.
We are like the microbiologist caught without a microscope: we do
not have the requisite means for observing. But when people use a
tongue that we have learned, we have the necessary medium for
observing what they mean when they speak. This fact has always
been implicitly accepted by linguists, who have always either asked
native speakers about the meanings of sentences, or, as native
speakers themselves, have never hesitated to give their own
interpretations of sentences in the mother tongue. But linguists
have sometimes been unwilling to accept the fact that meaning is
observable at the level of discourse, at the level of parole, because
such observation can only be carried out by introspection. Yet even
those who have objected explicitly to the use of introspection
(e.g. Twaddell 1935, 1966:57) would not hesitate to ask a native
speaker whether two different sentences were alike or different in
meaning, apparently unaware that it is only by means of introspection
that the native speaker could answer such a question.

As speakers of English, however, we are all aware, by
introspection, that the openings in the walls of a city are called
gates not doors. If there is a consensus of agreement among speakers
about such items, there is no reason why the results of introspection

should not be just as respectable as the product of other forms of observation. The proviso however is an important one: that there should be a consensus of at least two (and preferably more) speakers. And equally important: introspection is limited to the level of discourse, of what is actually said or used, because introspection is valid only for the cerebral or conscious mind. No amount of introspection will ever enable a native speaker to observe the underlying -emic entities, because such entities belong to the somatic or subconscious mind which is not normally accessible to awareness, to consciousness, and therefore not amenable to introspection.

Any attempted use of introspection to determine underlying categories, therefore, is necessarily purely speculative. Such underlying categories being quite simply unobservable, they can only be determined by the examination of the data of discourse, and by the correct application of theoretical method to such data. We must observe how words are used in order to reconstruct their underlying meanings.

2.4   The Reconstruction of Underlying Meaning

From the directly observable (or -etic) entities of discourse (i.e. of parole), the theoretical (or -emic) entities of tongue (i.e. of langue) must be reconstructed. Traditionally, for example, linguists have carefully and meticulously sifted through phonetic transcriptions in order to elaborate the phonemic inventory of a language.

In like fashion, from the information available on the use of lexical and grammatical items in discourse, we may reconstruct underlying significates, or sememes, which will explain or justify the varying and different allosemes to be found in discourse. This work has so far received much less attention from linguists than comparable studies in other aspects of linguistics.

Such neglect stems at least in part from linguists' attitudes towards the sememe. Bloomfield (1933:140,168), for example, considered that it was principally the task of other sciences to define sememes. Other linguists, while prepared to accept the phoneme-allophone distinction, steadfastly refused to believe that a morph had any underlying meaning or sememe: Lyons, for example, declares (1968:412,428) that it is unnecessary and undesirable 'to postulate the existence of independently defined senses.' Still others (e.g. Fries 1954:65) believed that meaning lay in the overt behaviour or current response that consistently followed any speech

act, or in the referent (e.g. Ogden and Richards 1923:10), the object named. (Presumably if there was no referent or ensuing overt behaviour, what was said was meaningless).

Several linguists have, however, distinguished the two levels of linguistic meaning. Jakobson's Gesamtbedeutung (1936,1966:51-57) is an underlying meaning different from the surface meanings because it is a reconstruction (which is why Jakobson refuses such terms as Grundbedeutung 'basic meaning' and Hauptbedeutung 'principal meaning' - these are nothing more than major allosemes). Hjelmslev even earlier than Jakobson states (1935:37): 'La conception ou l'idée qu'il s'agit de chercher dans une forme linguistique doit être une idée une, une seule signification fondamentale ... d'un degré d'abstraction assez grand pour permettre d'en déduire tous les emplois concrets de la forme.' Guillaume distinguishes the underlying signifié de puissance from the surface signifiés d'effet, and states (1971:87) that the former must be reconstructed from the latter. Ullmann (1957) distinguishes meaning in langue from meaning in parole (what he calls meaning vs. sense). Joos (1964) distinguishes the additive meaning of a lexical unit from its privative meaning: a word used in discourse brings its own additive contribution (= sememe) to the sentence, and is then subjected to the privative contribution of all the other units of the sentence to produce the alloseme, which like the allophone, is contextual.

