

University of St Andrews



Full metadata for this thesis is available in
St Andrews Research Repository
at:

<http://research-repository.st-andrews.ac.uk/>

This thesis is protected by original copyright

THE HISTORICAL DEVELOPMENT

OF THE NOTION

"LINGUISTIC SIGN"

GLORIA J. RITSON



Th 7081

PREFACE

I hereby declare that I have composed this dissertation myself, that the work of which it is a record is entirely my own, and that it has not been accepted in any previous application for a higher degree.

CANDIDATE

The date of my admission as a candidate for the degree of M. Litt. under the Resolution of the University Court, 1967, No. 9, was October 1st, 1971.

PREFACE

I hereby declare that the conditions of the Resolution of the University Court, 1967, No. 9, and the regulations attached to the said Resolution, have been fulfilled by the candidate.

SUPERVISOR.

TABLE OF CONTENTS

| | | |
|-----------|--|-----|
| Chapter 1 | ANCIENTS AND MEDIAEVALS | 1 |
| Chapter 2 | VARIATIONS ON A THEME | 46 |
| Chapter 3 | DE SAUSSURE'S SIGN THEORY -PROGRESS OR REVOLUTION? | 73 |
| Chapter 4 | SIGNS AS PURE VALUES - LINGUISTIC ALGEBRA? | 98 |
| | GLOSSARY OF GLOSSEMATIC TERMINOLOGY AND SYMBOLS | 131 |
| Chapter 5 | FURTHER DIRECT DEVELOPMENTS FROM DE SAUSSURE'S SIGN THEORY - EUROPEAN LINGUISTICS | 136 |
| Chapter 6 | EUROPEAN AND AMERICAN LINGUISTICS CONTRASTED - HAS SIGN THEORY A RÔLE TO PLAY IN AMERICAN LINGUISTICS? | 171 |
| Chapter 7 | IS A SATISFACTORY NOTION "SIGN" POSSIBLE IN LINGUISTICS? | 228 |
| | BIBLIOGRAPHY | 289 |

"In the beginning was the Word, and the Word was with God, and the Word ^{1.} was God."

This celebrated quotation, which begins the Gospel according to St. John, also applies very aptly to the situation which marks the start, as far as we can tell, of language study among the ancient Greeks. The study of language was originally inseparable from that of philosophy and religion. One's view of the universe, and of the character and role of the gods, determined one's view of everything else, including language.

Our earliest sources of information about the linguistic views of the early Greeks come from extant fragments of the "Pre-Socratic" philosophers, and from references made to them by later writers. The question which interested them the most developed into what is known as the "nomos"/"phusis" controversy. This controversy raged for a long time between philosophers who thought that 'names' are given to things by convention, and those who thought that 'names' somehow express the INTRINSIC NATURE ("phusis") of the 'thing' they name. ^{2.}

Thales, for example, ^{3.} (Sixth century B.C.) divided the universe into two realms - material (that of 'things') and immaterial (that of "phusis") ^{4.} Hereclitus (around 500 B.C.) maintained that words embody the nature of things. Hence (material) 'letters' ^{5.}

1. The Gospel according to St. John, Chapter 1, verse 1. (Revised Standard Version of the Bible). 2. Ogden and Richards (The Meaning of Meaning, p. 31), writing about Thales, calls "Phusis" a stuff of that attenuated sort which has always been attributed to souls and ghosts. "Phusis", as opposed to the material world, is INTANGIBLE and INVISIBLE. 3. cf Ogden and Richards, op.cit.p.31. 4. See note 2. above.

/'letters'^{5.}

are vehicles of expression for the (immaterial) 'nature' ("phusis") of the phenomena for which they stand. For Heraclitus, language was the most constant phenomenon in a world of perpetual change. This doctrine is known philosophically as the Heraclitian doctrine of 'perpetual flux'. In the soul, the word ("logos") reigns as a supreme law,^{6.} i.e. an orderly process of change.^{7.} 'Laws of nature' and language were, in his view, inseparable.^{8.} Therefore, as things change, names change. ETYMOLOGY was therefore very important for him. Plato/^{9.}

5. 'Names' were regarded primarily as WRITTEN words, not combinations of speech sounds. 6. Freeman (Ancilla to the Pre-Socratic Philosophers, p. 32) quotes him (in translation) as saying: "The soul has its own law". The word translated here by law is LOGOS (normally meaning "word", "proposition" in ancient Greek). A translation given (ibid. p. 39) of a fragment from Epicharmus of Syracuse (also 5th century B.C.) bears out what seems to have been the prevailing view at that time - "logos" was a kind of all-powerful law. In primitive societies, and even, in connection with superstition, in our own, the recognition of THE POWER OF WORDS has been evident; e.g. members of primitive tribes in many parts of the world do not like to reveal their NAME - lest it give the person who knows it power over them. Epicharmus is quoted as saying: "The law" ("logos") steers mankind aright, and ever preserves them. Man has calculation, but there is also the divine logos. (cf note 1 above). But the human logos is sprung from the divine logos". 7. For Heraclitus, nothing in the universe was not in a perpetual state of change. Language, for him, was the phenomenon nearest to a state of stability - its change was, at least, ORDERLY. 8. L. Lersch (Die Sprachphilosophie der Alten) says of Heraclitus: "...so finden wir, dass er die Wörter für unmittelbare, von der Natur selbst ausgegangene Abbilder der Gegenstände ansah ... für Abbilder die ... in objektiver Notwendigkeit der Wirklichkeit entsprechen".

9.
/Plato

(4th century B.C.) discusses this in the earliest complete work on language known to us, the Kratylus. The Kratylus takes the form of a discussion between three characters - Kratylus, Hermogenes and Socrates. Kratylus puts forward the views of the Herecleitians, i.e. that there is a 'natural' relationship between 'names' and the phenomena they name. Socrates questions him closely, in order to discover what justification there is, if any, for this view, and for the etymologies suggested on the basis of it (ultimately, of course, on the Herecleitian doctrine of 'perpetual flux'). Hermogenes puts forward the opposing view, that the relationship between names and 'things' is entirely conventional. He, also, is questioned by Socrates and made to attempt to justify his views. Finally, Socrates tries to settle the dispute, and settles for a middle line between the two viewpoints. He concluded that there must have been a first name-giver, but he gave names only according to his own conception of things, which could have been erroneous. Knowledge of 'things' is "not to be derived from names".¹ Original name-givers gave the names under the impression that all things were in motion and flux, which was, Socrates concluded, "their sincere but mistaken opinion".² Plato nowhere states explicitly what his own personal views on the subject of the "nomos"/"physis" controversy. This fact has led to some amount of controversy in modern days. Some people, like A. Nehring,³ attributed Herecleitian sympathies to Plato. But the views expressed by Socrates in what is, after all, the conclusion of the work, led others to feel that his sympathies were rather on the other side./

9. Kratylus 425.

1. Kratylus 439. 2. *ibid.* 439. 3. see p.5 below

side./

The most generally held view is that he was seeking to satirize the rather ridiculous etymologies put forward by Heraclitus on the basis of a 'natural' relationship between names and 'things' named. Plato gives a report of an attempt^{4.} to endue individual 'letters' with 'meanings' essential to the nature of the 'things' for which they stand. For example, "rho" (ρ) is said to represent MOTION.^{5.} So it appears in "rhoein" (to flow). Plato sums this Heraclitian attitude up: "That objects should be imitated in letters and syllables, and so find expression, may appear ridiculous..... but there is no better principle to which we can look for the truth of first names".^{6.} If words are truly descended to us via a series of etymologies, the series of etymological processes must have had a beginning. This beginning happened, when someone named 'things' for the very first time.^{7.} Such 'original names' were held to be the source from which all the others descended.

The relationship between a sign and the thing it signifies is, then, according to Heraclitian philosophy, very fluid, perpetually liable to change, i.e. to engage in further derivation processes from 'first Names'. But it is difficult for us to assess what the early Greeks, including Plato, thought about the INTERNAL STRUCTURE of a sign, i.e. that aspect of signs which corresponds to the relationship between entities such as "signifiant"^{8.} ("expression") and "signifie" ("content"), as proposed by F. de Saussure.

Since, by talking continually about 'letters' signifying 'things; they/

4. Kratylus, 425 5. - because rapid tongue movements are involved in its pronunciation. 6. "prōta onomata". 7. Who this 'someone' was is open to dispute among Plato's three participants in the discussion (for details see below). However, the strongest claims put forward are in support of a 'lawgiver', probably a god. 8. cf Chapter 3 p.73 below

they/

do not distinguish "sign" and expression of a "sign", it would appear that they did not consider the sign as having an internal structure at all. The outward phenomenon, usually written letters, expressing a 'thing' in the world, was, for them, the actual linguistic sign.

With regard to these 'letters', however, and their proposed meaningful connection with outside phenomena, A. Nehring writes:^{9.} "Plato^{1.} solved this problem^{2.} in a truly ingenious way by making the "phusei" character an ideal postulate of word CREATION.^{3.} ... He realized that the parallelism between names and named that is involved by the phusei theory is possible only if the word-creator tries to depict the character in the name he creates for the object". Nehring considers his etymologies worthless,^{4.} but claims that "... even so they show Plato's clear understanding that a conceptual depiction and characterization of the named object is contained in the etymological SENSE^{5.} of the word."

However, further points made by Plato in the Kratylus do not substantiate Nehring's views. In a question and answer session with Hermogenes, Socrates tries to assess how much of a case can be made out in favour of the view that names and 'things' are in an arbitrary relationship with each other.

If, for example, a name is really in a 'natural' relationship with the 'thing' it names, it would in some way have to be an image of that 'thing'. But even then its qualities cannot be the exact counterparts of the named 'thing', since, if they were, the name would no longer be an image.

9. In "The Problem of the Linguistic Sign" - Acta Linguistica Vol. 6. pp 7-8 A footnote on p.3 refers us, too, to his article: "Plato and the Theory of Language" - Traditio Vol. 3. p. 22ff.

1. i.e. the "nomos"/"phusis" controversy. 2. Nehring has italics. Here, "phusis" is represented in the Greek dative case, meaning "by nature". "The "phusei" character" is presumably the ability of signs to signify phenomena 'by their nature'. 3. Nehring's italics. 4. So, probably, does Plato. He includes them in the case made out by Kratylus in the discussion for the Hereclitian view in order to demonstrate their worthlessness as etymologies. 5. For Nehring's rejection of de Saussure's doctrine of "l'arbitraire du signe" (cf Chapter 3, p.78) on the basis of a similar view, see Chapter 5, p.140.

Socrates asks: "Do you not perceive that images are very far from having qualities which are the exact counterparts of the realities which they represent?" He concludes: " ... how ridiculous would be the effect of names on things, if they were exactly the same with them".^{1.}

Moreover, a 'thing' is still signified by a name, even when some of the letters considered most appropriate for that 'thing' are missing. So, declares Socrates, "... you must ... no longer maintain that a name is the expression of a thing in letters and syllables".^{2.} For example, if the name, including the letters comprising it, must be like the 'thing' named, why does Greek σκληροτης (sklerotes), which means "hard", contain a lambda ("λ")?^{3.} Lambdas were held to 'signify'⁴ softness.

Such considerations lead directly to the conclusion that "^{5.} the signification of words is given by custom and not by likeness ..". But Socrates adds regretfully: "that although" ... custom and convention must be supposed to contribute to the indication of our thoughts",^{6.} it would be good "if we could always, or almost always, use likenesses, which are perfectly appropriate",^{6.} since "this would be the most perfect state of language".^{6.} "The opposite", i.e. convention, is, for him, "the most imperfect".^{6.} Views in favour of a conventional relationship between a name and the 'thing' named had been expressed before Plato's time, and were doubtless known to him./

1. Kratylus 432. 2. ibid. 433. 3. The letter in the Greek alphabet corresponding to English "l". 4. ibid. 435. 5. ibid. 435. The argument leading to this conclusion runs as follows: if one uses lambda, signifying 'softness' in a word signifying 'hardness', "then you have made a convention with yourself, and the correctness of a name turns out to be convention, since letters which are unlike are indicative equally with those which are like, if they are sanctioned by custom and convention." 6. ibid. 435.

him./

One such view is that of Parmenides, who wrote his main works ^{1.} round about 475 B.C. He was an opponent of Heraclitus. For him, "logos" is not a law reigning supreme in the human soul, but simply the embodiment of human reason. This being so, man has no authority higher than himself on which to depend for names. They are given arbitrarily by himself, not by some divine being. According to Parmenides, 'names' of qualities and functions, such as "Becoming and Passing Away, Being and Not Being, change of position, change of colour", ^{2.} are "merely words, names given arbitrarily by men, representing things not conceivable by the mind, and therefore not to be stated in words if they were conceivable". ^{3.}

The consequences of this outlook for Parmenides are made clear earlier in the same fragment: "To think is the same as the thought that It Is; for you will not find thinking without Being, in (regard to) which there is an expression. For nothing else either is or shall be except Being, since Fate has tied it down to be a whole and motionless ..". ^{4.}

Bertrand Russell translates part of the same fragment in the following way: "The thing that can be thought and that for the sake of which the thought exists is the same; for you cannot find thought without something ^{5.} that is, as to which it can be uttered". Russell summarizes Parmenides' argument as follows: "... if language is not just nonsense, words must mean something, and in general they must not mean just other words, but something that is there whether we talk of it or not". ^{6.} In other words, if names are to refer to anything other than to other words,/

1. As far as we can tell from the fragments of them that are extant. My evidence is based upon fragments translated by K. Freeman in her Ancilla to the Pre-Socratic Philosophers (from H. Diels - Fragmente der Vorsokratiker) and commented upon by her in The Pre-Socratic Philosophers; also upon certain fragments translated by B. Russell in The History of Western Philosophy ^{2.} of K. Freeman - The Pre-Socratic Philosophers, p. 148. She comments: "The utmost has been done to present a Being robbed of all sensible qualities and functions". ^{3.} ibid. p. 148. My underlining. The relevant fragment is translated by Freeman in Ancilla to the Pre-Socratic Philosophers, p. 44: "... all things that mortals have established, believing in their truth, are just a name: Becoming and Perishing, Being and Not-Being, and Change of position, and alteration of bright colour". ^{4.} Freeman - Ancilla, p. 44. ^{5.} Russell, op.cit. p. 67. ^{6.} ibid. p. 67

words,/

the 'thing' referred to must have some sort of (empirical) existence.

Parmenides declares: " ... it is neither expressible nor thinkable that

What-Is-Not Is".^{7.} This means that names of negations (e.g. 'no man')

and of purely imaginary phenomena are not really names at all. They

refer only to other words. As Russell puts it, the "noise" 'Hamlet'

is not really a name, since nobody is really called Hamlet. Unicorns

are purely imaginary phenomena; therefore "... all statements about

unicorns are really about the WORD "unicorn", just as all statements

about Hamlet are really about the WORD "Hamlet".^{9.}

Parmenides also opposed Heraclitus on the question of 'perpetual flux'. For him, names have constant meanings, and therefore cannot be

made the subjects of etymologies. Russell comments: " ... perpetual

change in the meanings of words is concealed by the fact that, in general

the change makes no difference to the truth or falsehood of the propositions

in which the words occur".^{10.} Parmenides "contends that, since we can

now know what is commonly regarded as past, it cannot really be past, but

must, in some sense, exist now".^{11.} Thus, Russell concludes, "Parmenides

has drawn a false metaphysical conclusion from language".^{11.} /

7. Freeman, Ancilla, p. 43. 8. Russell, op. cit. p. 67. 9. ibid.p.68
 10. ibid. pp. 68-9. My underlining. 11. ibid. p. 69. Although
 nothing in the text of the fragments suggests explicitly that Parmenides
 confused language and propositions (which are expressed in language), Russell's
 attempted explanation of his conclusions appears reasonable. If it is
 indeed correct, then Parmenides has been emulated in modern days by N. Chomsky
 (cf Chapter 6 below), who regards linguistic ("surface") structure as being
 in some way derived from propositional structure ("deep" structure.)
 However, Chomsky's conclusions are very different from those of Parmenides.
 The 'constancy' of propositional structure, in contrast to all the infinite
 variations of "surface structure" in different languages, led him rather
 to the belief that there are 'universals' of deep structure common to all
 languages. cf Chapter 6. pp.28-9 below for further comment.

11.
language". /

Democritus (writing round about 420 B.C.) supported Parmenides.^{1.}
He believed that language came about "τυχη ἄλλ' οὐ φύσει" ('by chance, not by nature'). Since, according to his observations, the 'same' word often had 'different' meanings, and the names of things 'sometimes change', he concluded that language cannot be regarded as a perfect image of the intrinsic nature ('physis') of anything in the extra-^{2.} linguistic world.

The Sophists, who, like Heraclitus, had considerable influence on Plato, held lengthy discussions in their Schools about the nomos/physis controversy.^{3.} Particularly outstanding among them were Protagoras and Gorgias (both of whom were particularly active in the latter half of the fifth century B.C.). They, in particular, took Parmenides' arguments further. Protagoras is famed for his doctrine: Of all things the measure is man, of things that are, that they are, and of things that are not, that they are not."^{4.} /

1. In contrast, Prodicus and Hippias (both of whom lived in the latter half of the 5th century B.C.) supported Heraclitus. Prodicus studied endless minute distinctions of meaning, as found in near synonyms. Lersch says of him: "Ich vermute, dass er annahm, dass sie "(i.e. 'names')".... durch ihr eigenstes Wesen (phusei) jedem Dinge, ja jeder Modification eines Dinges eine treffende Bezeichnung nachgebildet habe," Hippias was, like Heraclitus, an etymologist. Lersch informs us that he was particularly interested in establishing 'parts of speech', "aber so, dass er ihr natürliches Verhältniss zu dem durch sie zu bezeichnenden Begrifflichen erörtert zu haben scheint". The quotations come from Die Sprachphilosophie der Alten, Part 1, p. 17 and p. 19 respectively.

2. Summarized from G. Murray - Greek Studies, pp. 177-8. 3. We know this mainly from a report by Xenophon. cf Lersch, op.cit. Part I, p. 21 for details. Hippias (see above - p. 5, note 1) is an example of a Sophist who supported the 'physis' side of the controversy. 4. Quoted in translation in Freeman - Ancilla, p. 125.

not."^{4.} /

Just as for Parmenides, objects 'exist' only if they are in some way perceptible; but the senses, not human reason, are for Protagoras the only means of 'perceiving' them.^{5.} Freeman comments: "... each individual's perceptions are immediately true for him at any given moment, and ... there is no means of deciding which of several opinions about the same thing is the true one."^{6.} She gives an example: "All the appearances of matter are 'true', for they are all inherent in matter; but the person perceiving them seizes on that aspect which his condition enables him to perceive, and on no other. If he is well, the wind feels warm to him: if ill, it feels cold: ... and no question of 'truth' arises. This reduces all 'knowledge' to sensation."

This outlook placed language 'names' under restrictions regarding reference similar to those envisaged by Parmenides,^{1.} except that, for Protagoras, the one and only criterion for deciding what language can and cannot express was sensual perception./

5. Parmenides and his followers rejected the evidence of the senses in favour of that of the intellect. Freeman (The Pre-Socratic Philosophers, p. 149) comments that Aristotle produces evidence that they "conceived of no existence other than the corporeal", yet realized that there must be an unchanging reality such as they describe if knowledge and thought are to be possible". They therefore denied the validity of sense-perception, and postulating a corporeal reality denuded of sensible qualities, arrived at a surd". 6. *ibid.*, p. 348.

7. *ibid.* pp. 348-9.

1. See above.

perception.

In his view, names can be related to things only through such perception. They cannot be related to anything not perceptible by the

2. senses In fact, for him, nothing exists unless it is actually
3. being perceived.

It was Gorgias, however, who particularly developed these ideas about 'existence' in relation to language. In his essay On Being, he starts by arguing that "nothing exists".^{4.} This applies to both "Being" and "Not-Being"^{3.} "Not-Being" cannot exist, since "if it did it would be at the same time Being and Not-Being, which is impossible".^{4.} "Being" cannot exist, since, if it did, it "must be either everlasting, or created, or both".^{4.} Gorgias argues that if it were everlasting, it would be boundless; "if boundless, it has no position ('is nowhere'); if without position, it does not exist."^{4.} Similarly, "Being cannot be created; if it were, it must come from something, either Being or Not-Being, both of which are impossible."^{4.} The next step of his argument is to say that: "If anything exists, it is incomprehensible".⁵ /

2. This view is illustrated by Protagoras' attempt to formulate 'parts of speech'. He relates his categories to sensually perceptible attributes of people, or to things, not to abstract qualities. He divides "ὀνόματα" (nouns) into three classes: male, female and 'things' ("ἄρρενα", "θηλεα" and "σκευη"). Words with 'feminine' meanings but 'masculine' endings and vice versa) were regarded as 'irregularities' to be abolished. Since he shared the view that names and 'things' were linked by convention, not by nature, he believed that the gender of such 'oddities' could be changed by agreement ("κατὰ συνθήκην"). Examples are "πηνελυξ" ('helmet') and "μηνις" ('wrath') which, despite their feminine endings, are associated in their meanings with men rather than women, and should therefore, in his view, bear masculine endings. cf. Murray, *opcit.* p. 177 for further details. 3. The insistence that only sensually perceptible phenomena should be taken into consideration prefigures the 'empiricists' of the 17th - 19th centuries, such as Berkeley, Hobbes. cf Chapter 2 below. A.B. Johnson (1836), however, makes the criterion of sensual perception a criterion for actual existence of phenomena. cf Chapter 2, p. 59 below, especially note 6; i. e. he goes to the same extreme as Protagoras and Gorgias. 4. These quotations are taken from Freeman: Ancilla, p. 128 5. *ibid.* p. 129. His meaning here must surely be "Even if anything existed, it would be incomprehensible; otherwise he would be contradicting his first premiss: 'Nothing exists'.

incomprehensible".^{5.} /

He backs this up by the statement: "If the concepts of the mind are not realities,^{6.} reality cannot be thought".^{5.} He continues: "... if the thing thought is non-existent, then non-existence is thought about; this is equivalent to saying that 'existence, reality, is not thought about, cannot be thought".^{6.} The third step in the argument makes it relevant to language: "If anything is comprehensible, it is incommunicable".^{6.} He maintains that there is "no interchange"^{6.} between operations of the various senses: "... sense perceptions cannot communicate with one another".^{1.} He continues: "... that with which we communicate is speech, and speech is not the same thing as the things that exist, the perceptibles; so that we communicate not the things which exist, but only speech; Hence, since the objects of sight cannot be presented to any other organ but sight, and the different sense-organs cannot give their information to one another, similarly speech cannot give any information about perceptibles."^{2.} "Therefore", he concludes, "if anything exists and is comprehended, it is incommunicable".^{3.}

We can only conclude from this that, in his view, language must be a useless tool, since its signs ('names') as such are considered to be incapable of conveying information about anything outside themselves.

6. 'Concepts' are not regarded as 'realities' because for Protagoras all reality must be perceptible to the senses. Quotations come from *ibid.* p.129 My underlining.

1. Freeman - Ancilla, p. 129. 2. *ibid.* p. 129. My underlining.

3. *ibid.* p. 129. What he means by this must be: 'Even if anything existed and were comprehensible, it would be incommunicable'. Otherwise he is in contradiction with his preceding declarations that nothing exists and nothing is comprehensible.

themselves/

Later scholars reacted against this extremely negative approach. Its one important contribution to the "nomos"/"physis" controversy is its strong insistence that language can communicate nothing about the intrinsic nature ('physis') of anything in the extralinguistic world. Perhaps it was Gorgias' close association of this view with the extreme assertion that nothing really exists at all which prevented Plato from coming down entirely on the "nomos" side of the controversy. Hermogenes, putting the case for the opponents of Herecleitus is also 'corrected' by Socrates.^{4.} But another factor which prevented Plato from declaring clearly for one side or the other is his own theory of ideas. Russell sums this up: "... whenever... individuals have a common name, they also have a common 'idea' or 'form'.^{5.} For example, "... particular beds are unreal, being^{6.} copies of the 'idea', which is the one real bed, and is made by God". 'Names', therefore, ideally, express, not the essence of the 'thing named' but its 'form' ("εἶδος")^{7.} conceived as above. Plato is very reluctant to admit convention as the sole basis of the relationship between names and 'things' named; but he is equally reluctant to support the idea of a 'natural' relationship in view of his objections to some of the more ridiculous conclusions drawn, and etymologies proposed, by Herecleitus.^{8.} /

4. Kratylus 435 ff. 5. Russell, op. cit. p. 137. He bases his account on Plato's exposition of this theory in the last book of the Republic
 6. ibid. p. 137. My underlining. 7. Dahlman (Varro und die Hellenistische Sprachtheorie, p. 5) explains: "... das über der einzelnen Erscheinungsform, die das Wort benennt, stehende EIDOS des Dinges". 8. See above. An example of such an 'etymology' is that of "Poseidon" (Neptune, the sea-god). This 'compound' word must be broken into its components "posi" (for the feet) and "desmos" (a fether). From this, a typical Herecleitian conclusion would be that the original name-giver assigned the name "Poseidon" to the sea god because he thought that walking through the sea would be difficult for him. cf. F.P. Dinneen - An Introduction to General Linguistics, p. 75.

Herecleitus /

In the Sophists and Theatetus, Plato deals with the relationship between 'words' and thought. For him, speaking is " ... manifesting

one's thought by the voice with verbs and nouns, imaging an opinion in the stream which flows from the lips".^{1.} Language is " ... the

image or expression of the mind in speech".^{2.} Elsewhere,^{3.} he appears

to want to identify 'thought' with 'speech':^{4.} "Are not thought and speech the same, with this exception, that what is called thought is the unuttered conversation of the soul with herself?". He continues:

"But the stream of thought which flows through the lips and is audible is called speech".^{5.} So, in fact, for Plato the only difference between 'speech' and 'thought' is that speech is audible and thought is

not. In modern day terminology, we might say that Plato considered thought to be (whole) linguistic signs not actually realized in speech.

For Plato, as for all Greek thinkers, to my knowledge, before the Stoics,^{6.} there was no question of a twofold entity 'linguistic sign' as envisaged by de Saussure, although from Aristotle onwards the term $\sigma\eta\mu\epsilon\iota\omicron\nu$ ('semeion') meaning "sign" was used with reference to meaningful units of language.

A 'sign' was simply a sequence of sounds endued with a 'meaning' in that it pointed to something outside itself; the 'meaning', however, was not,

as for de Saussure,^{7.} an integral part of the actual sign. Concepts in the mind were, for de Saussure, the 'content' of a linguistic sign; for Plato, they were unuttered linguistic signs, complete already in themselves.

Plato also recognized that 'words' do not merely serve as 'names' of 'things'; they have the added property of combining in various ways to form DISCOURSE.^{8.}

1. Theatetus 206. This statement is made in the context of an attempt made by Plato to define the term "explanation". 2. ibid. 208. 3. Sophists section 263. 4. It is possible that the work of Humboldt (cf Chapter 2, below), Sapir and Whorf (cf Chapter 6 below) would have interested Plato if he had lived in more modern days. 5. ibid. 263. 6. See below. 7. See Chapter 3 below. 8. Sophists 262.

DISCOURSE. / ^{8.}

Some signs freely combine with each other; others do not. Discourse always consists of the combination of a noun with a verb, not of a noun with a noun or a verb with a verb. Nouns and verbs were distinguished on semantic grounds; a noun was, in contrast to a verb, always the name of a 'thing'. This is, as far as one can tell, ^{9.} the first recognition that signs have the property of combining in syntax. Such a combination, as opposed to instances of a noun or a verb in isolation, had, for Plato, ^{10.} the added properties of affirmation and of being 'true' or 'false'. Aristotle (mid fourth century B.C.), a pupil of Plato who later developed some, and rejected others, of Plato's ideas, was in no doubt as to which side of the "nomos"/"physis" controversy he supported. Words are, for him, related to extralinguistic phenomena entirely "κατὰ συνθήκην" ('kata syntheken') i.e. "by agreement" ^{1.} He differed from Plato in several important respects. Firstly, words do not stand for 'things' but for 'passions' of the 'soul'. ^{2.} These "passions" - "πάθηματα τῆς ψυχῆς" ('pathēmata tēs psychēs') are, for Aristotle, 'SIMILITUDES' of actual 'things' - i.e. a sort of mental concept. For Aristotle, such concepts play the role of 'things meant' by signs; they are neither, as for Plato, unuttered linguistic signs in themselves, nor, as for de Saussure, the 'content' of linguistic signs. Speech sounds (or, alternatively, written symbols) constitute the actual signs ³ ("σημεῖα" - 'semeia') in Aristotle's theory. /

9. The work of thinkers previous to Plato is, as stated above, available to us only in isolated fragments. 10. Sophists 263-4. Plato does not however, make a clear distinction, as Aristotle does, between logic and grammar. 1. Aristotle, De Interpretatione, II, 1. 2. *ibid.* I. 1. 3. Aristotle regarded speech sounds as being inherently meaningful. This 'meaningfulness', however, applied, not to individual letters, but to the sound of words as a whole: "A noun therefore is a significant sound..." (*ibid.* II, 1.). Contrast with this the Heraclitian view, discussed and probably ridiculed by Plato, whereby a 'meaning' was attributed to each individual "letter" cf. p. 6 above

3.
theory. /

'Passions of the soul' are, in his opinion, identical everywhere, but speech sounds differ from place to place. 4. Aristotle's 'sign theory' can be summed up in the following two quotations: "Those things which are in the voice are symbols ..."; " ... passions of which these are primarily the signs" ('semeia'). 5.

Secondly, 'things' are for Aristotle a kind of 'thing signified by the thing signified' by signs. Because of such an indirect relationship between speech sounds ('signs') and extralinguistic reality, the units of language were not regarded as being always completely isomorphic with divisions established in the outside world. 'Substance' ("οὐσία" - 6. 'ousia') is divided by Aristotle into 'primary' and 'secondary' substances, on the basis of a species-genus relationship. 'Secondary substances derive their 'existence' from primary ones, i.e. from substance indivisible into further subspecies, e.g. "a certain man". Plato believed in 'primary' and 'secondary' names and Aristotle, rejecting this, believed in 'primary' and 'secondary' substances. In the case of the series deriving from "a certain man," Aristotle believed language to be actually isomorphic with 'reality' "a certain man" signifies the concept of a single individual; "man" signifies a class of individuals ('secondary substance'); "animal" signifies the genus of which man is a species ('secondary substance' removed one step further from its 'primary substance') and so on until the series is exhausted. 7.

4. *ibid.* I, 1. Spoken sounds are differentiated from written letters on the grounds that the written letters are, in turn, 'signs' signifying the spoken sounds, or the "passions in the voice", as Aristotle calls them. 5. *ibid.* I, 1. 6. Aristotle, Categories, V. 1ff. Any 'isomorphic' relationship between 'signs' and 'things' is, of course, only with 'things' as conceived according to Aristotle's theory of substance. 7. Probably it would reach exhaustion point at some very general term such as 'entity', which can be used with reference to any genus or species in the series. But Aristotle, having taken this series only so far as to be able to demonstrate what he meant by 'primary' and 'secondary' substances, never derived it back so far. Had he done so, he would have seen that very general terms such as 'entity' or even 'substance' itself would belong to a very large number of such series; i.e. Aristotle's various possible 'series' inevitably merge into one another if one goes far enough back in the 'derivation' process.

But, argues Aristotle, language is not isomorphic with reality in
 1. cases such as the statement: "A body is white". The term "white" can be predicted of the term "body", but the mental concepts signified by these two terms cannot similarly be predicated of each other. One can say: "A body is white", but one cannot similarly say: "A body is whiteness". In the same way, the 'thing' (whiteness) of which the concept "whiteness" is, in Aristotle's opinion, itself a sign, cannot be predicated of the 'thing' (a body) of which the concept "body" is, for Aristotle, similarly a sign. Hence Aristotle's conclusion is that the 'names' which one gives to 'things' should be as appropriate to them, and to their relationships with other 'things', as one can make them; i.e. 'names' should be as isomorphic as possible with the concepts and 'things' which they signify in the outside world, despite the impossibility of achieving complete isomorphism in practice.

Aristotle recognizes three 'parts of speech',^{2.} "onoma",^{3.} "rhema"^{4.} and/

1. Categories, 5. Further discussion of this general subject continues into section 7. 2. cf De Interpretatione, 2, 1-3, and Poetics, 20, 1-10 for details. 3. Defined by Aristotle as: "... a sound significant by compact, without time, of which no part is separately significant ..." De Interpretatione, 2, 1. 'Nouns' can be 'simple' or 'composite', but not 'compound' (see below), since no part of a noun can be 'separately significant'. 'Nouns' are conventional, since "... naturally there is no noun; but when it becomes a symbol, since illiterate sounds also signify something, as the sounds of beasts, of which there is no noun". By "illiterate", 'non-linguistic' sounds are meant. 4. Aristotle defines "rhema" ('verb') as "... that which, besides something else, signifies TIME: of which no part is separately significant; and it is always indicative of those things which are asserted of something else." De Interpretatione, 3, 1. Verbs, too, can be 'simple' or 'composite', but not 'compound', since "no part can be separately significant". (See below).

and/

5

syndesmos, which can be set out in the following way:

- (1) ONOMA ("ὄνομα ") (2) RHEMA ("ῥήμα") (3) SYNDESMOS ("συνδεσμος")

Corresponding,
in traditional
grammar, to:

| <u>noun</u> | <u>verb</u> | <u>conjunction</u> <u>preposition</u> |
|--------------------|-------------|--|
| " φωνη σημαντικη " | | " φωνη ἀσημη " |
| (phōne sēmantikē) | | (phōne asēmē) |

i.e.

MEANINGFUL SOUND

SOUND WITHOUT MEANING

There is an opposition between meaningful and non-meaningful parts of speech, i.e. between signs ("onoma" and "rhema") signifying mental images and non-signs which, possessing no such signification, have a merely syntactic function.

6

Aristotle recognizes a threefold division of signs which can be expressed as follows:

SIGNS

SIMPLE

COMPOSITE

COMPOUND

Indivisible
into smaller
meaningful
parts.

Divisible
into parts
which have
meaning
inside the
sign but not
apart from it.

Divisible into
parts which
have meaning
both inside and
apart from the sign.

5. The word "συνδεσμος" ('syndesmos') literally means 'that which binds', or 'ligament'. It corresponds roughly with "conjunction" in traditional grammar, but also includes prepositions. 'Syndesmos' is not mentioned in De Interpretatione, but occurs in Poetics 20, where it is defined (20,6) as: "a sound void of signification composed of more sounds than one but naturally adapted to produce one significant sound". Presumably the 'one significant sound' would be a phrase or sentence, which is meaningful and includes 'syndesmoi' (plural of 'syndesmos'). Mention is made in "Poetics" of a possible fourth part of speech distinguished by Aristotle, namely "ἄρθρον" ('arthron'), which literally means 'joint'. The nearest comparable item in traditional grammar would be article. Aristotle defines it: "... sound without signification, which neither impedes nor produces one significant sound naturally adapted to be composed from many sounds, both in the extremes and in the middle". (20, 7). But whereas "syndesmos" is mentioned in other works of Aristotle, "arthron" is explicitly mentioned and described only in this chapter of the Poetics, which some scholars classify as 'doubtful'; i.e. there are reasons for believing that it may not have been composed by Aristotle at all.

6. De Interpretatione, 2. 1 and 4. 1.

Only combinations of words in sentences have, for Aristotle, the added property of being either true or false.⁸ A minimum sign for him is a word in a sentence. Meaningful components of words do not have the status of signs in themselves; components of "compound" signs have the status of signs in themselves when occurring both in and apart from such signs; i.e. "compound" signs are combinations of words. Not all words in sentences (as opposed to "compound" signs) are signs, since "syndesmoi"⁹ are, in Aristotle's opinion, void of meaning.

Aristotle's celebrated Ten Categories¹⁰ serve as a means of classifying 'signs' to some extent according to what aspect of 'reality' they signify. According to these "categories", each uncombined word or expression 'means' one or more of the following:

- | | |
|-------------------------------|--|
| (1) <u>WHAT</u> | (i.e. Substance - e.g. man, horse). |
| (2) <u>HOW LARGE</u> | (i.e. Quantity - e.g. two cubits long). |
| (3) <u>WHAT SORT OF THING</u> | (i.e. Quality - e.g. white grammatical). |
| (4) <u>TO WHAT</u> | (i.e. Relation - e.g. half, double, greater). |
| (5) <u>WHERE</u> | (i.e. Place - e.g. in the Lyceum). |
| (6) <u>WHEN</u> | (i.e. Time - e.g. Yesterday). |
| (7) <u>IN WHAT ATTITUDE</u> | (i.e. <u>Posture, Position</u> - is lying, sitting). |
| (8) <u>HOW CIRCUMSTANCED</u> | (i.e. <u>State, Condition</u> e.g. shod, armed). |
| (9) <u>HOW ACTING</u> | (i.e. Action - e.g. cuts, burns). |
| (10) <u>HOW PASSIVE</u> | (i.e. Passivity, - e.g. cut, burned). Affection |

7. Aristotle gives an example "ἐπακτροκέλης" ('epaktrokēlēs') meaning 'pirate ship'. (2,1.). According to him, the component '-keles' is meaningless in itself, although it is also found as a word in its own right, i.e. "κέλης" ('kelēs') meaning 'ship, vessel'. It appears, from this example and from Aristotle's definition of 'onoma' and 'rhema' that "compound" signs cannot be less than a phrase of some kind, as opposed to a single word. 8. De Interpretatione 4, 1. Aristotle defines 'sentence' as "... voice significant by compact, of which any part separately possesses signification, as indeed a word, yet not as affirmation or negation....." 9. "συνδεσμοί", plural of "συνδεσμός" ('syndesmos'). 10. Categories, 4.

Later ('traditional') grammarians used these categories in various ways as a basis for their classification of the 'parts of speech'. It is possible that the number of 'categories' envisaged by Aristotle inspired, at least to some extent, the considerable increase in the number of parts of speech isolated. Most grammarians after Aristotle listed round about eight or nine separate 'parts', depending on the exact combination of criteria they used. Some later grammarians, such as Varro,¹¹ used formal, not, as for Aristotle, semantic criteria, and other grammarians, such as Donatus,¹¹ used a combination of both types of criteria.

Aristotle was also, as far as we know, the first to apply the term "case" ("πτωσις" - 'ptosis') to language. It applied, in his thinking, not only to "accusative", "genitive", "dative", etc. as in 'traditional grammar', but also to 'singular' and 'plural' in nouns and to "interrogative" and "imperative" in verbs. In nouns, "case" signifies "something said OF this thing or is attributed TO this thing";¹² in verbs, it "pertains to acting, such as what relates to interrogation or demand." Because "case" implies that something must be said OF something, it cannot in Aristotle's theory, apply to the thing of which something is said; i.e. for Aristotle, there is no such thing as a 'nominative' case.

The Stoics, writing about language around the end of the fourth century B.C., opposed Aristotle and his followers, known as the "Peripatetics", on most issues. But, like that of Aristotle, their work provided much inspiration for later developments. Most of our knowledge about their main ideas is derived, like our knowledge of the Pre-Socratic philosophers, from fragments and from references made to them in the work of later writers./

11. Further details are given later in this chapter. 12. cf Poetics, 20, 10.

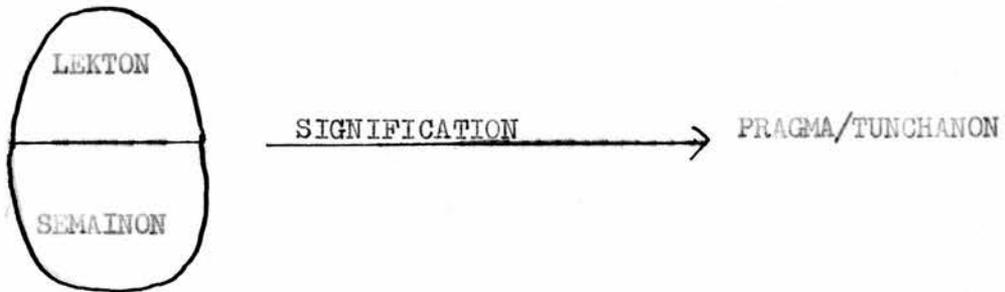
writers/.

Signs, ("semeia") were, for the Stoics, either INDICATIVE¹ (pointing to something outside themselves) or COMMEMORATIVE² (owing their signification to past experience.) They regarded both kinds of sign as occurring in speech.

Language signs were, however, a subject of heated debate among the Stoics, owing to their growing conviction that the sign, unlike the notion "semeion" proposed by Aristotle, had an 'internal structure'. For them the sign consisted of a "σημαινον" ('semainon'), literally meaning a 'signal', and a "λεκτον" ('lekton'), literally meaning 'what is said'. An alternative term for 'lekton' was "σημαινόμενον" ('semainomenon'), literally meaning the 'thing signalled about'. 'Semainon' and 'lekton' together signified a 'thing' ("πραγμα") ('pragma')³ or a 'situation' ("τυχάνον") ('tunchanon')⁴.

1. For example, the movements of the body were thought to be 'signs' indicating and demonstrating the existence of the soul. Sextus Empiricus, attacking both the views of the Stoics and those of the Epicureans, is the main source of our knowledge about this particular view of the sign. He disputes the 'existence' of the soul strongly, and seeks to refute the Stoics' views on this matter. 2. For example, smoke signifying fire, a scar signifying that there has been a wound, a stab in the heart signifying subsequent death. Sextus Empiricus has no quarrel with this type of 'sign'. Ogden and Richards (The Meaning of Meaning, p. 267) point out that some scholars think it probable that Sextus Empiricus was himself responsible for the 'commemorative'/'demonstrative' distinction; but what we know of Stoic sign theory makes it reasonable to support the view taken by others, i.e. that this distinction is to be attributed to the Stoics themselves. The Stoic notion 'lekton' no longer made it necessary for a sign to need to refer to something particular in the outside world in order to be 'meaningful'. Although signs usually did so (hence the Stoic 'pragma' for 'thing meant'); association of 'signs' with 'things' in the outside world would be a matter of commemorative association - conventions acquired by continual association in the mind of 'signs' and 'things'. But if a sign signified something not accessible to the senses, this would be a matter of 'demonstrative' function. Belief in such a function is demonstrated clearly by what evidence we have of the conclusions drawn by Chrysippus, a Stoic particularly known for his 'etymologies' which resemble those of the Heraclitians in many respects. For example, he tried to demonstrate from the etymology of the Greek word "ἔγω" (I) that the seat of the soul is the heart. cf H. Dahlmann - Varro und die Hellenistische Sprachtheorie, p. 9 for details. 3. Literally, 'that which has been done' - a deed; but the word was used with the much more general sense of a 'thing'. 4. Literally 'something which has happened by chance', but used in the more general sense of a 'situation'.

The interrelationships of these notions can be represented as follows:



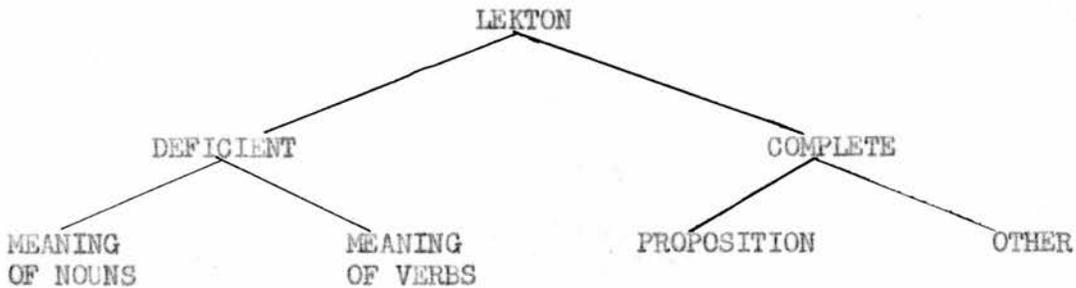
For the first time, we have a notion "sign" which, in some respects, prefigures that of de Saussure. The Stoic notion 'semainon' corresponds roughly to de Saussure's notion "signifiant"⁵ with regard to its role in the internal structure of the sign, but not with regard to its material composition. For de Saussure, the 'signifiant' was an 'image acoustique' - a mental image of speech sounds; But for the Stoics, the 'semainon' consisted of actual sound, represented by the twenty-four letters of the Stoic alphabet. In contrast with the sign theory of Aristotle, speech sounds are, for the Stoics, never 'signs' in themselves; they are signs only when uttered in association with a 'lekton'. The Stoics made a sharp distinction between "λεγειν" ('legein' - to utter sounds without meaning, i.e. not in association with a 'lekton') and "προφερεσθαι" ('propheresthai' - to utter sounds with meaning, i.e. in association with a 'lekton'). No parts of speech when uttered as such are, in the Stoic view, meaningless. This included Aristotle's 'syndesmoi';⁶ their 'meaning' ('lekton') was to be traced in their binding function.

'Lekton', comparable with de Saussure's notion 'signifié'¹, was, like its Saussurian counterpart, a purely linguistic entity, having no necessary connection with any particular 'thing' in the outside world. Because 'lekton' was, for its time, such a revolutionary notion, there was much controversy about how it was to be defined, and about whether or not it had any actual 'existence'²

5. See Chapter 3 below. 6. See above

1. cf Chapter 3 below. 2. The Stoics admitted only 'corporeal' entities as 'existing'. Hence they had no difficulty with the 'thing signified' or with the 'semainon'; the latter consisted of physical sound and the former was conceived in terms of empirically observable data. But the 'lekton', as it stood in their sign theory could only be immaterial - thus the disputes arose about what form of 'existence', if any, could be attributed to it.

Basically, it was a rational concept, based on the 'categories' of Stoic logic; it related to outside 'things' but in no way reflected them; especially, it was not an Aristotelian 'image'³ of extralinguistic phenomena. Typical definitions of 'lekton' were "what consists in conformity with a rational presentation" ("φαντασ⁴ λογικη" - 'phantasia logikē') and "an object as conceived".⁴ 'Lekta' were classified as follows:



It is noteworthy that there is some isomorphism between this classification of 'contents' ('signifiés') of signs and Aristotle's classification of actual signs.⁵ Like the Stoics, Aristotle set 'propositions' or 'sentences'⁶ apart from all other types of sign, but on the grounds that 'sentences' had an added property i.e. 'truth' or 'falsity' rather on grounds of 'completeness' or 'deficiency' of meaning.