The notion of a single global meaning underlying all the contextual meanings, however, is not one that has gone unchallenged. Guillaume himself, in a most interesting passage (1971:78), observes that his own teacher Meillet was for long years opposed to this view, and had originally held (as did Ogden and Richards: see quote in 2.1 above) that a form meant nothing by itself and had 'no other sense than that which it received from its usage.' Guillaume notes that this opinion is justified in so far as it eliminates the erroneous practice of taking one of the surface meanings (e.g. a Hauptbedeutung, obtained by introspection) as being the basic underlying meaning, but is ultimately untenable since it also rules out the appropriate theoretical reconstruction of the necessary underlying significate.

It is obvious, for example, that all the surface meanings of any one form are limited to a range. If I say 'I fixed the board' that may mean that I tampered with the scoreboard, that I repaired the loose plank, or even that I adjusted the sound panel, but (and this is what makes the above opinion untenable) it does not, and normally cannot mean I ate the sausage or I chased the cat. In other words, it is a necessary conclusion that in the sentence I fixed the board the various surface meanings of the noun board are conditioned by an underlying meaning that circumscribes the range

of possibilities beyond which the surface meanings cannot go. Without this underlying meaning that conditions or circumscribes the surface meanings, discourse would be incoherent, would be chaos. As Guillaume put it (1964:247-8): '.. if a sign before it is used carries no potential significate, it is a sign without a usable meaning.' It is not surprising that Meillet, for all his positivist leanings, changed his mind on the question of underlying meanings (Guillaume 1971:78).

2.5   The Techniques of Reconstruction

A pianist who has not seen the score of a piece of music for a long time may have forgotten even what key the music is written in. But if he is still able to play the piece, if it is preserved in the subconscious motor memory, he can, by observing his own performance, reconstruct the score, with key signatures, bars, notes, etc. The key to reconstructing the underlying entities of a language consists likewise in careful observation of performance. As far as concerns linguistic meaning, it is important to observe especially the behaviour of linguistic elements themselves, so the the limits of their usage may be observed and the range of usage, which is restricted by the underlying conditioning sememe, thereby determined. The sememe itself, though subconscious and not directly observable, may be traced through its allosemes, through the patterns of its usage. As Wittgenstein suggested (1953:14, 53, etc.), for a somewhat different purpose, we should not look for the meaning of a word but for its use. Having done that we are then in a position to propose a theoretical underlying meaning, thereby carrying out an operation that is a fundamental modus operandi in both synchronic and diachronic lingistics, as in the elaboration of phonemes from a purely phonetic script or in the reconstruction of protoforms from the cognates found in daughter languages - in both cases theoretical underlying forms are proposed that are capable of conditioning the surface, observable data.

3.   Meaning and Process

3.1   Meaning as a Productive Process

Language usage (langage in Saussure's terms) is a process, an activity, not a Ding-an-sich, not a static entity. It is only in terms of process that time (as movement across space) may be related to space (within the perspective of the space/time continuum); that mind may be related to the physiological brain; that discourse

(linguistic activity) may be related to a specific tongue. Consequently, any coherent description or theory of language must be in some sense generative, that is, must indicate movement, activity or process from one stage or state to another. Speaking is necessarily an activity whereby the underlying elements of a tongue are processed, albeit subconsciously, for use in discourse. This is not a new idea, of course; Sapir entitled the fourth chapter of his 1921 monograph <u>Form in Language: Grammatical Processes</u>. In English, for example, a basic significate may be processed as different parts of speech: the notion <u>round</u> can be made into a noun, verb, adverb, adjective, or preposition. If made into a noun it will be singular or plural; as a verb it will be processed for mood, tense, etc.:

    3.   They ordered several <u>rounds</u> of drinks.

    4.   He <u>rounded</u> the corner at a gallop.

    5.   At the <u>round</u> earth's imagined corners blow/ Your trumpets, angels.

    6.   Running <u>round</u> and <u>round</u> in circles.

    7.   He lives <u>round</u> the corner.

Surface meaning is also the product of processing. From the range of meaning available in a given underlying significate or sememe, the requirements of linguistic context and pragmatic situation will eliminate all factors except those appropriate to the situational context. Or, in Joos's terms, from the total of the additive meaning of a term, the privative meaning of the other terms will strip away all factors except those appropriate to the sentence. The end product is an alloseme or actual significate. In a sentence such as

    8.   A car door should be hinged at the front.

the context indicates that a special kind of door is meant, a kind of door that is not part of the meaning of French <u>porte</u>, but is part of the meaning of English <u>door</u>.