3. For Aristotle, the 'passions of the soul' served, in their turn, as 'signs' or 'images' of phenomena in the real world. See above. 4. Human intellect as opposed to feelings or concepts (in the sense of mental images) was very highly exalted among the Stoics. For these definitions and for further discussion, see I. Bochenski - Ancient Formal Logic p. 83 5. See above. It is interesting that later grammarians who followed the tradition deriving from Aristotle adopted, on the whole, a criterion similar to that of the Stoics, rather than that of Aristotle, for defining the notion 'sentence' as "... a combination of words that have a complete meaning in themselves" (cf F.P. Dinneen - An Introduction to General Linguistics, p. 99) 6. Like Aristotle, the Stoics did not distinguish between grammatical (linguistic) and propositional (logical) 'structure'. Propositional 'structure' was conceived, by Aristotle and by the Stoics, according to their own respective systems of logic, which were different in many respects.

The Stoic 'categories' ('subject', 'quality', 'state', 'relation' four as opposed to Aristotle's ten) were, like the 'lekta' themselves, purely linguistic/logical classifications, not classifications of 'substance'. This difference between the Stoics and Aristotle is understandable in terms of the main difference between their respective sign theories: since, for Aristotle, the sign was a One-sided entity, he had no scope for classifying 'meaning' in any other way than in terms of 'things meant'; but the Stoics, by postulating a two-sided entity 'sign', had at their disposal a means (the 'lekton') of leaving ontological considerations out of their reckoning.

Signs were associated with 'things' ('pragmata') in the course of speech. Since, however, these 'things' were now deprived, through the notion 'lekton' in Stoic sign theory, of their previously essential role in language as 'meanings' of 'signs' - in fact, considered Irrelevant to the internal organization of a language - a general lack of direct correspondence between linguistic signs and extralinguistic phenomena became evident. The Stoics called these 'irregularities' "ἀνωμαλία" ('anomalía'). Dahlmann comments: "Es sind also Abweichungen von einer Entsprechung von Bedeutung und Bezeichnung". Varro corroborates this: "Chrysippus propositum habet ostendere, similes re dissimilibus verbeis et similibus dissimiles esse vocabuleis notatas".

The relationship between 'semainon' and 'lekton' in Stoic sign theory, was, however, a natural one. This contrasts completely with the sign theory of de Saussure, in which the principle of 'l'arbitraire du signe', i.e. of a/

7. Whether in terms of 'primary' (conceptual) or 'secondary' (objective) signification. 8. i.e. of basing their classification on purely rational criteria. 9. Plural of 'pragma'. 10. The term "ἀνωμαλος" ('anomalos') was applied to 'uneven' ground. 11. Dahlmann, op.cit. p. 53. My underlining

1. De Lingua Latina, IX,I. - 'Chrysippus intended to demonstrate that similar things are expressed by dissimilar words and dissimilar ones by similar items of vocabulary'. 2. cf Chapter 3 below.

a/

completely arbitrary relationship between 'signifiant' and 'signifié' is a central and essential doctrine. Because of their views on the subject, however, the Stoics, like the Herecleitians, made endless 'etymologies' on the principle " " ('sumpaschei he phone to semainomeno' - 'the sound is in sympathy with what is signalled'), and tried to draw metaphysical and philosophical conclusions from them.

The Stoics encountered strong opposition from the ALEXANDRIANS, who derived their views ultimately from Aristotle. Alexandria was a thriving centre of learning in the last two centuries B.C. Polemics were written particularly against the views of Chrysippus on the grounds that everything about language is systematically organized. Language did not permit 'irregularities' ('anōmalia'); on the contrary, linguistic description was a question of discovering its regular patterns ("ἀναλογία" - 'analogia'). Thus arose the second major controversy in the history of linguistic thought - known as the 'ANALOGY/ANOMALY CONTROVERSY'. The other side of the controversy was upheld, simultaneously with the polemics written by the Alexandrians, by sympathizers with doctrines preached at Pergamon, another thriving centre of learning at that time. The 'anomalists' at Pergamon maintained that there were no 'regularities' in language, and that their rivals at Alexandria were therefore wasting their time looking for them. The controversy between Alexandria and Pergamon centred around the internal structure of language, in terms of morphological forms, not around the original context in which 'anomaly' had been postulated with regard to language - i.e. that of the relationship between the linguistic sign and the outside world. The result was that, not only that particular aspect of Stoic linguistic philosophy, but also their whole sign theory soon sank into obscurity. As the emphasis on morphological forms, and the interior structure/

of language in terms of them, grew during the raging of the controversy, questions of sign theory in general faded into the background until a state of affairs was reached where a notion 'sign', in terms of a correlation between 'form' and 'meaning' was implicit but not explicitly postulated, in linguistic theory. 'Meaning' was, yet again, in true Aristotelian tradition, interpreted as being the 'thing signified' by a particular 'form'.

Continued debate on the question of 'regularity' in language inevitably led to an increased awareness of 'patterning' in language. Eventually the views of Krates (first century B.C.) and of his followers at Pergamon became discredited, and the Alexandrian/Aristotelian tradition prevailed. This tradition was to remain influential for a very long time; indeed, some of the grammars written under Alexandrian influence were to remain standard textbooks in schools right up to the eighteenth century,¹ despite major developments of thought concerning language in the Middle Ages.

The most influential of the Alexandrians was Dionysius Thrax, who was at the peak of his career round about 100 B.C. Thrax looked for 'analogical patterns' in language on the basis of "similar proportions or relations between terms."² Inspired by Aristophanes, a near predecessor who sympathized with Alexandrian principles, he sought to account for both the composition and the distribution of linguistic items.³ Varro⁴ mentions an attempt by Aristophanes to set up related distribution classes in proportion to each other, such

¹The most outstanding examples are the grammar written by Thrax, and those written by Donatus (fourth century A.D.) and Priscian (sixth century A.D.).

²cf. F.P. Dinneen, op.cit. p. 96.

³Dinneen sees this as a prefiguration of principles recognized by modern day 'structural' linguists. ibid. p.96.

⁴De Lingua Latina IX. For further comment, see L. Lersch - Die Sprachphilosophie der Alten, Part I, p. 60.

as 'bonus/ malus' : 'boni/mali'. From the setting up of such systematic 'patterings' in a language emerged, all too soon, the need to account for apparent 'exceptions' to whatever rules were set up. From here, it was a short step to the notion of 'correct' as opposed to 'incorrect' usage of the items of a language's vocabulary. 'Correct' usage was, for the most part, that which corresponded best to the analogical rules established in the 'grammar' of that language. The most influential authors of a particular time were also taken as 'norms' for 'correct' language usage, especially with regard to the way in which they treated apparent 'exceptions' to grammatical rules. In other words, 'grammar', and with it the theory of language, became 'prescriptive', not descriptive.

Although Thrax, like the rest of the Alexandrians, based his analogical patterns primarily on form, 'meaning' was relevant to his work in some respects. It is particularly relevant to his defining criteria for the parts of speech; in order to distinguish them and their function,¹ he makes use of 'formal-semantic correlates'.² Form, e.g. the presence of case³ or other inflectional endings, played a more important role in Thrax's definition of the parts of speech than it did for Aristotle. For example, his definition of 'verb' can be summarized as follows:⁴

¹ Thrax distinguishes eight parts of speech, corresponding to 'noun', 'verb', 'article', 'preposition', 'adverb', 'conjunction', 'participle', 'pronoun'.

² cf. F.P. Dinneen, op.cit. p. 107.

³ NB, Aristotle was the first to evolve a notion 'case' ('ptosis'). cf. p. 20 above.

⁴ cf. F.P. Dinneen, op.cit. p.101 and L. Lersch, op.cit. Part 2, p.77ff.

| | | | |
|--------------|------------------------|---|--|
| <u>VERB:</u> | SIGNIFIES ¹ | - | activity, passivity, tenses, persons, number. |
| | HAS | - | number, person, tenses, moods, kind, types, forms, conjugation, but no case endings. |

Aristotle's influence can be clearly seen in Thrax's definition of 'syndesmos': "... a part of speech connecting a train of thought and filling in gaps in its interpretation".² It is still a 'form' with no 'meaning' of its own.³ Like Aristotle's 'syndesmos',⁴ it merely serves to enhance the 'meaning' of other parts of speech by linking them together in such a way that they constitute a complete sentence (proposition). In Thrax's grammar, however, it has come to be distinguished from 'preposition' ("προθεσις" - 'prothesis'),⁵ which is defined as: "... a part of speech placed before other parts of speech in syntactical combinations". The 'preposition,' like the 'conjunction', is still not meaningful - i.e. for Thrax, they do not constitute linguistic signs.

Apollonius Dyscolus, an immediate Alexandrian predecessor of Thrax, also had a great influence on future developments in linguistic theory. Priscian⁶ used his approach to the 'parts of speech' as a model. The gradual evolution, due to the 'analogy'/'anomaly' controversy, of a formal rather than a semantic approach to the definition of the parts of speech in Alexandrian thought becomes evident when Dyscolus and Thrax are compared. Dyscolus relies far

¹Note the similarity of some of the categories signified with Aristotle's 'Ten Categories'. See above, p. 19 .

²F.P. Dinneen, op.cit. p. 101.

³The above definition gives it, like Aristotle's 'syndesmos', a purely syntactic function.

⁴See p. 19 above.

⁵literally, 'something placed before'.

⁶See below.

more than Thrax on semantic criteria,¹ and passed this dependence on to those, such as Priscian, who chose to model their work on his principles rather than those of Thrax. For Dyscolus, a 'verb' as distinguished in that it signified a 'state of the soul': "τῆς ψυχῆς διαθεσις δηλοῦν" ('tēs psuchēs diathesis dêloi').²

The Romans took over the main notions in Greek grammar and applied them to their own language, modelling their efforts mainly on Thrax and Dyscolus. The most noted of the Roman grammarians, Marcus Terentius Varro, who was a contemporary of Thrax, tended to follow him rather than Dyscolus, and took his reliance on FORM as a criterion for defining the parts of speech³ even further. Dinneen quotes from Varro's work: "In answer to the question of how a word should be considered similar to something else, whether on the basis of sound or meaning, I would say that it should be studied on the basis of sound".⁴ He defines 'nouns' as words with case inflection, 'verbs' as words with tense forms, 'participles' as words with both case endings and tense forms, and 'conjunctions' and 'adverbs' as words with neither.⁵ Considerations of 'meaning' come in, however, when he distinguishes four subclasses of 'nouns' on the basis of 'degrees of definiteness of reference'.⁶

Varro's basis approach to language was from two points of view - that of 'impositio' ('giving of names') and that of 'declinatio'

¹Lersch maintains that he bases his definition of the 'parts of speech' on "natürliche Innerlichkeit der Bedeutung". (Lersch, op.cit. Part 2, p.112).

²cf. Lersch, op.cit. Part 2, p.128. The expression he uses here is reminiscent of Aristotle's 'passions of the soul'.

³cf. R.H. Robins - Ancient and Mediaeval Grammatical Theory in Europe, p.54 for further details.

⁴F.P. Dinneen, op.cit. pp.110-111; taken from De Lingua Latina X, 2.

⁵In fact, his criteria for distinguishing his 'parts of speech' are purely formal. Robins, op.cit. p.54.

⁶Robins refers here to De Lingua Latina VIII, 45. For Varro's definitions of his 'main' parts of speech, see De Lingua Latina VIII, 44 and X, 17.

('analogical patterns'). Concerning the first, Varro defines 'word' as a minimum basic form not further analyzable into meaningful parts:¹ "Verbum dico orationis vocalis partem, quae sit indivisa et minima ...". 'Words' have a conventional relationship with what they signify, but there are four levels on which the relationship between a form and its 'meaning' (i.e. 'thing signified') can be studied. These are the level of 'common sense', on which anyone can perceive possible reasons for the giving of a name without expert information, the level of etymology, on which a knowledge of research by grammarians on earlier stages of the language is required, the level of philosophy, on which one investigates any possible philosophical reasons underlying the use of common words, and the highest level of all, on which one needs a deep knowledge, both of philosophy and of grammar in order to explain the origin of 'obscure' words.² In more modern terminology, we might say that Varro's belief in the conventional nature of the relationship between 'words' and what they signify is in no way a hindrance to his equally firm conviction that 'words' are 'motivated';³ he seeks to investigate the nature of that 'motivation' on four levels.

Varro concentrates most of his major work⁴ on 'declinatio'. He writes: "Voluntatem dico impositionem verborum, naturam declinationem verborum".⁵ Analogical form patterns are, then, in some way 'natural'

¹cf. F.P. Dinneen, op.cit. p.108. 'I say that a word is a part of speech which is indivisible and minimal'; taken from De Lingua Latina X, 4.

²cf. F.P. Dinneen, op.cit. p.109.

³In contrast, de Saussure appeared to regard what he terms 'partly motivated' signs as being in some way 'counter examples' to his principle of 'l'arbitraire du signe'. cf. Cours de Linguistique Generale, p. 182.

⁴i.e. De Lingua Latina.

⁵cf. F.P. Dinneen, op.cit. p.111 and De Lingua Latina, X, 15. cf. also Lersch, op.cit. Part 2, p.144. 'I say that the giving of names is voluntary, and that their declension is natural'. Varro terms it 'natural' because he regards it as 'automatic'. cf. De Lingua Latina, X, 15.

to language in his view. Since knowledge of languages other than Latin and Greek was not widespread in Varro's day, it is possible that he did not conceive that language could be other than 'declined', i.e. rich in case inflections and having a general structure similar to that of Latin and Greek. On the basis of the languages with which he was familiar, he distinguished two types of sign - 'variable' and 'invariable'. In doing this, he recognized for the first time that signs can vary with regard to their form.¹ In this, he had more insight than many modern day linguists, such as Bally, who describes 'formal variants' of the verb 'to go'² as being SYNONYMS (i.e. forms belonging to different signs but identical as to their 'meaning'.) 'Formal variants' recognized as belonging to the 'same' sign on grounds of similarity both of form and meaning.³

Donatus and Priscian continue in the same tradition, making it the basis of 'traditional grammar' as we know it today. They further refine the definitions of the parts of speech, but bring about no major changes in 'sign theory'. The fact that Priscian followed Dyscolus rather than Thrax⁴ is one of the reasons why the more modern versions of 'traditional grammar'⁵ used semantic rather than formal criteria for distinguishing the various 'parts of speech', or, as one might express it, the different functions and relationships with the

¹cf. F.P. Dinneen, op.cit. p.110 for further details.

²cf. Chapter 3, p. 91 below.

³'Similarity' is not a precise criterion. One is justified in asking how 'similar do they have to be in order to belong to the same sign? But the very fact that Varro recognizes 'formal variants' of 'words' constitutes a great advance for his day. Contrast, however, the very precise theoretical criteria set up, for example, by J.W.F. Mulder with respect to his notion "allomorph". cf. Chapter 7, p. 271ff below.

⁴See above.

⁵cf. Chapter 2 below.

outside world contracted by meaningful units in language. The term 'sign' was sometimes used with reference to such units, but 'sign theory', as such, no longer played a prominent part in the thinking of 'traditional grammarians.'

Dinneen points out¹ that Priscian frequently used the term 'meaning', without ever attempting to define it. But this is understandable in terms of the general predominance of formal considerations in the thought of grammarians deriving their views from the Aristotelian/Alexandrian tradition - and that tradition was the source of most of the basic principles inherent in the sort of grammar taught in schools until very recent times. Priscian used the term 'meaning' generally in the sense of 'thing meant'; as discussed previously, sign theory not involving a twofold entity 'sign' leaves very little scope for interpreting 'meaning' in any other way. This is why most of the post-Renaissance developments in sign theory² are very closely connected with developments in 'theory of ideas', 'theory of knowledge', logic and various theories concerning the nature of phenomena in the 'real' world.

One important development which took place largely under the influence of Priscian, however, was the recognition that words can have component parts which have meaning in themselves. Words, including 'composite' signs,³ had, under Aristotle's influence, hitherto been considered to be the atomic entities of language. But for Priscian, 'compound' words⁴ were a common phenomenon in language,

¹Dinneen, op.cit. p.118.

²Such as the theories of Locke, Berkeley, Hobbes, Arnauld, Condillac, etc. cf. Chapter 2 below.

³See above, p. 18 for Aristotle's division of signs.

⁴For Aristotle, 'compound' signs could not be less than a phrase. See above.

i.e. words consisting of other words 'united under one accent'.¹

Gradual recognition took place that units less than a word can function like signs, i.e. signify something, in their own right, in the outside world. Quintilian, for example, recognized particularly that case endings were meaningful in themselves,² and proposed that an extra case should be established in Latin because the Ablative Case (Dative in Greek) appeared consistently to signify something different in its 'instrumental' use from what it signified in all its other uses. In other words, he wanted to set up two 'homonymic signs' amongst the Latin case endings - two 'signs' which, although formally identical, had completely different 'meanings'.

For Quintilian, all speech consisted of 'what is expressed' ('matter') and 'that which expresses' ('words').³ "Proper words"⁴ signify that to which they were first applied,⁵ but metaphors manifest a change in meaning for a particular use.⁶

Quintilian's account of 'metaphors' makes clear the extent to which 'meaning' was still interpreted in terms of 'thing meant'. This interpretation of 'meaning' continued into Scholastic grammar, mainly through the works of Remmius Palaemon⁷. For the Scholastic grammarians,⁸ 'sign theory' was still secondary to other considerations,

¹'sub uno accentu prolatae'. cf Robins, op.cit. p.88.

²Institutes of Oratory Book 1: 4, 26.

³ibid. Book 3: 5, 1.

⁴ibid. Book 1: 5, 71.

⁵According to Quintilian, language had a natural origin. cf ibid. Book 3: 2, 1.

⁶ibid. Book 1: 5, 71.

⁷Who translated the works of Thrax into Latin in the first century A.D. Despite the fact that he had definite ideas of his own about such things as the 'parts of speech', it was really through his translation of Thrax's works that he influenced later developments.

⁸Such as Thomas Aquinas (early middle ages).

such as the definition of the 'parts of speech' and the setting up of rules to describe regular patternings ('analogies') in accordance with the approach to language developed through the 'analogy'/'anomaly' controversy. This controversy was by now a dead issue, as was the 'nomos'/'phusis' controversy; the 'nomos' side of the 'nomos'/'phusis' controversy, and the 'analogy' side of the 'analogy'/'anomaly's' controversy had completely prevailed. Developments up to this time can be summed up in the following way:

| | <u>NOMOS</u> | <u>PHUSIS</u> | <u>ANALOGY</u> | <u>ANOMALY</u> |
|---------------------|--------------|---------------|----------------|----------------|
| HERECLEITUS | | + | | |
| PARMENIDES | + | | | |
| PROTAGORAS | + | | | |
| GORGIAS | + | | | |
| HIPPIAS | | + | | |
| DEMOCRITUS | + | | | |
| PRODICUS | | + | | |
| PLATO | + | + | | |
| ARISTOTLE | + | | | |
| STOICS | + | + | + | + |
| ALEXANDRIANS | + | | + | |
| PERGANON (KRATES) | + | | | + |
| APOLLONIUS DYSCOLUS | + | | + | |
| DIONYSIUS THRAX | + | | + | |
| REMMIUS PALAEMON | + | | + | |
| M.T. VARRO | + | | + | (+) |
| DONATUS | + | | + | |
| PRISCIAN | + | | + | |
| QUINTILIAN | + | (+) | + | |
| ST. AUGUSTINE | + | | + | |

Plato is marked as agreeing with both sides of the 'nomos'/'phusis' controversy, since he is ambiguous about which side he takes. The Stoics are marked positively in all four columns, since they believed the relationship between the sign and the 'thing signified' to be 'conventional' and 'anomalous' and the relationship between 'semainon' and 'lekton' to be 'natural' and 'analogous'. Quintilian is included in the 'phusis' column, since he believed in a 'natural' origin of language. Varro is included in the 'anomaly' column since he believed in 'anomalies' as well as analogies. In language Book VIII of De Lingua Latina he puts the case for the 'anomaly' side of the controversy, although he believes basically that language is 'analogous'.

Although 'sign theory' was a secondary consideration for the grammarians of the period we are considering, a theologian (St. Augustine) produced an explicit sign theory - the only work of its kind which directly follows the Aristotelian/Alexandrian tradition. According to St. Augustine, (who wrote his work on language (De Magistro) round about 389 A.D.) words are a subspecies of sign.¹ He defines them as 'meaningful articulate sounds'.² This idea of the linguistic sign as consisting of 'meaningful articulate sounds' is directly comparable with Aristotle's notion 'semeion'.³ St. Augustine's general definition of 'sign' (linguistic or otherwise) is 'that which signifies something'.⁴ Signs can signify either other 'signs' or what he calls 'significables', e.g. a gesture and a stone, respectively.⁵

¹ cf. De Magistro, Sections 3 and 9.

² ibid. Section 8.

³ See p. 16 above.

⁴ ibid. Section 7. (Potential 'things signified' are called 'significables' cf. ibid. Section 8).

⁵ ibid. Section 7. This is comparable to Aristotle's idea that a sign signified firstly an 'image' of 'reality' (the 'passions of the soul') and secondly the real 'thing' of which the 'image' was itself a kind of sign. Thus for Aristotle, all 'semeia' were, in this sense, 'signs of a sign'.

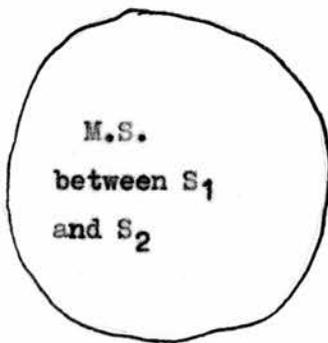
He gives signs of each category a completely separate treatment; signs which signify 'significables' are treated in the already familiar terms of a conventional relationship between the sign and the 'thing' it signifies,¹ but in the case of signs which signify other 'signs', the relationship is far more complex. For example, sign and 'sign signified' may, in fact, signify each other, i.e. be in a relationship of 'mutual signification'.² An example of this given by Augustine is the sign 'name', when it signifies "substantive". Augustine notes, however, that this 'mutual signification' only applies in certain uses of the signs "name" and "substantive". He recognizes that both of these two signs can be used in speech on occasions when the 'mutual signification' relationship does not hold, i.e. "name" and "substantive" are not, in his view, exact synonyms. A large part of his theory consists of an investigation into all the possible varieties of relationship which can hold between signs and what they signify. Exact synonymy, for him, occurs when a relationship of 'mutual synonymy' holds in all cases between signs and 'signs signified'; other cases where this relationship of 'mutual signification' holds at times between two signs are what, in more modern terminology, we would call 'proper inclusion' and 'overlap'. These relationships could (again, in more modern terminology), be represented as follows:

¹ See above, and *ibid.* Section 24.

² *ibid.* Section 17.

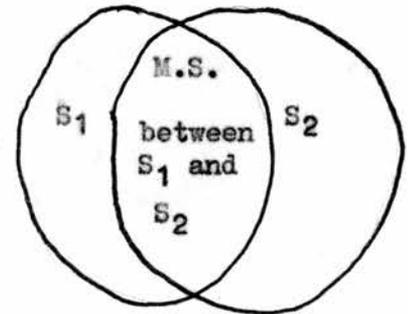
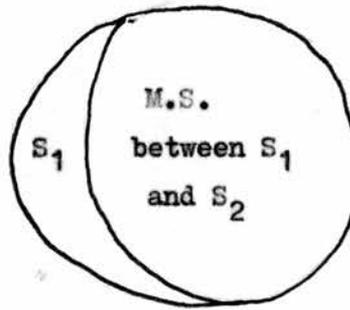
EXACT SYNONYMY

(Relationship of 'mutual signification' holds at all times between signs)

PARTIAL SYNONYMY

(A) Proper inclusion
(Relationship of 'mutual signification' holds in all cases for one but not for the other)

(B) Overlap
(Relationship of 'mutual signification' does not hold in all cases for either of the two signs concerned.)



M.S. = 'Relationship of mutual signification'

S₁ = First sign

S₂ = Second sign ('sign signified').

Owing to the fame of St. Augustine as a theologian rather than as a linguist, his views on language were considered of minor importance, and his sign theory was never very influential. It contains many other aspects and details which space does not permit me to include here. Many of its ideas, such as those concerning 'mutual signification' outlined above, remained unique to Augustine for the reasons mentioned above, and because sign theory, as such, was still not of major interest to the grammarians of the time.

Interest in 'sign theory' as such was revived in the Middle Ages, when further developments in logic brought about major developments in other fields, including that of language study. Attention was focussed on the work of Boethius (a contemporary of Priscian, born 470 A.D.) who attempted to solve the problem of how a sign which signifies a particular

'thing', e.g. a man, can also signify 'universals', e.g. the whole of mankind. Attention was drawn away from 'signs' in isolation, and fixed on 'signs' in context. For this reason, many tracts entitled De Suppositione¹ began to be written in the early Middle Ages.

'Supposition' meant, at this time, the logical substitution of a sign for a particular 'thing signified'. Such 'substitution' can only happen when a sign is actually used in a proposition. According to each particular use, a given sign can 'substitute' for a single 'thing' ('discrete' supposition), a number of 'things', or universals, whether they happen to be past, present, future or 'potential' (i.e. not 'real' at all).

In view of these theoretical developments, 'meaning' could no longer be regarded as 'thing signified', since the relationship between 'sign' and 'thing signified' was now covered by the term 'supposition'. Only terms which can actually be 'substituted' for a 'thing' in the extralinguistic world were considered to have the property of 'supposition', i.e. nouns and verbs as opposed to conjunctions, prepositions and suchlike. The parts of speech without 'supposition', known as 'syncategorama',² were regarded as having a function in the proposition only in terms of their relationships with 'categoramic' terms, i.e. terms with the property of 'supposition'. All parts of speech, with or without 'supposition', were considered, by this time, to be 'meaningful'. What, then, was 'meaning' considered to be?

The general scholastic view on this subject was that linguistic units acquired 'meaning' "through their association with mental terms".³

¹"About Supposition."

²cf. P. Boehner - Mediaeval Logic - An Outline of its Development from 1250-1400. p. 21.

³According to Boehner, this idea was due to Stoic influence.

The exact nature of this 'association' was the subject of yet another controversy, known as the 'nominalist'/'realist' controversy.

For Petrus Hispanus (13th century), who was a 'realist', 'meaning' (generally termed 'significatio'¹ ('signification') in the Middle Ages) was the 'imposition'² of a word to mean a 'thing'; 'supposition' was, then, the use of the resultant 'sign' to substitute for a particular instance of that 'thing' in a proposition. Hence, for Petrus Hispanus, 'signification' was prior to 'supposition'. Hispanus has moved as little as possible from the old Aristotelian/Alexandrian view that meaning is the 'thing signified' whether considered in terms of mental concepts (Aristotle's 'primary signification') or of actual phenomena in the world (Aristotle's 'secondary signification').

Since Alexandrian days, 'meaning', when taken into account, had been considered mainly in Aristotle's 'secondary' sense, and so the 'realist' side of the controversy was really merely a development of ideas which had been prevalent in previous times. Priscian's influence was particularly strong at this time; but the main link between the grammarians following the Alexandrian tradition and the mediaeval 'realists' was provided in the work of Peter Helias, (twelfth century A.D.) the most outstanding grammarian of the early Middle Ages. He regarded the cases as being different ways of talking about the 'same thing'.³ Since Latin had six cases,⁴ he concluded that "there are six and only six ways of talking about "the same thing".³ His discussion of the notion 'sentence' is also clearly indicative of his

¹'signification' - literally, 'an indicating by a sign.'

²i.e. 'impositio' - a term used by Varro (see above) to mean the giving of names.

³cf. F.P. Dinneen, op.cit. p. 131.

⁴Helias wrote only in terms of Latin. He did not take into account, for example, such considerations as the fact that Greek has only five cases.

attitude towards 'meaning'. Dinneen quotes him in translation:¹

"In every complete sentence, something is said about something else. The noun was therefore invented to distinguish what one was talking about, and the verb to distinguish what was said of another, especially with respect to activity and passivity". 'Meaning', for Helias, was carried more by the case endings than by the word to which they were attached.² Dinneen again quotes him in translation:

"But the most noble part of a word, since the meaning is to be discerned most from the ending, is the last part. For the mind generally understands nothing when we hear language until we get to the end of a word...".³ Here we have progressed from writers such as Quintilian, who were beginning to attribute to 'cases' the status of meaningful units in themselves rather than of mere variations of words considered as 'minimal signs', to a writer such as Helias, who went to the other extreme, and made 'cases' the principle bearers of 'meaning' in a word.

On the 'nominalist' side of the controversy, William Ockham⁴ (early 14th century) regarded 'supposition' as being simply the use of a suitable sign in a proposition. 'Signification' was completely independent of 'supposition' and involved three 'modes of existence' of a term. These were:

- (A) A concept - a 'natural sign' signifying a 'thing'.
- (B) A vocal sound - not a sign in itself, but arbitrarily instituted to signify the same 'thing' as the concept.

¹F.P. Dinneen, op.cit.p.131.

²Some cases and some parts of speech were considered 'nobler' than others. Dinneen translates "The noun is the first and most noble part of speech, but the pronoun takes its case from the noun and therefore should have its case in the most noble part.

³ibid. p.131.

⁴cf. Boehner, op.cit. for discussion and details.

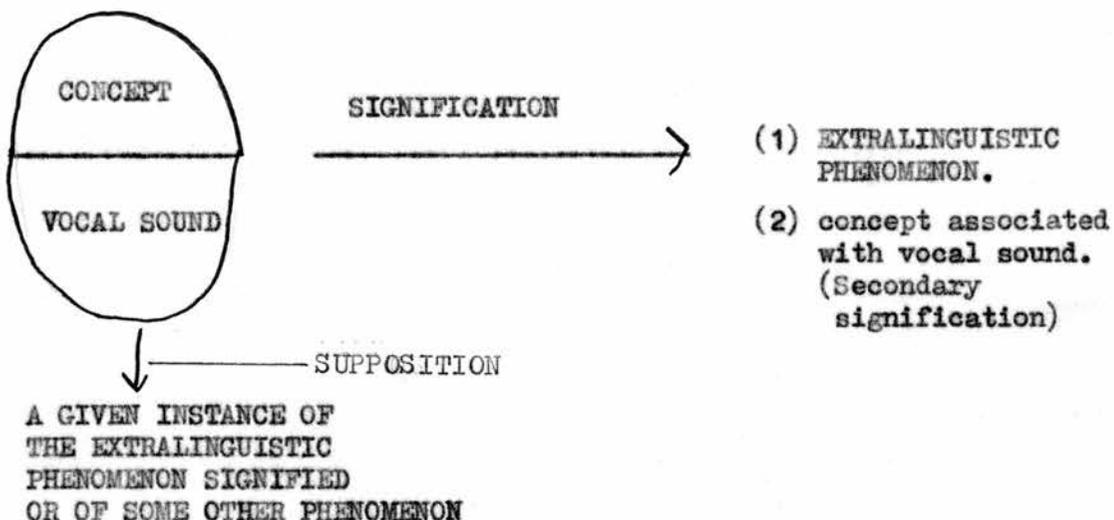
(C) An extralinguistic 'object' - unlike Aristotle, he considered this to be the primary signification of the word.

A sign consisted of a combination of a concept and a vocal sound. Such signs ('words') have secondary signification in that they also call to mind the concept associated with the vocal sound. Yet again, we arrive, here, at a notion 'sign' which has a clearly defined internal structure, the 'concept' being comparable with Stoic 'lekton' and de Saussure's 'signifié', and the vocal sound being comparable with Stoic 'semainon' and de Saussure's 'signifiant'.¹ Both aspects of the sign's 'internal structure' relate outwardly to a 'thing'. Ockham's notion 'sign' is nearer to that of de Saussure than that of the Stoics, since Ockham clearly postulates an arbitrary relationship between the 'concept' and 'vocal sound' as well as between the (whole) sign and extralinguistic phenomena. 'Speech sounds' are no longer, in this theory, considered to be 'meaningful' in themselves.² 'Meaning' is involved in the sign entirely through the 'concept'. This conceptual 'meaning' is carried by the sign quite independently of any instances of its 'substitution', in use in a proposition, for a particular extralinguistic 'object' or phenomenon.

This notion 'sign', and its 'signification' and 'supposition' respectively, can be represented as follows:

¹ See above for the Stoic sign theory and Chapter 3 below for that of de Saussure.

² Contrast the sign theory of Aristotle (see above), in which speech nouns with the attribute of 'meaningfulness' constituted the actual sign.



The 'nominalist' side of the controversy prevailed for a while, and the twofold notion 'sign', as described above, developed as part of what was really the climax of mediaeval linguistic theory - i.e. the sophisticated language theories of the 'MODISTAE'. The most celebrated (fourteenth century) propounders of such theories were Siger de Courtrai¹ and Thomas of Erfurt;¹ many treaties entitled De modis Significandis appeared, however, written by many different authors, in the late thirteenth and early fourteenth centuries. The centrepiece of these theories was the notion "modi significandi", which were defined in much the same way in each theory. An example of such a definition is the following: "proprietas rei consignificata per vocem forma partis orationis".² Theories varied greatly in

¹cf. G.L. Bursill-Hall - Speculative Grammars of the Middle Ages for full details of their respective theories. The details given here are of necessity much simplified and presented so that they are, as far as possible, representative of the general views of the Modistae as a school of Linguistics rather than as individuals.

²This definition is given by Martinus de Dacia, but is a representative example of the general views of the Modistae on the subject. cf. J. Pinborg - Die Entwicklung der Sprachtheorie in Mittelalter for further details. This definition is translatable as: 'The essence of a 'thing' as signified by a sound in the form of a part of speech'. (cf. Pinborg, op.cit. p.70ff for further details).

detail, but were similar in the essentials, including the notion "sign".¹ This consists of 'vox' (sound)² associated with a 'meaning'³ which 'exists' only in the human intellect, on which it is dependent. The intellect derives this 'concept' (comparable, again, with Stoic 'lekton' and Saussurian 'signifie') ultimately from the 'thing signified' by abstracting its essence (the 'form' of the 'concept'). This 'sign' (dictio),⁴ which, at this stage, gains admittance as a part of speech, can now be used in the context of propositions to signify the extralinguistic phenomenon with which it is associated - or rather the PROPERTIES ('modi essendi') of that phenomenon, which are apprehended by the intellect, vehicle of the 'modi intelligendi'. The relationship between the (whole) sign and the 'thing signified' is, as for Ockham, via the concept. The properties of the 'thing signified', conceptualized by the intellect, can then be signified by the sign, vehicle of the 'modi significandi'.

¹Bursill-Hall comments: "The Modistae appear to have sensed, almost intuitively, the relationship between the concept (conceptus intellectus) and its expression, or, to be more exact, its signification (significatio), which is the function of the signum". (ibid. pp.80-81).

²Bursill-Hall points out that the Modistae are not interested in phonetic, i.e. auditory or acoustic criteria for defining 'vox'. They regarded it more in terms of 'form' in the sense in which Priscian, Donatus and other such grammarians used it. Most of the Modistae, according to Bursill-Hall, used Priscian as a model in this respect. (Bursill-Hall, op.cit. 77-78).

³Bursill-Hall comments: 'Both Siger and Thomas treat the relationship between the vox and signum, and from the intimate nature of their association, it becomes clear that the vox may be a signum and a signum may be a vox. For Thomas, it is in fact this very closeness that gives a definite function to the vox in a grammatical system, because grammar deals with 'signa rerum' and a vox is the most suitable of all 'signa'. It is because the vox belongs to the signum that the grammarian considers vox at all, but even so he does this 'per accidens'. ibid. p.78.

⁴Bursill-Hall sums up, for example, Martin of Dacia's notion of 'dictio' (the sign qua part of speech): "Martin of Dacia sees the relationship between the signum and the dictio thus: they are alike in that they both possess the ABILITY to signify, but differ 'ex parte substantie'. He has furthermore seen that the signum is a much broader concept than the dictio, inasmuch that any dictio will be a signum, since it must refer to something, but not every signum will necessarily be a dictio. This points to the fact that 'signum' is a super-class, and that a dictio, as a member of this class, is really nothing more than a signum manifested in vox". ibid.p.81. The underlining here, as in the other quotes given in the above notes, is mine.

Bursill-Hall comments:¹ "The vox, then, has no power of its own to signify; The vox and the modus significandi have the power to signify the thing, but the vox and the modus significandi activus² have the power to signify the modus essendi or the PROPERTY of the thing; vox is thus an integral part of the pars orationis. We might therefore say that the modus significandi represents the thought symbolism, but that the vox is required to give it linguistic symbolism."

The 'modus significandi activus' is the only mode which is actually a property of the sign, as the following diagram shows:³

| | <u>MATTER</u> | <u>FORM</u> |
|--|---|--------------------------------------|
| MODUS ESSENDI Essence | property of the <u>thing</u> | a kind of <u>existence</u> |
| MODUS INTELLIGENDI ACTIVUS Active intellectual perception | property of the <u>intellect</u> | a kind of intellectual perception |
| MODUS INTELLIGENDI PASSIVUS Property of being intellectually perceived | property of the <u>thing</u> | a kind of intellectual perception |
| MODUS SIGNIFICANDI ACTIVUS Signification | property of the ' <u>SOUND</u> ' ("vox") | a kind of <u>signification</u> |
| MODUS SIGNIFICANDI PASSIVUS Property of being signified | property of the <u>thing</u> | a kind of <u>signification</u> |

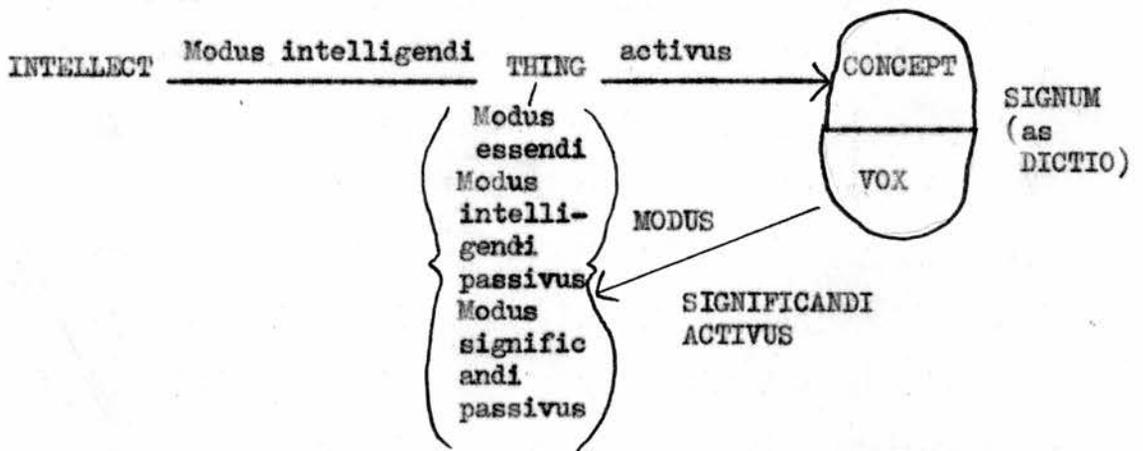
The other 'modes' have to do, rather, with the FUNCTION of the sign in relation to what it signifies, and with properties of the 'thing signified'.

¹ ibid. pp. 78-79.

² See below for explanations.

³ adapted from ibid. p. 52.

Their interrelationships can be shown as follows:



Thus, as early as the thirteenth and fourteenth centuries, we find notions 'sign', which approach that of de Saussure, except that the 'signifiant' is still conceived in terms of physical sound. Later on, the theories of the Modistae were largely rejected, owing mainly to the endless complications involved in their many distinctions; their sign theory was thus also forgotten. The more 'traditional' version of more 'traditional' approach to grammar, descended from the Alexandrians, prevailed again, and was influential, in various forms, for a very long time. It was, in fact, very well known to de Saussure.

CHAPTER TWO.

VARIATIONS ON A THEME

Much discussion took place on the work of the Modistae during the 15th century, particularly at Erfurt, but their influence was not felt for long: with the renewed interest in the Classics due to the Renaissance in the 16th century, Aristotle came to the fore again. Owing to the lasting influence of grammarians such as Donatus and Priscian, the linguistic notions springing from his work had only temporarily faded into the background, and were soon re-established in their supremacy.

J.C. Scaliger produced a theory of language very reminiscent of Aristotle in many of its aspects: for example, in his Poetics¹, he writes: "Quippe omni commune hoc est orationi, ut audientem scire faciat vel rem, vel animum loquentis".² This recalls Aristotle's idea that signs denote firstly the PASSIONS OF THE SOUL, and only secondly things, of which the passions are images. Scaliger differs from Aristotle in that in his theory the passions and the things have equal status as denotata of signs - in this case "words" (verba).

B. Weinberg represents it thus:³

THINGS ←———— WORDS —————→ MEN

and gathers together quotations from the "Poetics" which clearly specify the relationships denoted by the arrows. The word constitutes an "image" or "imitation" of the thing: "imagines rerum", rei effigies aut species".⁴

1. Bk.1, p.2. 2. "This is common to all speech, that it makes known to the listener either a thing or the soul of the speaker."

3. "Scaliger versus Aristotle on Poetics" in Modern Philology Vol. 39 (1942) p.342. 4. Ibid. p. 343.

Thus the word itself takes on the rôle of the passions in Aristotle. Words are dependent on "things" for their function as such: "Quamobrem ab ipsis rebus formam illam accipiunt, qua hoc ipsum sunt, quod sunt."¹ This dependence does not imply a "natural" as opposed to a conventional relationship between word and thing: it simply stresses that without this (conventional) relationship a word is no longer a word: it is merely a sequence of sounds (i.e., for the purpose of this paper, not a sign). The things represented determine the function of the words, not vice versa, i.e. for Scaliger things have the pre-eminence over words in language - words are merely reflections of them. In this rôle, "things" are divided hierarchically, from highest to lowest, into persons, actions and things. Actions come in the middle, because some are natural to persons and some to events or fate (i.e., non-persons) following his statement: "Res omnis aut est persona, aut extra personam".²

Considering the relation of words with men, we must compare the statements: "Est autem PERSUASIO, animi coniunctio cum oratione",³ and "Unus enim idemque omnium finis, persuasio".⁴ Persuasion is the chief end of language, in all its uses, including poetry. It involves the use by the speaker of words dependent on things for their meaning (i.e. of signs) in order to convey to his audience, through their meanings, his own "meaning", i.e. that of which he wishes to persuade them. Hence Weinberg describes this right hand relationship in the diagram on p.1 as being that between word and audience, i.e. listeners. But the act of persuasion is the "animi coniunctio cum oratione" - i.e. the revealing of what is in the speaker's soul (to the audience).

1. "Therefore they receive from the things themselves that form by which they are what they are." (Poetics III, 1) 2. Poetics III, 1. B. Weinberg, op.cit. p.344. "Every thing is either a person or a non-person". 3. "Persuasion is, then, the conjunction of the soul with speech". Poetics I (p.3). 4. "All have one and the same end - persuasion". Poetics I, p.3, B. Weinberg, op.cit, p.343.

So the relationship of the word with men is really a twofold one, involving both speaker and listener. The signifying of the "passions of the soul" by the sign, as opposed to that of things, occurs only when persuasion is taking place, implying the presence of a listener. Thus it would seem that signifying things is important in determining the function of a word in a language, and signifying of the "passions of the soul" is important in the actual use of words in speech.

Thus Scaliger sorts out the Alexandrian¹ confusion between Aristotle's primary and secondary significations of signs by assigning to each equal status but distinct roles. These roles foreshadow to some extent de Saussure's ["]langue/["]parole["] dichotomy;² if taken further, they might have led Scaliger to some similar notion, but since Scaliger's linguistic researches were subordinate to his aesthetic interests, no such breakthrough occurs. Contrasting with Scaliger, Ramus' ANTI-ARISTOTELIAN tendencies also made their mark in the 16th century and influenced later developments. Sign theory, insofar as Ramus treats it, is deeply affected by his system. He takes the "formal logic" of his immediate predecessor, R. Agricola, as his starting point. This logic is primarily an attempt to deal with the human cognitive processes in terms of VISUALIST analogies. Ong comments: "The description of a word..as a sign..suffers..insofar as the notion of sign is based on a visual analogy",³ and argues that there are aspects of sign theory which cannot be reduced to such analogies.

An important notion in this logic is that of "PLACE". Agricola defines it as: ".. a certain common distinctive note of a thing, by the help of which it is possible to discover what can be proven or what is probable with regard to any particular thing."⁴

1. cf. Chapter 1, p. 39. 2. See following chapter. 3. M.W.J. Ong, Ramus, Method and the Decay of Dialogue, p.110. 4. *ibid.* p.118.

Ramus took this further, and regarded place(s) as individual structures separated by clear space,¹ and contends that the mind trained in the place logic "locates things or ideas indifferently one inside the other".² Following from this, he maintains that words CONTAIN ideas and ideas CONTAIN truth (like boxes, one inside the other). This idea of CONTENT supercedes, for Ramus, the mediaeval idea of the sign as signifying by pointing to something outside itself. The idea of "individual structures", as mentioned above, led Ramus to consider that perhaps every individual language had a particular structure of its own. In that case, to describe it in terms of categories appropriate for Latin and Greek would be to distort it by forcing it into an a priori mould. This was an advance on his age which did not receive much support.

The notion "sign" as described above resembles that of de Saussure in a significant way. De Saussure's followers found problems in that nowhere in his theory is it EXPLICIT what the relationship of the sign is with the outside world. The emphasis³ is all on the concept or idea (CONTENT) as an integral part of the actual sign, not as its denotatum, and it is the notion "valeur", implying the LINGUISTIC STRUCTURE of a sign system or language, which is developed, not that of "signification", which is briefly mentioned. Developments from de Saussure show clearly⁴ that one cannot dispense with the notion of signification in favour of that of "content" in the way Ramus did; and de Saussure, unlike Ramus, does not base himself on any particular school of logic. But a certain amount of parallelism, as described above, makes one wonder whether Ramism, if freed from the dominance of the logic from which it sprang and developed into a purely linguistic theory, might have produced a major breakthrough in linguistic thought before de Saussure's time.

1. "Place" is also referred to as a "generic argument" (Ong, op.cit. p.183) as opposed to Agricola's "seat of an argument" (ibid. p. 117). Listed under this heading are such terms as genus, form, distribution, definition, cf Ong, op.cit. p. 183 for full list. 2. ibid. p. 121. 3. See following chapter. 4. See following chapter.