3.2 Generating Surface Structures

Two surface allosemes cannot be generated at one and the same time from a single underlying sememe: even with puns one has a choice

between two alternating variants, between two possibilities. It
is possible to say:

    9. The book is sad.

    10. John is sad.

but as McCawley (1967:126) points out it is not possible to say:

    11. John is as sad as the book he read last year.

because the word <u>sad</u>, when applied to books and people has at least
two different senses: 'producing sadness' and 'feeling sadness.'
McCawley consequently proceeds to place two different lexical items
in the deep structures, but, whatever one thinks of deep structures,
this is a methodological error because surface meaning is allosemic
and endlessly various, and consequently McCawley's two lexical
items cannot account for such expressions as a 'sad look' or a
'sad case,' which would seem to warrant two further entries in the
deep structure. If every different surface alloseme required a
new item in the lexicon, the lexicon would be infinite, because
surface meaning is infinitely varied.

    Many of the different aspects of meaning may be seen as
belonging to different 'moments' or levels of the generative act,
to the underlying or surface levels, and I shall here endeavour to
present an account that aims to be a model for a speaker, who
creates, from the underlying apparatus available to him or her, the
variation that we observe at the surface level.

3.3 The Generative Act

    Let us presume, for simplicity of presentation, that the speaker
has observed some items of information from the world of experience
that he or she wishes to express: the appearance of a cat in the
garden, for example. In order to process this item of information
through the medium of language, a search would be required for
suitable underlying significates that may be appropriately fitted
together to form a coherent representation. The moving figure
(cat) and the external ground against which it moves (garden),
both of which are fundamental informational elements, may be expected
to be processed by all languages, each element being represented
by being allocated to a language specific sememe, which thereupon
will be processed grammatically to relate appropriately to the
other elements in the final collocation. Once this grammatical
processing has taken place, the resultant grammaticalized sememe

(Saussure's _signifié_) will have an automatic reflex: a sign (called _signifiant_ by Saussure, in defiance of normal usage). The reflex nature of this sememe-sign relationship is demonstrated by the researches of (Penfield and Roberts 1959:227):

> When the electrode was applied to point 26 ... on the anterior speech area, the patient was being shown a picture of a human foot. He said, 'Oh, I know what it is. That is what you put in your shoes.' After the electrode was withdrawn, he said 'foot.'
>
> When the electrode was applied to the supramarginal gyrus at 27, he said, 'I know what it is' and was silent. When the electrode was withdrawn, he said at once, 'tree,' which was correct.
>
> When the electrode was applied to the posterior temporal region at 28 he was completely silent. A little time after the electrode was withdrawn, he exclaimed suddenly, 'Now I can talk - butterfly [which was correct]. I couldn't get that word "butterfly," and then I tried to get the word "moth".'
>
> This demonstrates that there is a neuronal mechanism for speech in the dominant hemisphere that can be inactivated completely, or imcompletely, by electrical discharge.

In a language such as English, for example, the underlying sememe of _cross_, when grammaticalized, has such reflex signs as _cross_, _crosses_, _crossing_, _crossed_, where the morphology itself clearly reflects (i.e. is a symptom of) the grammatical processing, which is itself meaningful, or semantic, as may be demonstrated by minimal pairs: _I saw him cross the road/ crossing the road_.

What is true of English is equally true of other types of language except that the basic notion may be grammaticalized as a root, or as a post-base, or as an incorporation of the verb rather than a separate part of speech. Each such distinctive grammaticalization may well result in a distinctively different reflex sign, which will normally show morphophonemic relationships to the other signs of the set. This is not an absolute requirement, of course, and in verbs of _going_ there is typically suppletion in Indo-European languages: French has pres. _je vais_, impf. _j'allais_, fut. _j'irai_, and even in English the reflex sign for the notional content (go + past tense) is _went_.