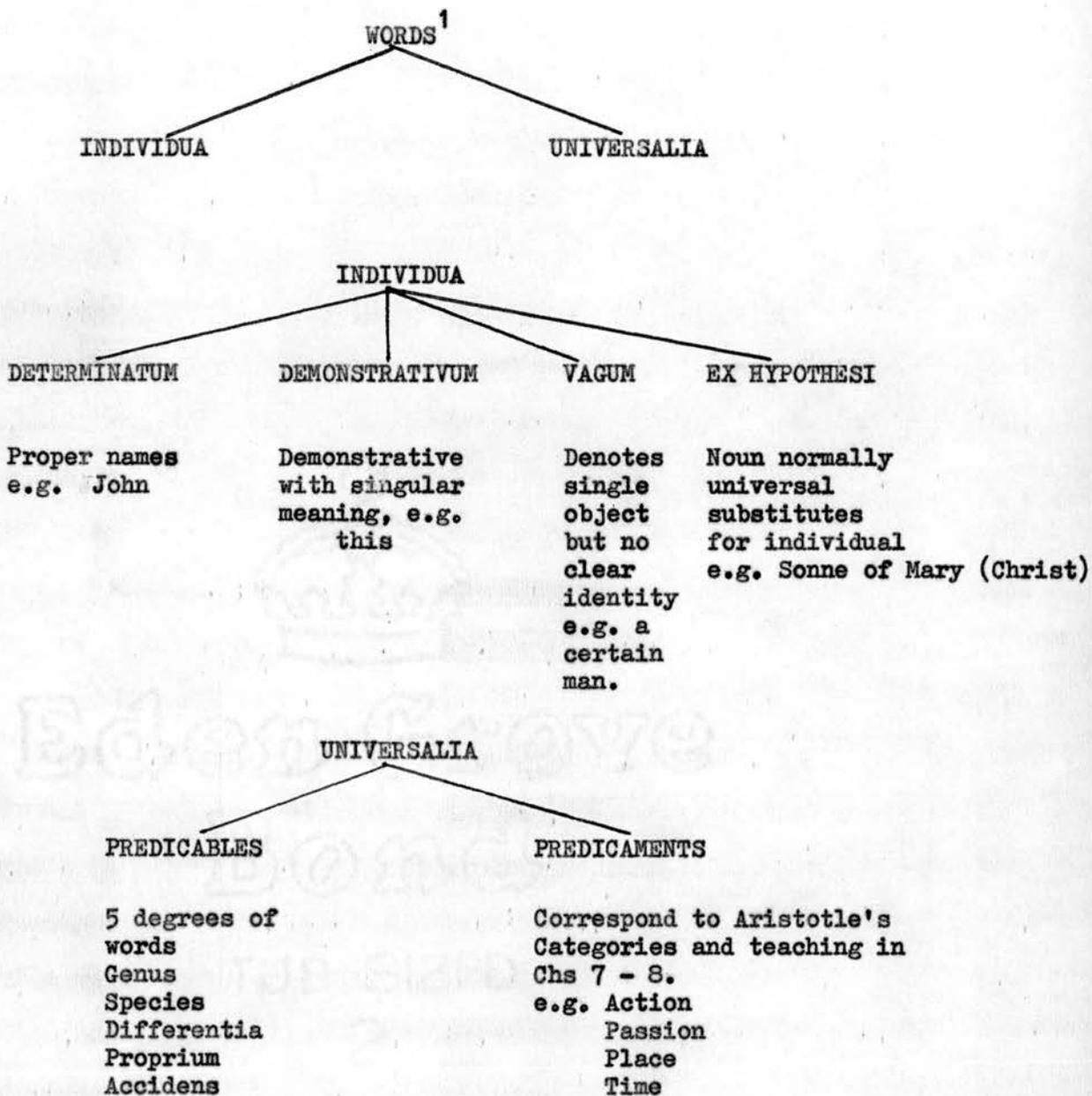
But its main influence was in the field of logic, not linguistics, where some of his "place" categories vied with Aristotle's categories in producing classificatory systems of phenomena in the world.¹ Ramus' Grammar of the French language was never a success for this very reason, which Livet² expresses well in his summary of Ramus' efforts in this field as : "singulier mélange d'un observateur gêné par les préjugés d'une logique inopportune, et d'un logicien entravé dans ses synthèses par les analyses de l'observateur".²

Other grammars of the 16th century followed the Aristotelian tradition, regarding a sign simply as a word standing for an idea or a thing, and defining the parts of speech semantically according to what sort of idea or thing they stood for; typical and generally representative of this tradition are the definitions given by R. and H. Estienne:³ e.g. "Les NOMS sont les mots qui signifient un corps ou chose qu'on peut toucher et veoir (livre) ou chose qui ne pault estre touchée ne veue (vertu, esprit)."

With the rejection of mediaeval ideas, including that of "supposition" and the solution it provided for the "problem of universals"⁴ a new way of overcoming these difficulties had to be found. The answer lay in the application of the categories of logic to the denotata of signs and a subdivision of the parts of speech, particularly nouns, according to the categories thus established. As mentioned above¹, both Aristotelian and Ramist categories were used, sometimes indiscriminately, sometimes in competition, for this purpose, thus bringing linguistic studies more than ever under the dominance of logic. The relationship between the two fields was to become indissoluble in the 17th century.

A typical example of this is T. Blundeville's The Art of Logike (1599). Words (signs) are regarded, as usual, as signifying things, and a division according to logical categories is as follows:

1. See below - Blundeville. 2. Ch.-L. Livet: La Grammaire Francaise et les Grammairiens du seizieme siecle. 3. *ibid*, p. 388. 4. See preceding chapter, p. 10ff.



Aristotle's influence can be clearly seen here, especially in the Predicables and Predicaments, which notions were rejected by Ramus. But when we look at his definitions of the five degrees of Predicables, we see strong Ramist influence:²

1. pp. 3 - 5. 2. Expressions particularly reminiscent of Ramism are written in capitals. If compared with the account given above of Ramus, they need no further comment.

GENUS¹ - "May be spoken of manie things differing in special kind".

SPECIES - "A COMMON SHAPE OCCURRING IN THE MIND THROUGH SOME KNOWLEDGE". "An idea CONTAINED IN THE MIND although the things themselves cease to have any being".

DIFFERENTIA - "THAT WHEREBY THINGS DIFFER FROM ONE ANOTHER, or anything from itself".

PROPERTIE - "Natural inclination or propertie incident to one especial kind".

ACCIDENT - "Voice or word signifying things casuall, cleaving to substances or species, without which subjects they have no being at all".

Later in this work, Blundeville makes use of a definition of "place" obviously based on that of Ramus and used in the same way:

PLACE - A MARK or TOKEN showing from whence any Argument apt to prove the question propounded is to be taken. But since this definition and its implications are, unlike in Ramus, not directly applied to the notion "sign" as opposed to "proposition" or "term" in a proposition, we do not arrive at a Ramist, as opposed to an Aristotelian, theory of the sign. The Ramist, as the Aristotelian, logical categories are simply used for convenience in order to be able to relate signs to universals as well as particulars.

Throughout the 17th and 18th centuries, these problems were approached in much the same way, with variations according to the actual categories used, and their number and subdivisions. Space does not permit treatment of these variations.

1. pp. 6 - 9.

The important fact is that the basic approach is in each case similar. Developments took place in other aspects of sign theory, which I shall now examine.

DEVELOPMENTS IN ENGLAND

Throughout the 17th and 18th centuries, traditional, PRESCRIPTIVE grammar held sway. The conventionality of the sign-thing relationship was now held to be beyond dispute. USAGE, as of the best authors and most refined circles, was the main arbiter of the norm used to prescribe what was acceptable English and what not, much to the dismay of the classicists and the supporters of "universal grammar".¹ Isaac Watts maintains:² "Grammar.. is nothing else but rules and observations DRAWN FROM THE COMMON SPEECH OF MANKIND IN THEIR SEVERAL LANGUAGES, and it teaches us to speak... and write WITH PROPRIETY AND EXACTNESS, ACCORDING TO THE CUSTOM OF THOSE...WHO ARE...SUPPOSED TO SPEAK AND WRITE THEIR OWN LANGUAGE BEST." Later, Swift³ complains that "In many instances, pure language offends against every part of grammar." To this, G. Campbell⁴ (1766) replies that to accuse the language, "which is purely what is conformable to general use,..." as offending against grammar is absurd.

With such disputes holding the linguistic field, it is not surprising that we must turn to philosophers and logicians for any further progress in sign theory.

In 1605, F. Bacon⁵ agrees with Aristotle that " Words are the images of cogitations.." He represents here a tendency beginning to lead scholars away from the sign as representing a thing and towards the pure representation of IDEAS (the "modern" version of Aristotle's "passions of the soul"). Implicitly there must be a relationship, as for Aristotle, between ideas and things, in order for language thus to denote phenomena in the outside world, but this aspect of sign theory loses importance gradually to the extent that it is hardly mentioned in later works.

1. Discussed under French developments below. 2. S.I. Tucker, English Examined p.76. 3. F.P. Dinneen, An Introduction to General Linguistics, p.162. 4. Ibid, p.162. 5. Lord Bacon: -Works, ed.B. Montagu, Vol. 2, p.196.

For Hobbes,¹ "A name" (i.e. a sign) "is a word taken at pleasure to serve as a mark that may raise in our minds a thought like some thought we had before." The importance of the link between language and MEMORY is emphasised here and in much later work. For Hobbes, memory is necessary for the giving of names: "The beginning of language is giving names to after-images of sensations."² But it is language which makes us conscious of these after-images, so in a sense language creates the possibility of memory: "The act of naming the image is the act of becoming conscious of it."³ Hobbes goes so far as to deny any direct connection between language and "things" in the outside world: "Reasoning is nothing else but the addition and subtraction of names and gives us conclusions, not about the nature of things but about the names of things. That is to say, by means of reason we discover only whether the connections we have established between names are in accordance with the arbitrary convention we have established concerning their meanings." Making this even more explicit, he says:⁴ "... a true proposition is not an assertion about the real world."

Book III of Locke's Essay on Human Understanding influenced linguistic theory more than any other work of the time, except perhaps that of Port-Royale (see below). For him, signs (words) are articulate sounds which man can use as "signs of internal conceptions",⁵ by a⁶ "voluntary imposition", whereby "such a word is made arbitrarily the mark of an idea." This is the primary signification of words, and they can only stand for ideas in the mind of the actual man who uses them:⁵ "Words cannot be voluntary signs imposed by him on things he knows not." His ideas may correspond with those of someone else, but this must not be taken for granted.

1. Leviathan, 1651, p.XXIV of Introduction. 2. *ibid.* Introd. p.XXIV.
 3. as for 2. 4. *ibid.* Introd. p.XXV. 5. *ibid.* Ch.1,p.3. 6. *ibid.* ch.2, p.9.

This is the cause of most of the difficulties encountered in communication:¹
 " Each...uses the word "gold" when they have occasion to express the idea which they have applied to it: but each.. can apply it only to his own ideas; nor can he make it stand as a sign of such a complex idea as he has not."
 The ideas represented by signs are mostly GENERAL, i.e. ABSTRACTED from any particular circumstances of time or place and from anything tying them to a particular existence as a "thing".² "By this way of abstraction, they are made capable of representing more individuals than one; each of which having in it a CONFORMITY to that abstract idea, is...of that sort." Conformity is agreement in certain qualities, which are picked out according to convenience. Thus by making a list of qualities in individuals agreeing with the term "man", e.g. body, life, sense, spontaneous motion, particular shape, and leaving out aspects peculiar to certain individuals only, one arrives at a general idea by uniting these qualities into a oneness. If one then proceeds to leave out one of these qualities, e.g. particular shape, and forms the remainder into a unity, one gets a term "of a more comprehensive extension"³, e.g. "animal". Doing the same thing, one can proceed to "Vivens" leaving out sense and motion, and then, leaving out life, to "body"; leaving out body as such, one arrives at "substance", "being", "thing": " and such universal terms which stand for any of our ideas whatsoever." This is a refreshing change from a mere application of logical categories such as genus and species, but unfortunately Locke gives no justification for the actual categories he uses - they are an a priori matter of convenience. He could have taken other categories just as arbitrarily and arrived at the same conclusion, e.g. for man, the combination of two-leggedness, uprightness of stature, instinct, need for food, ability to think and mating urges.

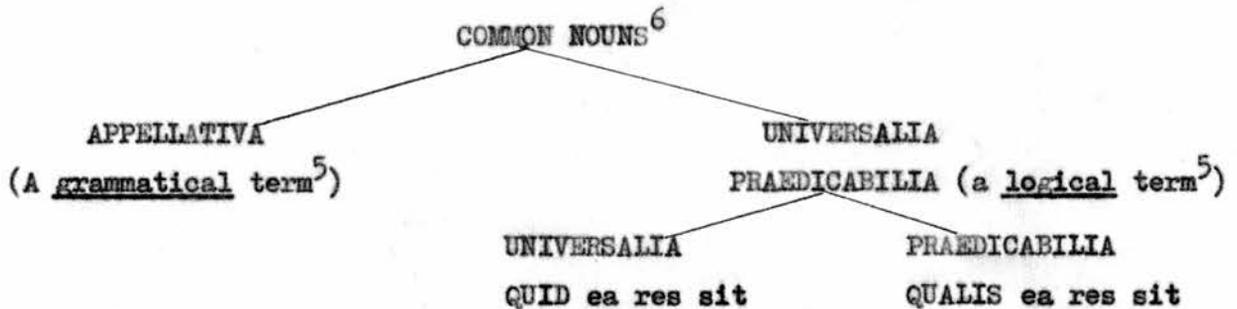
1. *ibid.* Ch.2 p.10 2. *ibid.* Ch. 3, p.17 3. *ibid.* Ch.3, p.18

Take away two-leggedness, uprightness and ability to think, and one could claim to arrive at the idea "animal". Arguments could be set out against the validity of some of my categories, but similarly they could be set out against any of Locke's categories, e.g. is a dead animal still an animal? - Can the "body" of an ¹ "animal" consisting of only one cell be called a body? If so, where is the dividing line between substance and body? Locke's categories are founded on his personal view of the external world, and any other categories one establishes along similar lines would have a similar deficiency. Admittedly he never asserts that a sign can represent more than the ideas of a single speaker - these may or may not correspond with those of another speaker of the same language -- but in this case he can only be logically consistent in arguing for an IDEOLECT, not a language. Yet he asserts at the beginning of the work considered that it is LANGUAGE as a social phenomenon for communication among men that he is considering. He also asserts² that these abstract ideas are the ESSENCES of species.³ The essence of a species⁴ is a NOMINAL essence of an artificial constitution; the "real" essence of an actual thing is unknowable - i.e. its "internal constitution"⁵. If the real essence of a thing is generally unknowable, the only "essence" worth considering in philosophy must be the nominal essence; but as this is equated with the list of qualities forming a general idea, founded on arbitrary choice and convenience, it must follow that "essence" also rests on such foundations. If so, it is useless as a notion in a philosophical system such as Locke's.

If a firmer basis could be found for Locke's basic approach to the problems involved in sign theory, it could be said to be an advance on what has gone before.

1. alive or dead. 2. ch.3, p.23 3. i.e. to have the selected qualities of "man", is to be a man, which is to have the essence of a man. 4. ibid. ch.3 p.26. 5. ibid. ch. 3. p.26

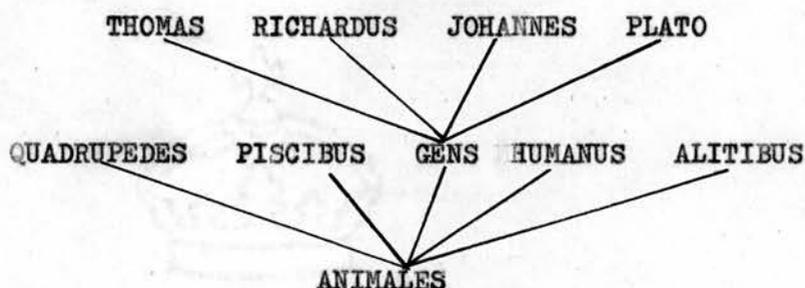
It emancipates linguistic studies from dependence on the categories of Aristotelian logic. Such an approach was not forthcoming before 1763, when J. Wallis published his Institutio Logicae. As the title suggests, Wallis' work was ostensibly another application of the categories of logic to the linguistic sign: his definition of that notion is traditional and not remarkable: ¹"Voces seu Verba...sunt RERUM NOMINA, SIGNAQUE (seu indicia) COGITATUUM, SIVE CONCEPTUUM MENTIS; quibus cogitata nostra alii aliis indicamus." He makes many of the usual divisions, such as that of nouns ² into "proper" and "common" on grounds of whether they denote an actual thing or the essence of a thing. ³ He then divides common nouns as follows: ⁴



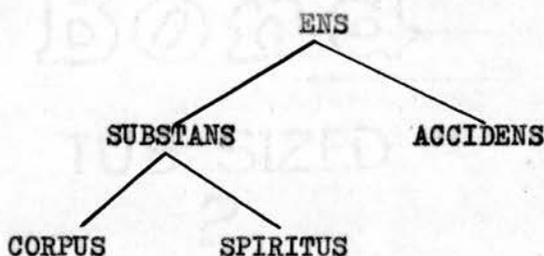
He still maintains that all THINGS are reducible to ⁷ Aristotle's ten categories. But he tries to JUSTIFY his divisions and explain them, as shown by the reference to logic and grammar, and the "quid" and "qualis" references in the above diagram. He produces some original divisions of his own, e.g. a division of 'things signified' ⁸ into 'imaginary' and 'real'. These he similarly tries to define and explain: the former as "non ⁹habent realitatem quam quae ab imaginatione nostra recipiunt" and the latter: "quae ¹⁰ quidem in mundo existunt et iam nobis non cogitantibus."

1. "Sounds or words...are names of things, and signs (or indications) of cogitations, or concepts in the mind: with these, we communicate our thoughts to one another." cf p.2. 2. *ibid.* p.12. 3. Here he resembles Locke. 4. *ibid.* p.13. 5. My summary of his comments. He writes entirely in latin. 6. "Appellatives," and "Universal Predicables" divided into "Universals" (stating what something is) and Predicables (stating what sort of a thing something is). 7. *ibid.* p.26ff. 8. *ibid.* p.27. 9. "They have no reality except that which they receive from our imagination." 10. "Those which exist in the world even when they are not in our thoughts."

But what is the basis of the justifications he gives? In this rather than in the actual notions in his theory, lies his real contribution to the development of sign theory. He describes the method of the Speculative grammarians as being: ¹"..A particularibus ad universalia" and represents it thus:



NB This is also the method of Locke. In opposition to this he proposes a process: ²"docentur primum generalia, indeque ad particularia descenditur:"



etc. until individuals reached.

He lists the advantages of this method:³

- (1) ⁴Harmoniae - ut partes inter se congruant.
- (2) ⁵Distinctionis - ut quae invicem distincta sunt, distincte tradunter.
- (3) ⁶Perspicuitas - ut tales adhibeantur voces... quae clarissime explicent quid intellectum volumus.
- (4) ⁷Decori et Uniformitatis - ut pars parti commode respondeat.

1. "From particulars to universals" *ibid.* p.252 2. "Generalities are first taught, whence one descends to particulars". 3. *ibid.* p.253 I have only listed some of them. 4. "Of harmony - so that the parts are consistent among themselves." 5. "Of distinction - so that (the parts) which are in turn distinguished continue to be distinguished (throughout)". 6. "Perspicuity - so that such terms are used..which explain most clearly what we want to make known". 7. "Beauty and uniformity - so that each part corresponds with the others as it should.

Yet such a method must have a justifiable starting point. This is:
 "Hisque¹ subjugent Postulata et AXIOMATA sive communes notiones; quae sunt
 PROPOSITIONES TANTAE CERTITUDINIS ET EVIDENTIAE, UT PROBATIONE NON INDIGEANT:"

If Locke had deduced his categories from such an axiomatic basis, he might have made a major contribution to the study of sign signification. Such categories would not be abstracts, dependent on a personal view, from the world of things, but theoretical models applicable to it.

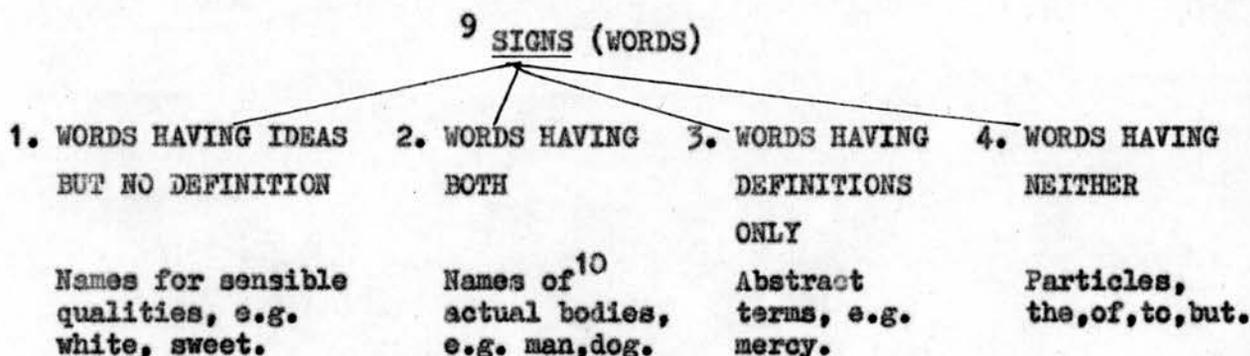
Berkeley (1710) disputes Locke's principle of abstraction: a word is a sign "²not of an abstract, general idea but of several particular ideas, any one of which it indifferently suggest to the mind." For example, the sign "line" draws its generality, not from the abstract idea of a line but from "...³the various, particular lines which it indifferently denotes." "Ideas" are but sensual perception: "⁴For the existence of an idea consists in being perceived." The only valid denotatum of a sign is the evidence of the senses. An American scholar, A.B. Johnson, (1836), takes this extreme empiricist view even further: "⁵Words are..sounds, which are indebted for signification to the phenomena only that we by custom or instruction, apply them to - but we still frequently employ them when confessedly there are no phenomena to which they can refer."⁶ Language is subordinate here to the "realities of nature"⁷; e.g. the sign "rose" is a "word with which we name⁸ an associated sight, feel and smell". It can tell us nothing about the real essence of a rose,⁹ or about its physical make-up; only our senses can inform us about the latter. This is, according to Johnston, why we: "are continually¹⁰ imputing to nature limitations, classifications, ambiguities and properties of various kinds, which truly belong to language alone."

1. *ibid.* p.254 "Underlying these (parts) are postulates and AXIOMS or common notions; these are PROPOSITIONS of such certainty and clarity that they do not require demonstration. 2. The Principles of human knowledge, Introd. parag.11
 3. Introd. *ibid.* parag. 12. 4. *ibid.* Part I, parag. 2. 5. A Treatise on Language, p.17. 6. Johnson considers this to be an illusory and mistaken use of words. Compare Ogden & Richards (cf Chapter 6) who talk of "concepts" creating "bogus entities" in the world when regarded as significata of signs.
 7. *ibid.* p.53 8. *ibid.* p.54 9. *ibid.* p.54 10. *ibid.* p.53

This is why, according to Johnson, problems arise as to the meaning of a word like "truth". To know its denotation in any given case, "we must examine¹ the circumstances to which the word is applied." Such a sign is a pure "creation² of language"; "hence the fallacy, ambiguity and difficulty when we seek in nature for a corresponding unit".³ The sign "atom" is given by Johnson as an example of a sign of "nothing at all" since atoms are not perceptible by the senses. "Realities of nature which are not external of us"⁴ can, however be perceived through our "internal⁵ consciousness" and represented by signs.