We know almost nothing of the psychological reality of the syntactic organization at this level, but we can see from Penfield's discussion of his experiments (Penfield and Roberts 1959:227-233) that every underlying (linguistic) significate will automatically

release its reflex sign, unless the reflex is blocked by an electrical discharge, or disturbed by aphasia. The sign may be either interiorized (in silence) or exteriorized, in which case it will be given phonic shape and be caused to vibrate on the air waves, and received by the hearer. The hearer, if he knows the sense of the underlying significate, will normally be able to deduce the surface meaning intended by the speaker by taking into account the effect of context and situation upon this underlying significate. There are three steps in the process therefore: Step One is the choice of underlying significate or sememe, which when grammaticalized will automatically release Step Two, which is the sign. Releasing the sign into the stream of speech induces the conditioned surface significate or alloseme, which is Step Three:

Sememe ------------> Sign -----------> Alloseme

3.4   An Operational Analogy of the Generative Act

A helpful analogy is that of the child's Meccano set or construction set. Each set consists of a variety of parts, that may be fitted together in a variety of ways, some of the parts (such as nuts and bolts) being used only for connectors for fitting the major parts together. A child wishing to make a model airplane with the set will take pieces from the set and incorporate them into the model. The set corresponds to tongue, but the airplane and other such models constructed correspond to discourse, to the sentences constructed from the set.

Each part in the Meccano set is a single entity which may have a myriad different uses in the items constructed. A girder from the set, with 10 different holes, may be attached in one model only through its end holes, and the other eight holes not used, or redundant. In constructing another model four of the holes may be used, in another eight, and so forth. It is in analogous fashion that the speaker will make use of those aspects of a sememe that are relevant to the utterance and ignore the irrelevant aspects, thereby creating allosemes in discourse.

It follows that the child, in adding to the model being constructed, will decide on a suitable shape (sememe), which will be found realized in a particular piece or part (sign) of the set. Incorporating the part into the model, only certain particular aspects of the shape will be utilized, a factor which will consequently give it a role (alloseme) appropriate or distinctive to that model.

It is obvious that the same piece plays different roles as
(a) member of the set and (b) as member of a model. As member of
the set (sememe) the possibilities of the part enter into contrast
with the possibilities of all the other parts. As structural member
of a model (alloseme) some of those possibilities will be realized:
discourse results from the realization or actualization of some of
the possibilities inherent in tongue. The structural member
incorporated into the model then enters into contrast with the
other elements (i.e. actualized possibilities) of the model.

Since the airplane and the other various models constructed
from the set stand for sentences, for discourse, for _parole_, and
the set of parts represents tongue, it is of interest to note that
Saussure (1916:172) stated that the sentence is an element of _parole_
not of _langue_. The sentence, like the model airplane, is the
construct of an individual, not a communal property. The sememe,
on the other hand, is communal property, is an element of _langue_.
Or as Sapir (1921:14) puts it, 'Each element in the sentence defines
a separate concept or conceptual relation or both combined, but
the sentence as a whole has no conceptual significance whatever.'
In short, a sentence carries a basic message but a message, being
ephemeral, is not a concept, which is, by definition, durative. As
I have shown elsewhere (Hewson 1978), it is easy to demonstrate
that in terms of just propositional meaning alone, before there is
any question of pragmatics (see 4.2 below), a single sentence such
as _Our sister fixed the board_ may have hundreds of different
interpretations. To translate into Cree, for example, we would
need to know whether the sister is older or younger, and whether
she is also the sister of the addressee or not (i.e. the inclusive-
/exclusive contrast); then there are the multitudinous variations
offered by _fix_ and _board_, which require specific terms in other
languages.

4. Differences of Meaning

4.1 One Sememe or Two? The Non-uniqueness of Semantic Solutions

We have said that speakers of a language are normally aware of
the meaning of a sentence spoken in a particular context, and that
allosemes, or meanings in discourse are observable, since otherwise
translation and paraphrase would be impossibilities. We must insist,
however, that underlying meanings are not directly observable, but
only inferrable through the varying usages of discourse. It follows
that the linguist faces similar problems in trying to determine
the underlying sememe that he faces in trying to establish phonemes
from a phonetic transcription. With present methods of analysis,

we cannot always be sure where there is overlapping and where there are different underlying sememes.

Our uncertainties over the boundaries of the underlying elements are never more unsure than when we are dealing with idiomatic usage. As a general rule, all surface usage that maintains at least one basic feature of the proposed or reconstructed sememe may be classified as unitary. We may assert with confidence that <u>head</u> has the same sememe in <u>head of a man</u> and <u>head of a dog</u>. Many would be quite content to add <u>head of a pin</u> and <u>head of cabbage</u> as other allosemes of the same basic sememe. But what are we to do with <u>head of steam</u>? Lexical meaning is an element that includes such extensive variation, and often such personal variation, that it is quite plausible that for some members of the English speaking community the noun <u>head</u> in <u>head of steam</u> is an alloseme of the basic noun, whereas for others it has a totally separate underlying sememe. There is a need for more research and enquiry into some of the problems and issues here raised.

4.2 Context and Situation

When in the course of a day's activities we hear an ordinary simple sentence such as

12. He brought the paper.

we have no means of knowing through the linguistic information offered what kind of a paper was brought: the context does not define the alloseme. The alloseme may, however, be defined contextually:

13. He brought the paper to be signed.

14. He brought the daily paper.

15. He brought the paper he read at the conference.

In 13., the alloseme is <u>document</u>; in 14., it is <u>newspaper</u>, and in 15. it is <u>scholarly communication</u>.

The alloseme may likewise be determined purely pragmatically by the situation. If there is a directly observable referent, as when the individual is seen to be carrying either a newspaper or a document in his or her hand, any linguistic context is thereby made redundant, and the alloseme is determined by situation. This may also take place (although there is frequently room for ambiguity)

when the situation includes a presupposition, as when we are
expecting someone to arrive with a document. In that case, we
would naturally suppose that the reference was to the document we
were expecting.

4.3   Reference and the Referent

     The term referent has traditionally been applied, following
the positivist trend set by Ogden and Richards (1923:10) to an
element of the experiential world that can be seen or touched. We
shall call this the external referent. Ogden and Richards, in
fact, attempted to reduce linguistic meaning to the relationship
between what they called the symbol (that which vibrates on the
air waves) and the external referent, thinking that they had thereby
created an empirical science where each aspect of the relationship
of meaning (symbol/referent) was directly observable. The result
is, of course, pseudo-scientific reductionism, a theory that was
very fashionable in its day, but totally unworkable: if I say

     16.   The table is one of humanity's oldest artefacts.

my interlocutor is entitled to ask 'What table? Show me.' It
then becomes obvious that there is no external referent, that there
is no directly observable table which will correspond to my reference
in 16.

     A further complication arises from the fact that an external
referent does not exist for a human observer until it has been
registered as a percept. I can say, for example,

     17.   I am sitting on a chair as I write this sentence.

and any human observer can see that the chair in question is wooden,
has no arms, and no cushion. If I then proceed to say

     18.   There is no one sitting on the other chair in this room.

when in fact there is no other chair in the room, the reference in
18. must be to a purely imaginary chair: there is no other chair,
and I know this because I have no mental perception of any other
chair. Genuine external referents, in short, necessarily correspond
to mental percepts; without such a mental percept, we conclude
that there is no external referent. Alternatively, if I have a
mental percept that others do not share, one concludes that I am
hallucinating. It follows that the linguistic referent is
necessarily the percept, or the memory of the percept, a mental

entity, and not the external referent: otherwise one should be able to bypass the percept, the internal referent, and refer to the external referent directly, which, as we have seen, is impossible.

We are so used to taking it for granted that linguistic reference to the world of experience is direct and unmediated, that this point may be difficult to grasp, and the objection may be made that we are introducing an unnecessary layer or level of complication, adding considerably to the discomfort of those who, like Lyons, consider any discussion of the mind as somewhat disreputable. After all, if I point to the chair I am sitting in, I am not pointing to a percept, and indeed I am not sitting on a percept! The appropriate response to this objection is that it would be very foolish to attempt to sit down on something of which we had no percept: it is our perceptions of the world of experience which determine our knowledge of it: without the internal referent there can be no external referent.

Furthermore, I can not apply a mental label outside of the mind. If I am to label mentally the object I am sitting on as chair, as I have done in 17., such labelling can only be carried out on a percept or a memory. If I wish to put such a label on the physical chair, I must write chair on a label and attach it to the article in question: physical labelling must not be confused with mental labelling.