Despite its empiricist emphasis, this theory is another example of the tendency away from regarding signs as denoting things directly: "The moment.. information is clothed in language.. you are wandering away from the substance of the universe to the shadow - from the realities... to the artificial and conventional terms by which men communicate with each other."⁶

D. Hartley (1749) emphasises the POWER OF ASSOCIATION as the factor which unites sign to idea. By the same power, simple⁷ ideas become complex. Signs denote either sort of idea. He goes into a long description of the "physics" of this process,⁸ and reduces all aspects of sign theory to this basis. Signs are of four types as follows:



1. *ibid.* p. 73 2. *ibid.* p. 73 3. *ibid.* p. 73 4. *ibid.* p. 252 5. *ibid.* p. 163
This also derives from the senses originally. 6. Observations on Man, his Duty
and his Expectations p. 162. 7. Denotata of class I signs. 8. *ibid.* pp 7-67
9. *ibid.* pp 77 and 278-9 10. Most verbs belong here too.

A definition is, according to Hartley, a "substitute" in terms of other words for what is denoted by the sign. Ideas denoted by class 2 signs can be defined in terms of their properties. Class 3 signs "stand for a description" of the "qualities and operations" they denote. Since their denotata do not empirically exist, such signs can only stand for other words (classes 1 or 2) which in their turn evoke ideas. But these ideas rightly belong to the substitute signs themselves, not to the class 3 sign. Class 4 words, not strictly signs at all, are simply determined by context.¹ In class 2, a "picture"² in the mind "will excite² the AUDIBLE IDEA of the word". This foreshadows both de Saussure's use of a mental picture, e.g. of a tree, as the "signifié" (or content) of a sign and his term "image acoustique" with reference to the expression. But for Hartley, the "idea", whether or not a mental image, is the denotatum of the sign, not an integral part of the sign itself. Hartley was, as far as we know, the first and only scholar before de Saussure to regard the sign as being an audible image of sound, not actual sound. Various aspects of his theory were developed by T.G. Browne³ (1795).

Other English writers⁴ produced versions of "universal grammar" without much originality.⁵ Typical of this trend is the work of J. Harris (1751): "Now tis of these⁶ comprehensive and permanent ideas, the genuine perceptions of pure mind, that words of all languages, however different, are the Symbols."

Harris makes an original contribution concerning proper names. Previously, such signs were regarded as denoting particulars only, as opposed to general or plural ideas. But since their definitions, he says, "may be unknown⁷ to those who know the language perfectly well", they can "hardly therefore with propriety be considered as parts of it."

1. *ibid.* p.274 - algebraical symbols are regarded as similar. 2. *ibid.* p.271
 3. Hermes Unmasked 4. J. Priestley (1762) J. Beattie (1788) 5. i.e. based on Port Royale. See below. 6. Hermes p. 372 7. *ibid.* p. 346ff.

They are outside any actual language system, on the basis that the "compact"¹ whereby signs acquire signification is by definition common to all members of a speech community. Proper names, being individual and variable in most cases, do not acquire their precise signification by such definitions.

FRENCH DEVELOPMENTS.

These are considered only insofar as they differ from previously mentioned developments. The main French contribution to sign theory is that of "universal grammar", originating from the theories of Port-Royale, in reaction against views held by Vaugelas² (early 17th century), who maintained that language does not follow the laws of reason. "Il n'y a que l'usage et l'analogie".³

These theories followed⁴ the principles and methodology of Descartes; starting from the basis of "idéés claires et distinctes",⁵ they attempted to deduce their logical and grammatical notions by a process of step-by-step reasoning, on the assumption that language "est..une création de l'esprit humain; il ne fait que traduire nos concepts, nos jugements, nos raisonnements."⁶ Reason (or thought) and language are so closely linked in this view that it is impossible to study them separately.

In the Port-Royale Grammar⁴, starting from the proposition "Parler est expliquer⁷ ses pensées par des signes," they examine signs from two aspects:

- (1) CE QU'ILS FONT PAR LEUR NATURE - EN TANT QUE SONS & CARACTÈRES
- (2) LEUR SIGNIFICATION - i.e. "la manière dont les hommes s'en servent pour SIGNIFIER LEURS PENSÉES".

1. ibid. p. 329 2. Remarques sur la Langue Françoise 3. G. Harnois - Les Théories du Langage en France de 1660 - 1821 p.20 4. cf. works of Arnauld, Lancelot and Lamy in Bibliography. 5. As set out in Discours de la Méthode (1637) 6. ibid. p. 23. 7. Grammaire Générale et Raisonnée, preface.

Part I of the grammar consists of classifications of the sounds occurring in signs. Brekle¹ has claimed that this is really an early attempt at phonological analysis, but nowhere do the authors attempt more than a description and classification of physical speech sounds. It is certainly an early form of "scientific" approach to phonetics.

Brekle¹ also claimed that the Port-Royale theory contains an earlier version both of de Saussure's notion "sign" and of Martinet's "double articulation". But de Saussure's sign consisted of an "image acoustique" (a psychological image of sound, not actual sounds, phonetically classified or not) and a concept. Both were integral parts of the sign.

The Port-Royale definition of "mot", on the other hand, ran as follows: "..les sons distincts et articulez² dont les hommes ont fait des signes pour signifier leurs pensees." ³This shows clearly that, for them, the sign consisted merely of speech sounds used in a particular way - i.e. to signify "thoughts" which are not in themselves an integral part of the sign or language system.

Similarly, Martinet's phonological units were not speech sounds, physical in nature, but bundles of "distinctive features",⁴ i.e. theoretical models corresponding to speech sounds but 'existing' in complete abstraction from them.⁵ Martinet's sign was, similarly, an abstract theoretical entity, like that of de Saussure, in which both 'expression' and 'content' (a pure value in this case, not a concept)⁶ are integral parts. His "double articulation" relates entirely to this abstract, theoretical level which underlies, but is not identical with, speech events.⁷

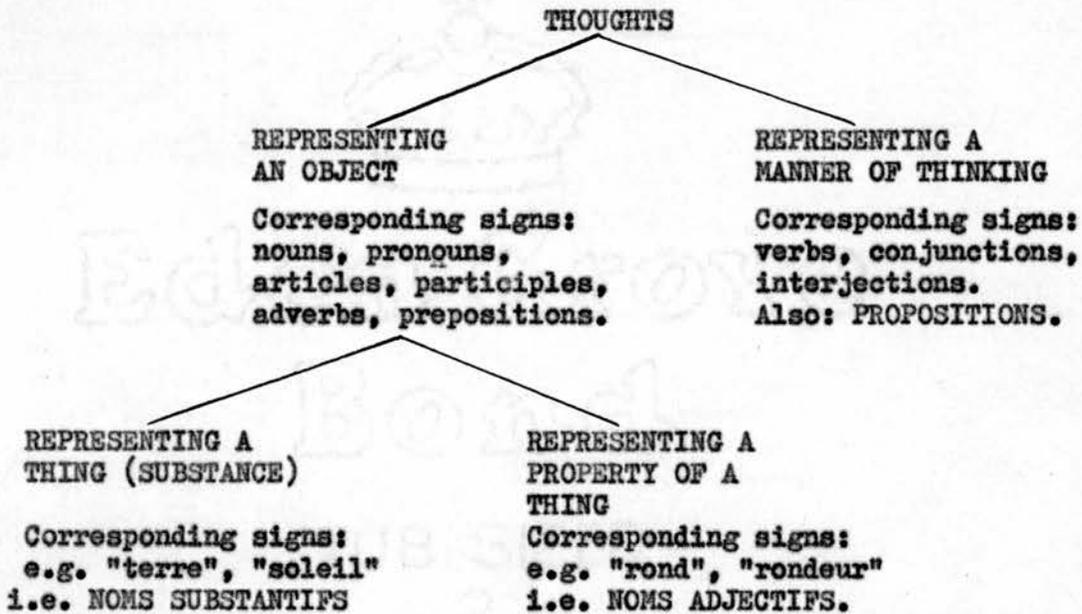
1. "Semiotik und linguistische Semantik in Port-Royale". in Indogermanische Forschungen, Vol.69. 1964 - 5. 2. spelt as quoted in the Port-Royale Grammar. 3. Grammaire Générale et Raisonnée, p. 27. 4. For explanation of "distinctive feature" see Ch. 4 p.103 note #4. 5. C. Lancelot and A. Arnauld, of La Linguistique Synchronique p.36ff, esp. p.41: "La phonologie nous enseigne..." to end of paragraph. 6. For details, see Ch. 5, p. 149
7. Compare Ch.3, p. 83 - de Saussure's "langue"/"parole" distinction.

Therefore there can be no correspondence between the "double articulation"¹ and the Port-Royale sign theory; the former operates on a level entirely independent of speech events, and the latter operates entirely on speech events, not having seen the necessity of distinguishing the two levels. The following diagram will make the lack of isomorphism between the two theories clearer: for Martinet, language structure consists of a correlation of two systems - that of meaningful signs and that of merely distinctive phonemes, meaningless in themselves; in the Port-Royale theory there is no such clearly established correlation:

| | <u>PORT-ROYALE</u> | <u>MARTINET</u> |
|---------------------|--|---|
| A. Outside system | THOUGHT/THINGS | THOUGHT/THINGS |
| B. 1st articulation | GROUPS OF SPEECH SOUNDS. MEANINGFUL ONLY BECAUSE OF THEIR RELATIONSHIP WITH ENTITIES IN A. | LINGUISTIC SIGNS WITH BOTH EXPRESSION AND CONTENT. MEANINGFUL <u>IN THEMSELVES.</u> |
| C. 2nd articulation | INDIVIDUAL PHYSICAL SOUNDS PHONETICALLY CLASSIFIED | PHONEMES, CONSTITUTING THE EXPRESSION OF THE SIGNS IN B. |
| D. Outside system | _____ | PHYSICAL, PHONETICALLY CLASSIFIED SOUNDS. |

1. cf Ch. 7, and Éléments de Linguistique Générale pp. 22 - 5.

Like the "passions"¹ in Aristotle's theory, "thoughts" are representative, in the Port-Royale theory, of "things". Like the speech sounds, they are rigorously classified; signs can then be classified according to what kind of thoughts they represent. Here is a broad outline:²



1. Passions i.e. "of the soul" cf. Ch. 1, p. 15 2. Summarized from Grammaire Générale et Raisonnée, p. 30ff.

The connection between thoughts and corresponding signs was considered so intimate that syntactical relations between signs in sentences were held to reflect similar relationships between thoughts. With this in mind, N. Chomsky claimed¹ to have found in the Port-Royale theory the origin and inspiration of his Transformational Grammar. This claim will be considered later.²

The Port-Royale logic³ contains developments of their sign theory. Of particular interest is the notion "idées accessoires"⁴ - present when "outre la signification distincte,⁵ il y a encore une confuse, qu'on peut appeller CONNOTATION d'une chose....". For example, the "signification distincte" of "rondeur" is usually accompanied by "connotations" of a round object.⁶ This distinction of "signification distincte" and "connotation" drew little attention at the time. But more recently a comparable distinction has needed to be drawn in order to make possible a rigorous description of the semantic structure of a language. In accordance with de Saussure's "langue"/"parole" distinction, denotational (structural) meaning has been isolated from "connotational" meaning (the infinite shades of meaning attached to realizations of signs in speech as a result of personal feelings, situational context, etc.)⁷

Most eighteenth century developments in France spring from the Port-Royale theory. Grammar was "universal" because thought patterns were held to be universal, and the structure of language was made dependent on the 'structure' of thought. For Beauzee (1767) grammar was "d'une vérité⁸ immuable & d'un usage universel", deriving from "la pensée même". The particular grammar of a specific language was "d'une vérité hypothétique & dépendente des CONVENTIONS PORTUITES, ARBITRAIRES, MUABLES...".⁸

1. In Cartesian Linguistics - cf Bibliography. 2. cf Ch.6. 3. A.Arnould; L'art de Penser - cf Bibliography. 4. *ibid.* Part I, Ch. 14 & Grammaire Generale et Raisonnee, p. 31ff. 5. *ibid.* p.31. 6. i.e. in a person's mind. 7. cf S.G.J. Hervey: "Notions in the manipulation of non-denotational meaning in speech" in La Linguistique, 1971. 8. Beauzee: Grammaire Generale preface, p.IX.

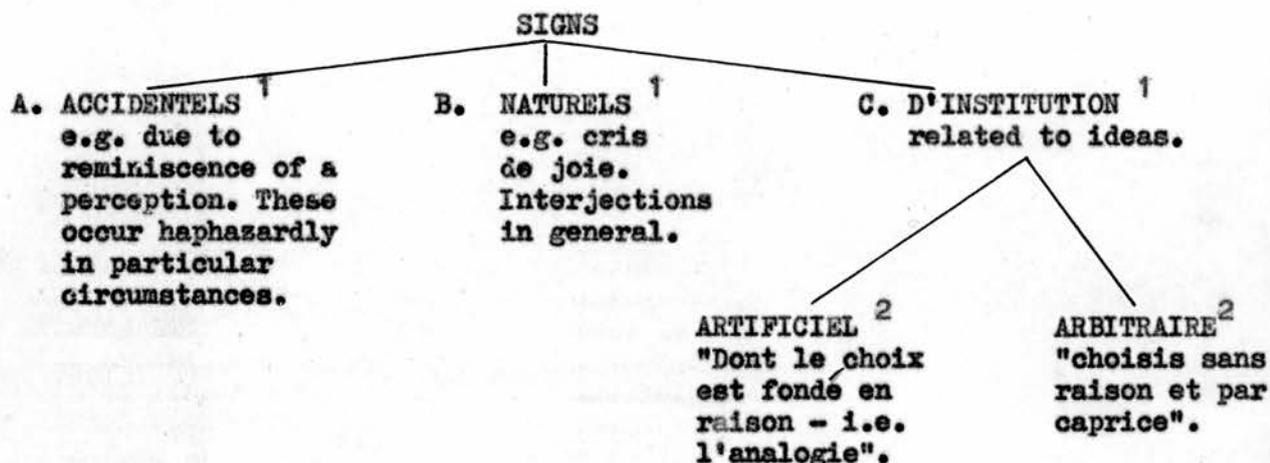
It is striking that nowadays many linguists would consider the latter to be the only valid foundations of language systems and linguistic signs.¹

Du Marsais (1769) regarded thought as a unity; according to him, it would have remained indivisible but for the need to communicate: " .. nous sommes CONTRAINTS² de donner a notre pensée de l'étendue .. & des PARTIES afin de la faire passer dans l'esprit des autres, où elle ne peut s'introduire que PAR LEURS SENS". These "parts" imposed by the categories of logic, are the origin of linguistic signs, which exist only because thought needs to be put into a form perceptible by the senses so that communication can take place.

Thus the thought aspect of sign theory became more and more exalted over the linguistic aspect. This tendency reached its extreme in the work of Condillac³, who regarded language as no more than a means of analyzing thought: "Pour découvrir les principes du langage, il faut donc observer comment nous pensons; il faut chercher ces principes dans l'analyse même de la pensée." Whilst agreeing basically with universal grammar, he developed his own sign theory along empiricist lines, under the influence of Locke. He admitted that "puisque les mots⁵ sont les signes de nos idées, il faut que le système des langues soit formé sur celui de nos connaissances" - which⁶ are the same everywhere. But all our thought, abstract or not, derives ultimately from sensory perception, not from pure reason: "Toutes nos connaissances viennent des sens⁷". Therefore, not logic but " l'analogie et l'analyse"⁸ is the foundation of language, hence of linguistic signs: "voilà ⁸à quoi se réduisent.. toutes les principes des langues".

1. Chomsky is an exception - cf Ch. 6. 2. Logique et Principes de Grammaire, p.236. 3. Oeuvres Philosophiques Vol. I. 4. *ibid.* p.427. 5. *ibid.* p.433. 6. *ibid.* p. 435. 7. *ibid.* p. 124. 8. *ibid.* p. 431.

He divides signs thus:



Class C signs occur in both spoken language and in the "langage³ d'action" which Condillac believed to be the predecessor of spoken language. Both language types are "langues artificielles" as opposed to "le langage des idées simultanées"⁴ which was the only "langue naturelle". The latter existed before articulated languages forced⁴ simultaneous ideas into a linear order similar to that of signs.

Condillac rejected the deductive, Cartesian approach of Port-Royale; in favour of Locke's inductive approach.⁵ Not so le Père Buffier (early 18th century). He recommended for French linguistics the same kind of axiomatic approach as Wallis did for England. There is such a similarity between the two approaches that speculation has been made as to whether or not there was mutual influence at any time.⁶ Buffier disclaimed this.⁷

1. *ibid.* p.19. 2. *ibid.* p. 429. 3. i.e. gesture language, *ibid.* p. 429
4. *ibid.* p. 430. 5. See above. 6. K.S. Wilkins, A Study of the works of Claude Buffier, p. 42. Also see above. 7. *ibid.* p. 43.

The source of Buffier's "first truths" is "common sense"¹. They are: "...judgements so clear² that they neither can be defended nor attacked by propositions more clear". He sees the difficulties implied in Locke's approach, and evolves a notion "sign" that avoids them. He writes: "In determining³ the name that should be given to a thing...CUSTOM has not always determined precisely to what degree of change... the thing is to preserve the same appellation." Is, for example, an orange minus its skin and juice still an orange? As it stands, the answer must be a matter of personal opinion. He comments: "It is this arbitrary⁴ change of name that, for want of attention, is apt to be taken for a change of ESSENCE." Like Locke, he distinguishes "real essence" (unknowable) from "represented essence". But he defines the latter thus: "The idea of several⁵ principle qualities discovered by us in an object...IS AFFIXED BY CUSTOM TO A CERTAIN NAME..." If the name is changed, the essence is no longer considered the same. He is not obliged, like Locke, to enumerate the qualities concerned; "represented essence" is a purely linguistic notion, applicable to the outside world, not a notion abstracted from the outside world and applicable to language. It is reached by deduction from "first truths", and not dependent on his personal observations of language.

ROMANTICISM AND THE NINETEENTH CENTURY.

Leibnitz' criticism⁶ of Locke, (published 1765) appears at first sight to be retrogressive. The whole argument concerns whether linguistic signs are natural or conventional in their relationship with the outside world.

1. First Truths, p.22. 2. ibid. p.24. 3. ibid. p.143. 4. ibid. p.144. In Buffier's opinion, an orange minus its skin is still an orange; but an orange minus both skin and juice is no longer an orange. If is, of course, arbitrary to say this. The "arbitrary change of name" applicable to this case is presumably a change from "orange" to something like "pulp". 5. ibid. p.142. 6. Nouveaux Essais sur l'Entendement Humain.

According to Leibnitz, no language is entirely conventional; there is a strong natural element: significations of words (signs) "ne sont¹ point déterminées par une nécessité naturelle, mais elles ne laissent pas de l'être par des raisons tantôt naturelles...tantôt morales." All languages originate, in his view, from a "langue primitive" which was almost completely natural. For Leibnitz only "real essence" need be considered: "L'essence dans le fond n'est autre² chose que la POSSIBILITÉ de ce qu'on propose." For him, reality³ equals possibility. "Les essences sont⁴ PERPETUELLES, parce qu'il ne s'agit que du possible." These possibilities, or realities, exist independently of human thought, in the "harmonie préétablie" which comes from God. "Toutes⁵ choses que la PARFAITE HARMONIE de l'univers pouvait recevoir y sont." Since "il ne s'agit⁶ que des possibilités" all our innate ideas (whose existence is denied by Locke) "sont en Dieu de⁷ toute éternité" and "sont également naturelles."⁸ Sounds too, according to Leibnitz, originally had a natural relationship with the phenomena they represented. For example, "un instinct⁹ naturel des anciens Germains, Celtes, et autres peuples... ont employé la lettre R pour SIGNIFIER UN MOUVEMENT VIOLENT." This is reminiscent of Plato's¹⁰ satire in 'Kratylus' against such practices - but Leibnitz takes them seriously.¹¹ His examples (see note 11) are supposed to prove that: "Il y a quelque chose de naturel dans l'origine des mots qui marque un rapport entre entre les choses et les sons...".

1. *ibid.* p. 236. 2. *ibid.* p.251. 3. *ibid.* p. 251. 4. *ibid.* p.253.
 5. *ibid.* p. 265. 6. Leibnitz p.259. 7. *ibid.* p. 258. 8. *ibid.* p. 259
 9. cf H. Aarsleff, "Leibnitz on Locke on Language" in American Philosophical Quarterly Vol.I, p. 184 10. Kratylus Sect. 434 ff. 11. For example, he says that a French child might say "mon l'évêlénd pèle" instead of "mon révérend père" through fear of the 'violence' associated with "r". Aarsleff: *ibid.* p. 184.

The Romantic movement, including Herder and Schlegel, took up these notions, using them to make fantastic claims for language. For Herder, linguistic signs developed from "die unartikulierten Töne der Natur"¹ as found in interjections. Despite the fact that signs are closely linked to human reason, that, too, originated from Nature and progresses according to its laws. The laws governing man and language are in his view "Naturgesetze."² His definition of "sign" shows the same viewpoint: "(man) erkannte das Schaf am Blöken. Es war GEFASSTES ZEICHEN bei welchem sich die Seele an eine Idee deutlich besann - was ist das anders als Wort? UND WAS IST DIE GANZE MENSCHLICHE SPRACHE ALS EINE SAMMLUNG SOLCHER WORTE?" Such notions originate in the aesthetic ideas underlying the whole Romantic movement, and have no scientific validity. Schlegel follows similar lines.

Humboldt was the only follower of the Romantics who also produced an influential linguistic theory. Language and reflective thought were, in his view, co-original. Brown comments: "The signs of language are therefore³ necessarily SOUNDS, and... man must, as soon as he clearly recognizes an object as separate from himself, also immediately utter the sound which has to signify the same thing." So uttering a sign and thinking are one and the same thing. Humboldt completely identifies them with each other. It follows that the view of the world held by members of a particular speech community depends entirely on the sign structure of their particular language: "Languages⁴ are the true images of the modes in which nations think and combine their ideas."

1. Über den Ursprung der Sprache, p.9. cf also p.6ff. 2. ibid. p.23ff.
 3. R.L. Brown - W. von Humboldt's Conception of Linguistic Relativity p.66
 4. ibid. p. 107. - quote from Humboldt: An Essay on the best means of ascertaining the Affinities of Oriental Languages. (1828) His ideas were taken up later by E. Sapir and B.L. Whorf - cf Chapter 6.

Most of the nineteenth century is taken up with "comparative grammar", pioneered by F. Bopp. Since this involved tracing the historical development of morphological and phonetic FORMS, and reconstructing hypothetical ones in the case of languages with no extant records on the basis of comparing and deducing from related forms in known languages, sign theory was not necessary for the purpose, and faded into obscurity. De Saussure was at first engaged on work similar to the above, before he saw its limitations and evolved his famous sign theory in order to make possible scientific study of every aspect of language, including "meaning".