We must distinguish, therefore, between the internal referent, which is a percept or a memory, and the external referent of Ogden and Richards. The internal referent is, in fact, incorporated into the noun, and this is what distinguishes the noun as a part of speech: what is referred to by the noun is either a percept, a memory or a concept. The adjective, for example, brings its meaning to the noun on which it depends; in that sense it labels the noun: wooden chair. The referent of the adjective wooden is the noun chair. But what does the noun chair label? It labels the internal referent, the mental percept, which being thus labelled, becomes a part of the noun, and distinguishes the noun from other parts of speech, in that the referent of the noun is a part of the noun itself. The referent of the adjective and the verb is always elsewhere: in dog food, for example, the word dog does not have an internal referent; it refers to food, telling us what kind of food is involved. If I explain that it means food for dogs, then dogs does have an internal referent, which can of course be plural, and we note that food for dogs is dog food, not *dogs food: the adjectival form of dog, since it has no internal referent, cannot have a plural.

4.4 Sentential Reference

Recent years have seen renewed interest in linguistic universals and in the categorizing of certain features of languages as being universal properties of the phenomenon of language. Much interesting work has been done, but there has been a continuing tendency to entrammel significantly distinctive categories together and by so doing to over-simplify and thus 'universalize.'

One of the most obvious instances of reductionism, of over-simplification concerning linguistic meaning was the early assumption in Transformational Grammar that the active and passive forms of a sentence had the same 'deep structure' and consequently had the same 'meaning,' an assumption that has, of course, long been discarded. The number of sentences that have no satisfactory active or passive correlate are enough to demonstrate the inadequacy of such a view:

19. He was born a pauper.

20. Dogs make fine pets.

21. It measures five feet.

22. The presence of x means trouble.

23. He lost his parents in an automobile accident.

24. Few people read many books.

This problem is an instance of a regularly recurring confusion between the non-linguistic meaning of information on the one hand and linguistic meaning on the other. Where both active and passive forms of a sentence occur, it happens frequently that both may be used to refer to the same external situation; it is in reference that they are identical, not in linguistic meaning. Consequently, as with sentences 1. and 2., whether one uses French or English, active or passive, the referential meaning does not change: the situation referred to is the same.

That there is a difference of meaning between active and passive sentences may be clearly and simply demonstrated however. Without a given situational matrix a particular sentence may be multivariously ambiguous:

25. He missed his mother.

For 25., we may propose the following situations: (i) he threw
something; (ii) he had feelings about her absence; (iii) he went
to meet her, but failed to contact her; (iv) he suddenly noticed
her absence. The situations thus proposed (which in no way exhaust
the possibilities) all resolve the ambiguity of the linguistic
meaning of 25. We may now observe that the passive

26. His mother was missed by him.

may only be used in contexts (ii) and perhaps (iv). In short, the
active and passive forms of this sentence present significantly
different constructs; the passive form of this sentence is not
ambiguous in the way that the active form is. This is not a
surprising result: the passive is a marked form, and the marked
form has normally a lesser scope than its corresponding unmarked
form.

The confusion of different sentences that are supposed to have
'the same meaning' is perpetuated in truth-conditional semantics
as presented, for example in Kempson (1977:28ff). As Lyons has
pointed out (1981:120-121) sentences with quite different thematic
material

27. I have not read this book.

28. This book I have not read.

29. It is this book (that) I have not read.

30. This book has not been read by me.

may 'all have the same truth-conditions and therefore the same
propositional content.' In the following pages he shows that other
elements 'cannot be satisfactorily formalized within the framework
of standard propositional logic' (p.141). Concerning questions,
for example, he shows that traditional ways of formalizing them
are hopelessly inadequate, and that the only way to deal with them
in truth-conditional semantics is to identify them, semantically,
with the set of declaratives. This, he comments, 'is hardly the
approach that would be chosen by someone who was not determined,
for metatheoretical reasons, to force the whole of sentence-meaning
into a truth-conditional straightjacket' (1981:136).