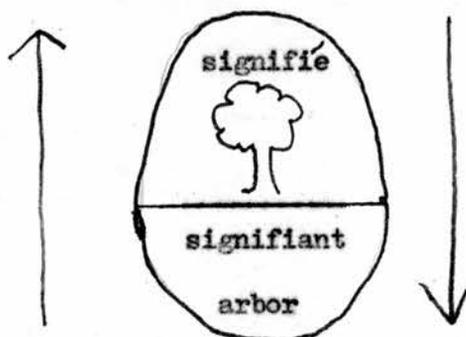
Eden Grove

Banc

TUB 32FD

CHAPTER THREEDE SAUSSURE'S SIGN THEORY -PROGRESS OR REVOLUTION?

De Saussure's sign theory can be summarized as follows:¹



The "signifiant" is the mental image of a sequence of articulated sounds - in this case "arbor" - referred to often as the "image acoustique". The "signifié" is a mental concept, in this case of a tree.² The oval frame represents the sign as a discrete entity in language. The horizontal line represents the TWOFOLD nature of the sign: both halves are distinct, but indissolubly united.³ The two vertical arrows indicate a relationship of mutual implication holding between the "signifiant" and "signifié".⁴

This notion "sign" is held by many to represent a major breakthrough in linguistic thought - so much so that without it the advances made in modern linguistics would not have been possible. In order to examine the truth or otherwise of this statement, we must look not only at the basis, implications and subsequent developments of this particular sign theory, but also at de Saussure's own attitude towards his predecessors.

1. "Cours de Linguistique Générale" (henceforward "CLG"). p.98ff. 2. For de Saussure, a "signifié" was not necessarily a "picture in the mind"; he often refers to "l'idée de tuer, de noyer" etc. e.g. CLG Edition Critique (henceforward "EC"), p.165. 3. De Saussure uses the analogy of a piece of paper - one cannot cut one side of it without cutting the other. cf CLG p.157. 4. Literally "entity signifying" and "entity signified," usually rendered in English as "expression" and "content".

Two scholars in particular influenced de Saussure's thought: the American linguist W.D. Whitney¹ and the sociologist E. Durkheim. Whitney still followed the historical approach to linguistics which characterized the nineteenth century. He writes: "As linguistics is a historical science, so its evidences are historical, and its methods of proof of the same character."² He does not, however, restrict himself to phonological and morphological considerations: he devotes a large section of his main work³ to change of MEANING, without which, according to him,⁴ linguistic description is incomplete. This involved him in sign theory. Whitney did little more than to take the traditional notion "sign" and give it a legitimate place in the scheme of comparative/historical linguistics; but in so doing he asserts principles which particularly inspired de Saussure's thought. For Whitney, language is: ".. the body of uttered and audible signs by which, in human society, thought is principally expressed."⁵ He emphasizes the role of COMMUNICATION in the functioning of a language: language is "expression for the sake of communication". Signs in language are both arbitrary and conventional.⁶ "Language, both in its single items and as a whole, is primarily the SIGN OF THE IDEA, the sign WITH ITS ACCOMPANYING IDEA."⁷ People learn languages by ASSOCIATION:⁸ "THE LEARNER GRASPS THE CONCEPTION, at least in a measure, and then associates his own word with it BY A PURELY EXTERNAL TIE."⁹

1. Whitney evolved his ideas largely in reaction against the ideas connected with the Romantic movement. Hence his emphasis on language as a social institution with a purely CONVENTIONAL basis. He strongly criticizes Max Muller for his rejection of the term "convention" in connection with language. But Müller was in fact a stepping stone between the Romantics and a conception of language in terms of social conventions, as the following statement makes clear:- "What lies beyond the production of roots" (in the traditional grammar sense - opposed to 'accidents') "is the work of nature; what follows after is the work of man, NOT IN HIS INDIVIDUAL AND FREE, BUT IN HIS COLLECTIVE AND MODERATING, CAPACITY" (Lectures on the Science of Language, p. 374) He was "romantic" in that he believed in a natural origin of language and, like Humboldt, identified language with thought, but in other respects he too was a forerunner of de Saussure. 2. The Life and Growth of Language p.312. 3. cf note 2. 4. *ibid.* p.76ff. 5. The Life and Growth of Language, p.2. 6. *ibid.* p.19. 7. *ibid.* p.16. 8. *ibid.* p.16. 9. *ibid.* p.18.

For the learner, "an internal and necessary tie between word and idea is absolutely non-existent ... and whatever historical connection there may be is also non-existent to his sense."¹

These remarks are relevant to de Saussure's conception of "l'arbitraire du signe", which, along with his notion "valeur", is a prerequisite in his system to the establishment of his notion "sign".³ Whitney's notion "sign", still a traditional "unity", points to something outside itself, and consists of audible sound.² But his development of the notion "arbitrary" paves the way for the idea of a twofold entity. A passage in de Saussure's own⁴ notes reads: "La loi tout à fait finale du langage est...qu'il n'y a jamais rien qui puisse résider dans UN terme, par suite directe de ce que les symboles⁵ linguistiques sont SANS RELATION AVEC CE QU'ILS DOIVENT DESIGNER."⁶ If the relation between sign (in Whitney's sense of a single (not twofold) entity) and thing is not internal and necessary to the sign, it can be left out of consideration in its definition. But this leaves us with a mere stretch of sound (nothing resides in "UN terme"). "Meaning" must find a place somewhere in an adequate definition of "sign". The only alternative is to conceive the sign as an entity consisting of TWO terms, corresponding to the audible and conceptual aspects of language function, both of which form an integral part of the sign.

1. *ibid.* p. 19 2. See above definition of language and note 5 on previous page. 3. See below and Les Sources Manuscrites du Cours de Linguistique Générale (henceforward "SM") p.91. (4.juillet). 4. cf EC. p.264. N.10. 5. A term which de Saussure later rejected in favour of "signe". 6. This view was possibly encouraged by de S's reading of Dürkheim: he considered our concepts as having no direct relationship with the things they represent: they do not necessarily represent them accurately: "(nos idées).. sont...comme une voile qui s'interpose entre les choses et nous et qui nous les masque d'autant mieux qu'on le croit plus transparente." (Les Règles de la Méthode Sociologique, p.16

On the preceding pages,¹ "valeur" too is defined as "la contrepartie des termes coexistants." What, then, distinguishes "valeur" from "signification" De Saussure assures us that there is a distinction.² Why does de Saussure find it necessary to distinguish between "valeur", "signifié" and "signification"? Or is he muddled about the relations between these terms? Sechehaye is equally puzzled.³ Students' notes, say, e.g. "Le sens d'un terme depend de présence ou absence d'un terme voisin. Depuis le systeme, nous arrivons à l'idée de valeur, non de sensAlors on s'apercevra que (la) signification est DÉTERMINÉE PAR CE QUI ENTOURE."⁴ He says: "Je crois avoir interprété cette énigme: signification et sens sont synonymes, et "ce qui entoure" doit vouloir dire l'occasion, le contexte, et non les rapports qui établissent la valeur comme on pourrait le croire."⁵ This interpretation implies a direct relationship between the sign and the outside world.

De Saussure denied the relevance of this relationship with reality to his system as such when criticizing the traditional notion "sign";⁶ even when dealing with "signification",⁷ he never mentioned it explicitly. But most of his followers found it necessary, like Sechehaye (see the above quotation), to take the real world into consideration when dealing with the linguistic sign. But it was the very irrelevance of the real world to de Saussure's notion "sign" that led him to define it in terms of the linguistic system to which it belongs, i.e. as a "valeur" - one of the most "revolutionary" aspects of de Saussure's thought.

1. D271 (1864), referring to the same page of CLG (p.159) 2. EC p.248. II R 51. Compare G.1.13b and B.32 and II C 39 on p.249. 3. So is R. Godel - in his article "De la théorie du signe aux termes du système" (cf Bibliography) he assigns "signification" to "la PAROLE" (p.53ff) "Dans ses derniers cours, de Saussure a opposé la valeur à la signification. Les notes des étudiants, sur ce point, ne sont pas bien claires, et on a pu en proposer plus d'une interprétation. Comme les valeurs sont fixées par les relations des signes dans le système, il semble logique de rapporter la signification à la parole." 4. EC. p.260. D.274. Compare p.261 III C.397. 5. *ibid.* p.261 & SM, p.91. 6. EC. p.148. N.12, Extrait 19. 7. So much so that a note to the "Collation" on p.261 reads, "En fait, de Saussure n'a jamais défini la signification."

Whitney's notion "arbitrary" led de Saussure, as explained above, to establish a TWOFOLD entity "sign"; its connection with the outside world, if any, was merely a matter of convention. As Niels Ege puts it:¹ "De Saussure fait consciemment abstraction, en formulant sa définition, de toutes les spéculations de la théorie de la connaissance² sur le rapport entre signe et chose désignée, et il tâche, à un certain degré, de déterminer le signe par des critères internes."

These "critères internes" were not the internal structure of the sign; for de Saussure the relationship between the "signifiant" and the "signifié" of a sign was, as much as the relationship between the sign and the real world, arbitrary and conventional. The determining factor which held together a given "signifiant" and "signifié" at a particular point in time was the pattern of relationships between the units in the linguistic system ("langue") to which the sign belonged. Under these circumstances, a sign cannot be a POSITIVE³ entity; it is NEGATIVELY defined in terms of its relationships with the other signs in the same system. That is why de Saussure maintained in his lectures: "Si le signe n'était pas arbitraire, on ne pourrait pas dire qu'il n'y a dans la langue que des différences."⁴ The underlined statement is fundamental to de Saussure's whole theory. On the same theme, he says: "Différence implique pour notre esprit deux termes POSITIFS entre lesquels s'établit la différence. (Mais le paradoxe est que:) Dans la langue, il n'y a que des différences SANS TERMES POSITIFS."⁵

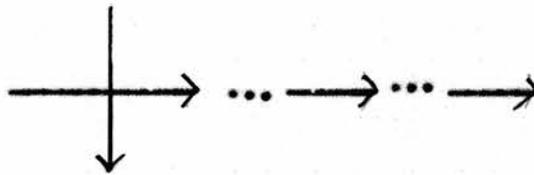
1. N.Ege: "Le signe Linguistique est Arbitraire" in Recherches Structurales (Travaux du Cercle Linguistique de Copenhague, Vol.5) (1949) p.14. 2. "Theory of knowledge" formed the basis of the sign theory (or at least the theory of signification in the sense of the relationship of a sign with the outside world) of many of de Saussure's predecessors, e.g. Locke, Berkeley, Hobbes, etc - cf Chapter 2. 3. An indication of the "revolutionary" nature of this conclusion is given in CLG p.166: "...dès que l'on considère le signe dans sa totalité, on se trouve en présence d'une chose POSITIVE..." Students' notes at this point show that de S. probably said: "quelque chose qui peut RESSEMBLER A des termes positifs." cf EC. p.271, D.281; comp. p.272, III C.405. De Saussure's followers still had difficulties in accepting a completely negative definition given to the sign. 4. EC p.265, III C.405. Comp. p.264, D.282. If the above CLG statement (note 3) is applicable, a contradiction would be implied with the statement referred to here. 5. EC. p.270, III C. 403. Comp. p.269, D.280

The notion "valeur" arising out of these relationships in the whole system of "langue"¹, is relevant both inside and outside the sign itself. Concerning the relationship between individual signs, de Saussure puts forward his famous analogy with a game of chess: "La valeur d'une pièce.. dépend de l'ÉQUILIBRE GÉNÉRAL, mais aussi de l'équilibre momentané."² As this is de Saussure's sole criterion for determining the sign as a discrete unit,³ he finds it unnecessary to make a distinction between "valeur" and other notions normally distinct: "..⁴ de Saussure ne fait pas de différence fondamentale entre...une VALEUR, une..IDENTITÉ, une UNITÉ, une RÉALITÉ (au sens linguistique) et un ÉLÉMENT CONCRET⁵LINGUISTIQUE." "Valeur", the identity of signs as determined by their relationships with other signs in the system, depends entirely on maintaining the status quo. As, in chess, the movement of one piece can alter the whole set of relationships on the board, so in language alteration of even one sign can change the whole set of relationships within the system and hence the "identity"⁶ of the signs concerned. Therefore it is necessary to separate diachronic and synchronic studies, "de considérer la langue comme UNE POSITION D'ÉCHECS (qui n'aurait ni antécédent ni suite); se demandant quelle était, dans cette position, la valeur (puissance) respective des pièces."⁷

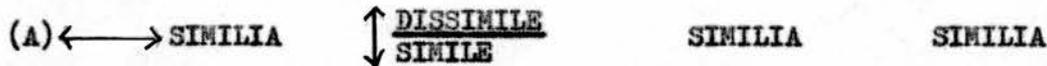
Within the sign, the signifiant and signifié are also "valeurs" in equilibrium with each other:⁸ ".. dans l'association constituant le signe, il n'y a depuis le premier moment que deux valeurs existant l'une en vertu de l'autre."

1. Explained below. 2. EC. p.195 J177. Comp. III C.349 and (p.194) S.2.31 & D.224. 3. EC p.265. N10. "C'est l'évidence absolue, même a priori, qu'il n'y aura jamais un seul fragment de langue qui puisse être fondé sur autre chose comme principe ultime que sa non-coïncidence....avec le reste." 4. EC. p.247 II.R.50. Comp. G.1.13a & (p.248) B31 and II.C.39. 5. Used by de S. in a specialized sense, meaning "whole" as opposed to "a part" ("abstraction" - e.g. a "signifiant" imagined without a "signifié" of CLG. p.157.). 6. In de S.'s sense of the term. See above. 7. EC. p.198 N.10. De S. criticizes "historical" linguistics for recognizing only MOVES in chess. Traditional grammar is given credit for recognizing STATES OF PLAY - partic. the Port-Royale theoreticians for their synchronic approach. (EC. p.183 III.C.332(sect.1364-5). NB. He does not praise them for having a sign theory similar to his own, as one might expect if Brekle's claim (cf Ch.2) were true. 8. EC. p.178. N .23.6. (sect.1329).

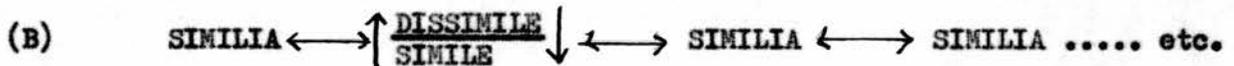
Thus "la valeur est déterminée selon ces deux axes concouramment:"¹



De Saussure illustrates this principle by the following diagram:¹



This diagram is difficult to interpret, since it appears only in rough in de Saussure's notes.² Its "final" version would probably look like this:



De Saussure uses the following diagram to illustrate the relationship between "signifiant" and "signifié" within a sign using the analogy of the relationship between goods and their value in money:²

(C)



He says that "valeur" is a synonym both of "terme situé dans un système"³ and of "chose échangeable"³. He concludes: "C'est le propre de la valeur de mettre en rapport ces deux choses."⁴ His meaning here, as far as it is ascertainable, seems to be that not only whole signs as opposed to⁵ each other within a linguistic system, but also the "signifiant" and "signifié" in the⁶ internal structure of any given sign, are values in equilibrium. Whole signs are entities similar in nature; "signifiant" and "signifié" are not.

1. EC p.259 N.36.6 Extrait 22. 2. EC. p.178.N.23.6. 3. EC. p.259.N.23.6. Extrait 22. 4. See note 3. The "deux choses" appear to be "valeur" as "terme situé dans un système" and "valeur" as "chose échangeable". Values along the horizontal axis ("termes") and values along the vertical axis ("choses échangeables") in diagrams (A) and (B) are brought into relation with each other. 5. Represented by "similia" and the horizontal double arrows in diagrams (A) and (B). 6. Represented by "simile", "dissimile" and the vertical double arrows in diagrams (A) and (B).

The "signifiant" is an acoustic image, whereas the "signifié" is a concept. More important, the "signifiant" is purely distinctive, whereas the "signifié" carries the meaning¹ of the sign. "Signifiants", like signs considered purely as terms in a system, are negatively determined - they 'exist' solely in terms of their mutual oppositions. In this sense (and only² in this sense) they function similarly to whole signs. Hence they are labelled "SIMILE" in diagrams (A) and (B).

"Signifiant" and "signifié", by virtue of their relationship of mutual implication³, recall each other to mind; i.e. they are interchangeable for each other, like money for goods. De Saussure also mentions that the value in money of a piece of merchandise varies with time. Hence this double set of axes⁴ bears some relation to the set⁵ used to illustrate the difference between synchronic and diachronic studies. Neither the above "sign" diagram nor de Saussure's statement concerning "valeur" within the sign are included in the Cours de Linguistique Générale, despite abundant witness to the latter in the students' notes.⁷ An attempt at exposition of this section of de Saussure's notes is given in the Cours de Linguistique Générale, pp.159 - 160, but it is obvious that its compilers found this⁸ passage difficult. Perhaps this difficulty arose, yet⁹ again, from a reluctance on the part of de Saussure's followers to regard language as being a set of pure logical relationships to the extent that, judging from his notes, he did.

1. Via "signification" (cf p.77 above) which, though dependent on the "valeur" of the whole sign in the system, gives it, in addition, a relationship with extralinguistic phenomena, renders it meaningful as opposed to purely distinctive. 2. Since signs are meaningful entities; "signifiants", considered in themselves, serve merely to distinguish signs from each other. 3. cf. p.75 above. 4. Vertical and horizontal in diagrams (A) and (B); compare the axes of the diagram on p.80 above. 5. Compare the axes mentioned in note 4 with CLG, p.115. 6.8 cf p.80 note 3 above. 7. EC. p.177. D229 (section 1329), S.2.24 (section 1329); p.178. III.C.329. 8. i.e. N.23.6. as represented in EC. p.178 and p.259. 9. cf. p.78 note 3 above.

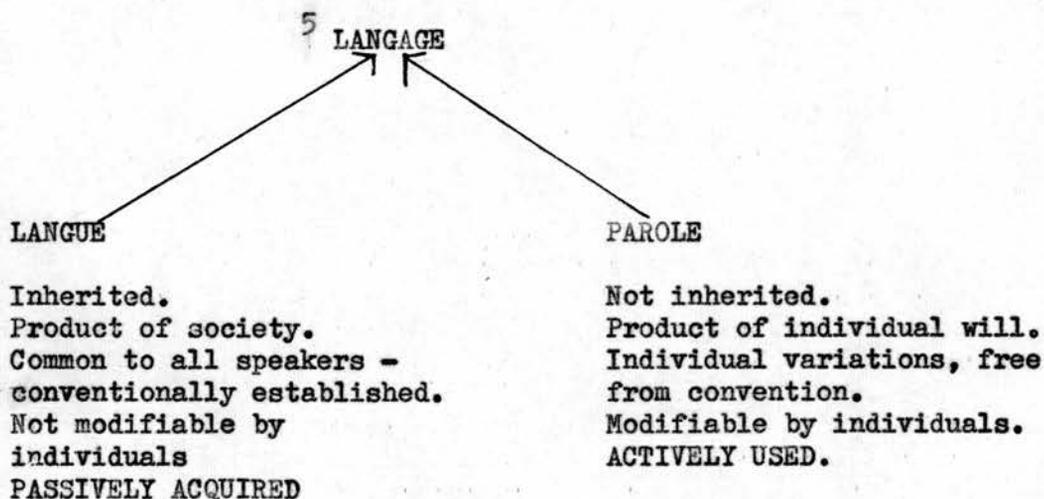
Given his conception of "valeur", it is surprising that he did not himself arrive at the idea of language, and the linguistic sign, as definable solely in terms of logical relationships, as did some of his successors.¹ His notes say:² "Comme le signe linguistique est de sa nature arbitraire, il semble (a premiere vue) que rien n'empêche .. un systeme libre, ne dependant que de principes logiques, et comme une pure science de rapports abstraits". But this is where DURKHEIM'S influence may have had an unfortunate effect.³ De Saussure's conception of language arose initially under the influence of Durkheim's notion "fait social": "Un fait social se reconnaît au pouvoir de coercion externe qu'il exerce ... sur les individus: et la presence de ce pouvoir se reconnaît ... soit a l'existence de quelque sanction determinee, soit a la resistance que le fait oppose a toute entreprise individuelle qui tend a lui faire violence".⁴ The "fait social" is "general dans l'etendue d'une societe donnee, independant de ses manifestations individuelles".⁵

Applying this notion to language, de Saussure concludes: "Comme une communaute ne pense pas logiquement ou uniquement logiquement, la langue dependrait de principes PSYCHOLOGICO-LOGIQUES".⁶ Language is always under restraint from "le temps"⁷ and "la masse parlante",⁷ it cannot therefore be "un systeme libre". Accounting for these factors, he maintains: " .. la langue .. se trouve ne comprendre que des (termes) PSYCHIQUES".⁸

1. Notably L. Hjelmslev. 2. E.C., p.173. N.23.6.(section 1290). Compare students' notes: III.C.325 (p.173) & D.224 (section 1290), S.2.23 (section 1290) on p.172. The CLG version has: " .. un systeme libre, organisable a volonte, dependant uniquement d'un principe rationnel" (p.112). This does not necessarily imply what de Saussure expresses in the above quotation. 3. In its psychological, not its sociological implications. See below. 4. Les Regles de la Methode Sociologique, p.11. 5. ibid., p.14. 6. E.C., p.173. III.C.325. Compare p.172.S.2.23. (section 1292) and D.224 (section 1292). 7. CLG p.113. Compare E.C. pp.173-4. 8. E.C., p.172 N.23.6. (section 1283). Compare III.C.323. (1283). The sign is: (a) a term in a system of "valeurs"; (b) psychological in nature. This appears to contradict the statement: "Dans la langue il n'y a que des differences". But de Saussure regards neither "concepts" nor "images acoustiques" as "existing per se prior to the setting up of a language system; its "valeurs" create the discrete entities (signs) which impose themselves on the otherwise "amorphous" mass of thought and sound; (CLG, p.156), thus producing "concepts" and "mental images" of sound; thus the psychological aspects of the sign are directly dependant on the "valeurs" and "differences" for their "existence" in the language system. By looking at it this way, the contradiction is resolved.

"Langue" is the "nœud psychique" between "signe"¹ and "idée"². So the sign is definable, not only as a "valeur" but also as a psychological entity in society.³ Semicology, the study of signs in general (linguistic or otherwise) is classed as a branch of "psychologie sociale".⁴ This emphasis on the psychological aspects of sign theory persisted long after de Saussure's death, particularly in the Prague School. It was, paradoxically, in an attempt by the Glossematicians to RID the sign of these psychological implications - undesirable because they are too vague to permit of rigorous definition in a linguistic theory - that the notion of language and the sign as definable solely in terms of abstract, logical values came into being. De Saussure might have achieved this himself, had he lived long enough to realize that his conception of language as a set of negatively defined values could be made adequate and consistent without recourse to psychological considerations.

Consideration of language as a "fait social" was, however, very valuable to de Saussure as a pioneer linguist in that it led him to make the distinction "langue/parole" which can be summarized as follows:



1. Here = "signifiant". See below. 2. EG. p.172, N.23.6. (1284) Comp. III.C.323 & S.2.33.(1284). 3. CLG. pp 27-8. 4. CLG. p.33. 5. CLG. p.29ff.