There is much more to be said (although it is outside the
scope of this article) on truth-conditional semantics. No one
seems to have noticed, for example, that one has to know the meaning
of a sentence <u>before</u> one can evaluate its truth conditions, and

that to <u>base</u> sentence meaning on truth conditions is therefore to put the cart before the horse.

Since I have dealt elsewhere with the whole question of the propositional meaning of sentences (Hewson 1978), showing that what has the form of a single sentence may represent hundreds of different propositions, I shall make only one brief final comment here on the question of sentential reference. In the normal use of language, sentences belong to a time and place, to a context of situation, from which they can be abstracted only at the risk of distortion or misrepresentation. This is most obvious when one comes to translate: there is no way that the sentence <u>I fixed the board</u> can be translated into French unless one is informed about the situation in which the sentence is used. We are even entitled to wonder whether such a sentence has any meaning at all (apart from its individual lexical elements) if it has no context of situation.

6.   <u>Conclusions</u>

The following main conclusions may be drawn: (1) Information is the relationship between an observable signal (a sense-datum available to all, regardless of language) and the message it conveys. This relationship is two-way: the information is the conditioner of the signal, and the signal is the symptom of the information, and (2) there are three different aspects of linguistic meaning that have to be distinguished, namely underlying meaning, surface meaning, and reference.

Underlying meaning is that to be found in the permanent system of contrasts stored in the mind of the speaker at the subconscious level, out of awareness. The relationship is between morpheme and sememe, and it is a two-way relationship: each element is a reflex of the other. As Penfield showed, this reflex can be interrupted by the application of the neurosurgeon's electrode to certain areas of the cortex during surgery. Meaning at this level is not directly observable, but it is reconstructible from observation of the range of usage of each concept at the surface level, in discourse.

Surface meaning, in contrast to the permanent and subconscious nature of underlying meaning, is both temporary and conscious. Most surface meaning is recorded temporarily in the short term memory, and then forgotten. (The exceptions are those utterances that are written down or otherwise recorded for posterity). Surface meaning is the product of interaction within the collocation and within the context of situation, and consequently demonstrates a

continuing capacity for variation, each temporal usage being very
often different from the one that precedes it and the one that
follows it. The relation is between allomorph and alloseme, and
it is also two-way, since it works for both speaker and hearer.
The fact that such meaning is conscious and observable makes it
possible to translate the message so presented into other languages.

Referential meaning is the relationship momentarily established
(for purposes of communication, for example) between a linguistic
sign-significate combination on the one hand and a mental percept
or memory on the other. The purpose of reference is to convey
information about the experiential universe. Reference, being
intentional, is thereby unidirectional; were this not so, falsehood
and lying would be impossible through the medium of language, since
then the direct perception of experience would impose its own
linguistic message. Referential meaning is the only aspect of
linguistic meaning that is immediately concerned with truth values.

Information, if we may come full circle in our conclusions, is
the distinctive (negentropic) form of our mental percepts (which
they have whether they are referred to or not), and regardless of
what language is used to name them. Such negentropic information
is ultimately independent of language, but is nevertheless
unquestionably exploited by human languages in the development of
concepts. The whole question of the iconicity of language, that
is, of how languages often directly reflect the negentropic
information of the universe has in fact been pursued in recent
years with very great interest (e.g. Haiman 1985). And the attempts
of Anna Wierzbicka to determine semantic primitives (1972) and
analyse conceptual systems (1980) is in turn based on very fine
observation and discrimination of informational distinctions.
Relating the conceptual distinctions of language to the informational
patterns of experience is certainly a profitable avenue for semantic
studies, and one that will undoubtedly be extensively investigated
and exploited in the years ahead.

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REFERENCES

BAZELL, C.E. 1954. 'The sememe.' Litera (Istanbul) 1:17-31.
      (Reprinted in Hamp et al 1966:329-340).

BLACK, Stephen. 1969. Mind and Body. London: W. Kimber.

BLOOMFIELD, Leonard. 1933. Language. New York: Holt.

CHERRY, Colin. 1964. On Human Communication. Cambridge, Mass.:
      MIT Press.

CHOMSKY, Noam. 1965. Aspects of the Theory of Syntax. Cambridge,
      Mass: MIT Press.

FIRTH, J.R. 1935. 'The technique of semantics.' Transactions of
      the Philosophical Society: 36-72. (Reprinted in Papers
      in Linguistics 1934-51, London: Oxford University Press,
      1957).

FRIES, Charles C. 1954. 'Meaning and linguistic analysis.'
      Language 30:57-68.

GARVIN, Paul. 1964. On Linguistic Method. The Hague: Mouton.

GUILLAUME, Gustave. 1964. Langage et science du langage.
      Paris: Nizet; Québec: Presses de l'Université Laval.

----------. 1971. Leçons de linguistique I. Paris: Klincksieck;
      Québec: Presses de l'Université Laval.

HAIMAN, John. 1985. Iconicity in Syntax. Amsterdam: Benjamins.

HAMP, Eric P., Fred W. Householder & Robert Austerlitz. 1966.
      Readings in Linguistics II. Chicago: University of Chicago
      Press.

HEWSON, John. 1978. 'Underlying meaning, surface meaning, and
      reference.' In Wolfgang U. Dressler et al (eds.),
      Proceedings of the Twelfth International Congress of
      Linguists, 188-90. Innsbruck: Innsbrucker Beiträge zur
      Sprachwissenschaft.

HJELMSLEV, Louis. 1935. La catégorie des cas. Aarhus:
      Universitetsforlaget. (Reprinted Munich: Wilhelm Fink,
      1972).

----------. 1969. <u>Prolegomena to a Theory of Language</u>.
        (Translated by Francis J. Whitfield). Madison, Milwaukee
        & London: University of Wisconsin Press.

JAKOBSON, Roman. 1936. 'Beitrag zur allgemeinen Kasuslehre.'
        <u>Travaux du Cercle Linguistique de Prague</u> 6:240-88.
        (Reprinted in Hamp et al 1966:51-89).

JOOS, Martin. 1964. <u>The English Verb: Form and Meanings</u>. Madison,
        Milwaukee & London: University of Wisconsin Press.

---------- (ed.) 1966. <u>Readings in Linguistics I</u>, 4th. edition.
        Chicago: University of Chicago Press. (1st edn.,
        Washington: Am. Coun. of Learned Soc.,1957).

KEMPSON, Ruth M. 1977. <u>Semantic Theory</u>. Cambridge: Cambridge
        University Press.

LYONS, John. 1968. <u>An Introduction to Theoretical Linguistics</u>.
        Cambridge: University Press.

----------. 1978. <u>Semantics I and II</u>. Cambridge: Cambridge
        University Press.

----------. 1981. <u>Language, Meaning and Context</u>. London: Fontana
        Paperbacks.

McCAWLEY, James D. 1967. 'The role of semantics in a grammar.'
        In Emmon Bach and Robert T. Harms (eds.), <u>Universals in
        Linguistic Theory</u>, 125-169. New York: Holt, Rinehart
        and Winston.

MALINOWSKI, Bronislaw. 1923. 'Supplement I.' In Ogden and Richards
        1923:296-336.

OGDEN, C.K. & I.A.Richards. 1923. <u>The Meaning of Meaning</u>. London:
        Routledge and Keagan Paul.

PENFIELD, Wilder & Lamar Roberts. 1959. <u>Speech and Brain
        Mechanisms</u>. Princeton: Princeton University Press.

SAPIR, Edward. 1921. <u>Language: An Introduction to the Study of
        Speech</u>. New York: Harcourt Brace and World.

SAUSSURE, F. de. 1916. <u>Cours de linguistique générale</u>.
        Paris: Payot.

STERN, G. 1931. <u>Meaning and Change of Meaning</u>. Göteborg.

TWADDELL, Freeman. 1935. <u>On Defining the Phoneme</u>. Language
        Monograph 16. (Reprinted in Joos 1966:55-80).

ULLMANN, Stephen. 1957. <u>The Principles of Semantics</u>, 2nd edition.
        Oxford: Blackwell. (1st edition 1951).

WIERZBICKA, Anna. 1972. <u>Semantic Primitives</u>. Frankfurt: Athenaum.

----------. 1980. <u>Lingua Mentalis</u>. New York: Academic Press.

WITTGENSTEIN, L. 1953. <u>Philosophical Investigations</u>. Oxford:
        Oxford University Press.