This distinction made it possible to conceive the "signifiant" of a sign consistently as being other than physical sound. Such a conception was necessary for de Saussure's notion of language as "existing" apart from use by speakers. Whilst the sign¹ (or "expression")² consisted of physical sounds, it could have no being outside an actual act of speech. Each time a word is pronounced by an individual, individual variations of sound occur. So by definition a sign consisting in any way of physical sound could never be the "same" sound each time it is pronounced. There would be as many signs in language as individual utterances of sound. By regarding "langue" as a "fait social", de Saussure makes it "indépendente"³ de ses manifestations individuelles". Physical sound, with its accompanying problems, can be consigned to "parole", and the system of "langue" can be considered in abstraction from its use in acts of speech. This was, however, another factor which led de Saussure to regard the sign as a psychological entity - a sort of "deposit" in the minds of speakers in the community, upon which they draw for their individual needs in speech.⁴

De Saussure's sign theory can thus be regarded both as PROGRESS, in that it developed out of concepts⁵ and problems⁵ discovered by him in his predecessors, and as REVOLUTION in that most of his basic notions, such as "valeur" were original, and paved the way for important developments in modern linguistics.

1. in traditional grammar. 2. Stoics, Modistae etc. 3. cf. p.82 note 5 above. 4. A progression can be traced here. Even in his Cours III, de S. uses "signe" for "signifiant"; eg. N.23.6. - cf. p.82.note 1. above, and III C.23, EC. p.172. This shows a remnant of traditionalist influence in de Saussure, which disappears with the need to use "signe" for the whole twofold entity. He rejected in turn the terms "signe VOCAL/IDÉE", "image vocale/concept vocal" before finally opting for the psychological terms "image acoustique/ concept". cf SM, pp 191-2. 5. Whitney's notion "arbitraire", for example, and problems presented by physical sound.

DEVELOPMENTS IN THE GENEVA SCHOOL

De Saussure's direct followers spent most of their time either actually compiling the Cours de Linguistique Générale from the lecture notes of his students or trying to iron out "contradictions". No really major developments issued from the school itself. The following is a summary of the discussion resulting from the publication of Cours de Linguistique Générale and the individual ideas of de Saussure's disciples.

A forerunner of the Geneva school was de Saussure's disciple A. Meillet. He represents an intermediary step between appreciation of de Saussure's ability as a comparative grammarian, and full adoption of his ideas on general linguistics. He tries to apply de Saussure's basic general notions to problems involved in the historical approach: "¹...du fait que le langage est une institution sociale, il résulte que la linguistique est une science sociale, et le seul élément variable auquel on puisse recourir pour rendre compte du changement linguistique est le CHANGEMENT SOCIALE dont les variations du langage ne sont que les conséquences..." He accepts de Saussure's barrier between diachronic and synchronic studies, but cautiously: "²La grammaire descriptive et la grammaire historique ne diffèrent pas essentiellement l'une de l'autre. Toute description est en quelque mesure historique."³ Praising M. Bréal⁴ for his pioneer approach to historical SEMANTICS, he seeks to work along the same lines, on the grounds that de Saussure's theory of the SIGN opens the way to otherwise inaccessible changes of MEANING as well as of sound, along the time axis. His attitude is summed up in his praise of W. Wundt⁵ for doing the same thing. "...substituant...aux subdivisions a priori des logiciens l'examen détaillé de la RÉALITÉ PSYCHIQUE..."

1. Linguistique Historique et Linguistique Générale, p.17 2. *ibid.* p.44.
 3. Because language, even at a given point of time, is in the process of changing. 4. cf. Chapter. 7. 5. Sprache (1900).

This emphasis on the historical side of de Saussure's theory is not surprising, at this stage, when we read in a letter of de Saussure addressed to Meillet in 1894: "...¹ je n'ais pas de plus cher vœu que de n'avoir pas à m'occuper de la langue en général... Cela finira malgré moi par un livre ou, SANS ENTHOUSIASME NI PASSION J'EXPLIQUERAI POURQUOI IL N'Y A PAS UN SEUL TERME EN LINGUISTIQUE GÉNÉRALE AUQUEL J'ACCORDE UN SENS QUELCONQUE." Meillet received little encouragement to use de Saussure's new theory for anything other than utilitarian purposes - for the studies he was already pursuing. His particular contribution to Saussurian theory is in recognizing the distinction between a (grammatical) sentence and a proposition. He expresses this in terms derived from de Saussure's sign theory. If a sentence is a sequence of signs, there is no longer any necessity for it to consist of two "termes"² - the "subject" and "predicate" of traditional formal logic. The sentence as a whole is, in some sense, a "predicate" but this does not make it a proposition. "Les conditions où se trouvent les interlocuteurs suffisent souvent à indiquer à quoi s'applique le "prédicat".³

A. Sechehaye, too, hails the freedom of linguistics from dependence on logic:⁴ "...la logique n'est ni le point de départ ni le point d'aboutissement de la langue. L'ILLOGICISME, l'arbitraire, est le CARACTÈRE INITIAL de ses classifications d'idées, et jamais elle ne se dégage entièrement de ce caractère, qui lui est inhérent par nature." This departure from the idea⁵ that concepts exist a priori in the form of logical categories to which linguistic signs are linked is based, as Sechehaye admits, on the principle of "L'ARBITRAIRE DU SIGNE".

1. Quoted in E. Benveniste: "De Saussure après un demi-siècle" in Cahiers Ferdinand de Saussure Vol. 20 (1963). 2. Linguistique Historique et Linguistique Générale Vol.2 p.2. 3. ibid. p.2. He admits his debt to the German linguist Schuchardt for the actual distinction, but relies on de Saussure for its theoretical justification. 4. Revue Philosophique, Vol. 84.(1917) p.19. 5. The Port-Royale school imposed the most rigorous logical straitjacket of all.

Clear evidence is given in the Cours de Linguistique Générale¹ that this principle is for de Saussure a "first truth", on which his whole theory stands or falls: it is therefore surprising that it was the centre of a raging controversy for several decades. One can only attribute this to a lack of understanding in general of the deductive nature of de Saussure's theory.²

E. Benveniste³ led the attack. He thought he saw a contradiction in de Saussure. The "signifié" is described⁴ as a CONCEPT: "Le signe linguistique unit non une chose et un nom mais un CONCEPT et une image acoustique." But then de Saussure maintains that the sign is arbitrary because the "signifiant" and "signifié" have no "attache naturelle dans la réalité". It is the appeal to "la réalité" which bothers Benveniste: "Voilà donc la chose, expressément EXCLUE d'abord de la définition du signe, qui s'y introduit par un détour et qui y installe en permanence la contradiction." For Benveniste, it is beyond dispute that the relationship between (whole) signs and the 'things' in the outside world is arbitrary. But the internal relationship between the two halves of the sign is NECESSARY, THEREFORE NOT ARBITRARY.⁵

De Saussure, however, would agree that the internal relationship between the two halves of signs is necessary⁶; but this makes no difference to the fact that there is no reason other than convention⁷ why any particular "signifiant" should be united to any particular "signifié" in any particular sign.

1. Of which Sechehaye was an editor. 2. cf. p. 71 note 2 above. The SM also bears witness to de Saussure's conviction that a linguistic theory must follow deductive principles - hence his sense of incompetence, and unwillingness to publish the CLG. Godel records an interview with M.L. Gautier, in which de Saussure maintained: "Pour le moment la linguistique générale m'apparaît comme un système de GEOMETRIE. On aboutit à des théorèmes qu'il faut démontrer." 3. "Nature du Signe Linguistique" in Acta Linguistica. Vol. 1. p. 23ff. 4. This debate is summed up by A.H. Gardiner in Acta Linguistica Vol. 4. p. 109ff. 5. Benveniste uses the analogy of body and soul. 6. cf. p. 73 note 3 above. 7. cf. p. 78 above.

A.H. Gardiner¹ defends de Saussure on the grounds that Benveniste has misunderstood the meaning of "arbitraire": for Benveniste, it means "absence of fixity"; for de Saussure, "absence of motive".² "Arbitraire" for de Saussure is opposed, not to "necessary" but to "motivated". Niels Ege, in his discussion of this subject, points³ out that the notion "unmotivated" has a special meaning for de Saussure, and quotes a passage from the Cours de Linguistique Générale in support of this view: ⁴"Le mot arbitraire appelle aussi une remarque. Il ne doit pas donner l'idée que le signifiant dépend du libre choix du sujet parlant (.....il n'est pas au pouvoir de l'individu de rien changer à un signe une fois établi dans un groupe linguistique); nous voulons dire qu'il est IMMOTIVÉ, c'est à dire ARBITRAIRE PAR RAPPORT AU SIGNIFIÉ, avec lequel il n'a aucune attache dans la réalité." The relationship between a given "image acoustique" and a given concept is, then, dictated by the linguistic system, i.e. not haphazard; it is arbitrary ("unmotivated" in de Saussure's sense of the word) because the whole linguistic system⁵ is dependent on convention, not on any natural relationship with reality.

Sechehaye sums up the vital point of the argument once and for all in his answer to the objections:⁶ "Qu'il y ait contradiction ou pas,⁷ qu'il s'agisse d'un trait fondamental ou accessoire, cet arbitraire existe cependant.

1. See p.87 note 4 above. 2. *ibid.* p.109 Gardiner further argues that a "concept" must by definition be a concept OF SOMETHING, i.e. of the outside world. This connection, though implicit in de Saussure's theory, is independent of it as he conceives it, and in no way contradicts any of his deductions. A sign would be valid in the linguistic system as a "valeur" whether or not there is a relationship with reality. In any case, "signification" is clearly dependent on "valeur": cf.p.76 above. 3. "Le signe linguistique est arbitraire" in Recherches Structurales. Travaux du Cercle Linguistique de Copenhague, Vol.5 (1949). cf. p.18 of this work. 4. *ibid.* p.13. 5. A system of signs similar in nature. Compare p.78 above. 6. With Ch. Bally and H. Frei in "Pour l'arbitraire du Signe" (in A Geneva School Reader in Linguistics); p.193. 7. Since "L'arbitraire" is a FIRST PRINCIPLE for de Saussure, it cannot of itself be a source of contradiction. A contradiction would imply a flaw in some other part of the theory, not in its first premise.

Entre la serie de phonemes b-ô-f et l'animal que cette série sert à désigner en Français, il n'y a aucun lien DE NÉCESSITÉ NATURELLE¹ en vertu duquel l'une appellerait l'autre." R. Engler, in a thesis summing up all the evidence for and against this principle², was able, half a century after the publication of the Cours de Linguistique Générale, to state boldly:
³"(of "l'arbitraire"):"..il place la linguistique sur son axe véritable et
 "la langue l'a pris comme terrain pour tout ce qu'elle a construit."
 (III.C.302)."

Sechehaye's particular contribution to the development of Saussurian theory is in the realm of semantics, where he makes explicit the link, via the notion "concept",⁴ between the sign system and the external world. He argues:⁵"Si le vocabulaire d'une langue représente la somme de ses idées verbales, il y a dans les classes de mots une structuration du monde des idées, LAQUELLE CORRESPOND A UNE CERTAINE INTERPRETATION DU MONDE DES RÉALITÉS." But this "structuration" is, by itself, abstract and unattainable:⁶"c'est dans le système des mots autonomes qu'on en saisit directement la réalité concrète." This fits in with de Saussure's contention that "concepts" arise from the imposition of the patterns involved in a sign system on an otherwise amorphous mass, and have no prior existence; but this does not lead to the conclusion, which Sechehaye criticises⁷ in Humboldt, that language and thought are identifiable with one another. Sechehaye argues⁸ that this doctrine deprives a speaker of all responsibility for his own thought - he would be able to control it no more than he can control the colour of his skin, the shape of his skull, etc.

1.NB. He does not say merely "de nécessité!..". All relationships in a Saussurian linguistic system are conventional not natural. Compare Ch.1.p. above. 2. "Theorie et Critique d'un Principe Saussurien - l'Arbitraire du Signe." in Cahiers Ferdinand de Saussure Vol.19 (1962). 3. ibid. p.46
 4. Compare note above. 5. "Les Classes des Mots et l'Imagination" in Cahiers Ferdinand de Saussure Vol.1. (1941), p.77. He continues his argument in the following pages. 6. ibid. p.79. 7. "La Pensée et la Langue" in Cahiers Ferdinand de Saussure Vol.4. (1944).p.27ff. 8. ibid. p.28ff.

"Concept" as an entity in de Saussure's linguistic sign does not exclude the existence (in a positive sense) of concepts, or other thought patterns, independent of language, i.e. on another level completely. To assume otherwise, as Humboldt does, "a le grand inconvénient de faire entrer de plain-pied des choses qui sont du domaine de la pensée dans des normes qui sont a proprement parler CELLES DES PHENOMENES PHYSIOLOGIQUES ET BIOLOGIQUES."¹ We made our language (collectively) for our own use. It is a TOOL for the expression of thought, not thought itself.² It does not act as more than a "cadre imposé pour la pensée et son expression."³ This is why language imposes "un découpage ARBITRAIRE mais tout à fait précis, de la matière mentale dans un cadre donné."⁴ L. Hjelmslev is very clear on this point: he gives various examples such as:⁵

"Je ne sais pas" (French)

"I do not know" (English)

"en tieddä" (Finnish)

and shows how the THOUGHT behind these various constructions is the same in each case - the logical proposition "I (subj) do not know (Predicate)" - and yet the way in which it is "divided" between the linguistic units (signs) concerned is different each time. The "content" of each sign only "exists" by virtue of the sign patterns of the particular language system involved; and yet the logical proposition underlying each syntagm is the same in each case and would continue to exist even if each of the grammatical patterns used to express it became defunct; other patterns coming to express it would in no way alter the logical entity (the proposition) which has an existence independent of language.

1. *ibid.* p.27. 2. *ibid.* p.29. 3. *ibid.* p.35. 4. *ibid.* p.34
5. Prolegomena to a theory of language p.51.

Here we have travelled as far as possible away from sign concepts such as that of Port-Royale¹, in which thought as "existing" in logical propositions was essentially linked with the sign,² although not forming an integral part of it in the language system. For them, this made language completely dependent on logic³ for its function; for Hjelmslev, and Sechehaye, language functions as a system per se, completely independent of it.

Bally concentrated his research on elaborating de Saussure's basic notions in sign theory. Some of his most interesting propositions concern the relationship between signifiant and signifié. On this subject, he introduces the notion "synthèse"⁴. "La synthèse est l'ensemble des faits linguistiques contraires, dans le discours, à la linearité et, dans la mémoire, à la MONOSÉMIE." Signs are "linéaires" "lorsqu'ils se suivent, sans se compénétrer, sur la ligne du discours."⁵ Il y a NON-LINEARITÉ ou DYSTAXIE des que les signes ne sont pas juxtaposés, LORSQUE p.ex. UN SIGNIFIANT CONTIENT PLUSIEURS SIGNIFIÉS, comme dans le français "va", ou une seule syllabe renferme l'idée d'aller, celles d'imperatif et de deuxième personne, ou LORSQUE'UN SIGNIFIÉ EST REPRÉSENTÉ PAR PLUSIEURS SIGNIFIANTS, comme dans "nous aimons" où l'idée de première personne est exprimée deux fois; ou encore QUAND LES PARTIES D'UN MÊME SIGNE SONT SÉPARÉES: cf. elle a pardonné et ELLE ne nous A jamais plus PARDONNÉ, etc."

Following from "monosémie" above, he writes: "Il y a POLYSEMIE lorsque, dans la mémoire, à l'état latent, un signifiant A PLUSIEURS SIGNIFICATIONS (ainsi "in-" signifie "non" dans "inconnu" et "dans" dans "infiltrer") ou qu'UNE IDÉE EST RENDUE PAR PLUSIEURS SIGNIFIANTS, comme l'idée d'aller, qui est représenté par trois radicaux différents dans "va", "allons", j'irai".

1. cf. Chapter 2. 2. As its denotatum. 3. The most convenient way of representing and analysing entities in the realm of pure thought, for the "traditionalists". 4. Linguistique Générale et Linguistique Française, p.112. 5. For de Saussure, no "signifiant" could possibly NOT be linear.

He continues: "On admet couramment QUE LE LANGAGE EST POLYSEMÉMIQUE et que c'est PAR EXCEPTION QU'UN SIGNIFIANT N'A QU'UNE VALEUR, ET QU'UNE VALEUR EST RENDUE PAR UN SEUL SIGNIFIANT." But, he says, ("chose curieuse") "on considère comme allant de soi que le discours est normalement LINÉAIRE, que les signes se succèdent SANS CHEVAUCHEMENTS, PAR SIMPLE JUXTAPOSITION, SUR LA LIGNE DE LA PAROLE." This he considers has its base in "conceptions erronées". His conclusions from all this are: "...qu'en réalité la dystaxie est l'état habituel, qu'elle est le corrélatif de la polysémie, et que, par suite, la discordance entre signifiés et signifiants est la règle."

Let us take these statements in turn. Martinet¹ showed clearly that signs can be non-linear in their "signifiants", in the case, for example, of "concord" ("la grande montagne blanche"). The "female" endings relate to nothing in what is being conveyed through the "signifié". Since they cannot be set up as signifiants of meaningful signs in their own right, the endings on the article and adjectives must be considered as belonging to the "signifiant" of "montagne", which causes neighbouring terms to take these endings. The first and second causes of "dystaxie" and the causes of "polysémie" appear to destroy the strict "one-to-one" relationship which de Saussure envisaged as part of the notion "sign". If it is a TWOFOLD entity, it cannot have more than one "signifiant" and one "signifié", however these may be theoretically constituted. If the "same" "signifié" can have more than one "signifiant", synonymy is impossible - the two different "signifiés" belong to the "same" sign; and if the "same" "signifiant" can have more than one "signifié" homonymy is impossible - all identical "signifiants" would belong to the same sign. Nevertheless, Bally tries to define "homonymy":² "un même signifiant a des significations complètement hétérogènes;" and synonymy ("supplétion"): "deux signifiants complètement hétérogènes ont des significations identiques."

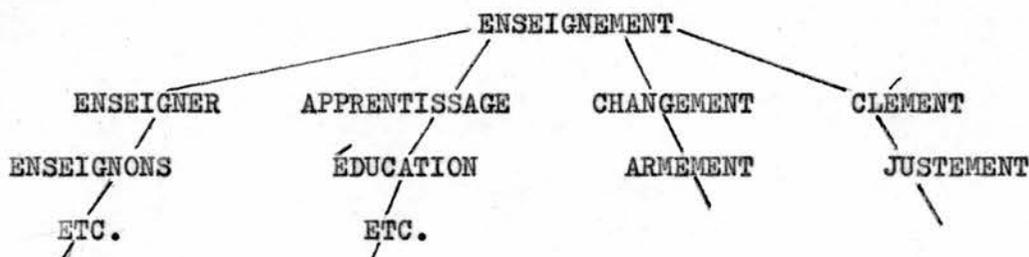
1. Elements de Linguistique Generale parag.4.23 (pp.121-2) 2. Bally: *op.cit.* p.142.

He gives examples for homonymy of "cor"(aux pieds) and "cor"(de chasse), and for synonymy of "all(er)" and "i(rai)". But for synonymy, his criterion would exclude "va(s)" from being a "synonym" because it has some similarity of "signifiant"¹ with "all(er)", namely the phoneme (/a/). For the two "cor"s, it would be difficult, except on diachronic² grounds, to establish when two "signifiés" are NOT completely dissimilar. If a sign x is established as having two "signifiés"³, a and b, they must by definition be completely dissimilar⁴, or there would be no point in distinguishing between them. Since Bally has established no adequate theoretical grounds for his distinction: "polysemie/homonymie/synonymie," we must either accept that there can be no homonyms and synonyms in language, which is counter-intuitive, or reject the idea of polysemy as he has presented it.

A. Burger⁵ expresses a more restrained version of this outlook, claiming that signs indeed have only one "valeur" - identity determined by relationships with the rest of the system - but within that they can have more than one "signification"⁶. He accepts polysemy as natural to language: ⁷"La polysémie n'est pas un phénomène exceptionnel, elle est inhérente à la nature même de la langue." But in so doing he runs into the same problems concerning homonymy and synonymy as mentioned above.

1. i.e. "forme matérielle". 2. e.g. "foot"(body) and "foot"(mountain) might be established on Bally's criteria as polysemy, not homonymy because the latter arose from a metaphorical use of the former, thus implying similarity to a degree. But this would betray de Saussure's principle of a strict division of synchronic and diachronic studies. 3. i.e. "valeurs". Bally does not distinguish "valeur" and "signification". 4. How does one, when dealing with something intangible like a concept, find adequate criteria for similarity/dissimilarity? - Except on the diachronic grounds suggested, which are unsatisfactory in a Saussurian framework. Overlapping meanings must be interpreted as a single area of meaning of a wide extent. Use in "parole" determines the specific meaning involved in each single case of interpretation. Unless complete dissimilarity is established, i.e. the two proposed meanings are mutually exclusive, we have no means of drawing a line as to what degree of dissimilarity is necessary to constitute a "separate" meaning as for polysemy as opposed to homonymy. 5. In "Significations et Valeur du Suffixe Verbal Français "e" " (Cahiers Ferdinand de Saussure Vol.18 (1961) p.5ff) 6. He condemns R. Godel for failing to see the necessity of distinguishing between "signification" and "valeur". (Les Sources Manuscrites du Cours de Linguistique Générale p.242) 7. Burger: op.cit. p.7.

To H. Frei,¹ we are indebted for an attempt at defining rigorously de Saussure's rather vague notion "rapports associatives". Signs, apart from being linked DISCURSIVELY in a syntagm, are linked associatively in our minds through some form of similarity. De Saussure gives us the following diagram:²



Frei distinguishes four classes:³

- | | | |
|--|--|--|
| A. Identité du radical (enseignement) (enseigner) | B. Identité du suffixe (enseignement) (armement) | C. Analogie des signifiés (enseignement) (instruction) |
| D. Communauté des images acoustiques (enseignement) (justement) | | |

A. and B. are based on associations of complete signs. C. are synonyms; D. involve homonyms. By examining relations of signs within each class, he soon realised that suffixes could be isolated, (enseign/er/ons). Since each suffix affects the meaning, it must be recognized in its own right as a sign; such suffixes should be included in an inventory of MONEMES (minimal signs).

Another important development was the concept "signe zéro".⁴ Bally⁵ first noticed that in cases like Czech "zena", plur."zen", the "zero" ending in "zen" carries a meaning; (i.e."plural")⁶ therefore it must be recognized as a sign.

1. "Ramification des Signes dans le Mémoire" in Cahiers Ferdinand de Saussure Vol.2,(1942)p.1ff. 2. CLG,p.175 3. Frei:op.citat.p.16
 4. Summarized by R. Godel in "La Question des Signes Zéro", Cahiers Ferdinand de Saussure Vol.II (1953)p.31ff. 5. *ibid.* p.32 6. There is justification for calling this example (zero as opposed to - a) "less than zero". The opposition results from subtraction in the plural. Contrast the case of English "sheep"(plural "sheep") where the opposition between the singular and plural forms is "zero as opposed to zero", i.e. purely and simply ZERO.

He differentiates a "signe zéro" from an ellipsis (a sign understood in a syntagm but not actually realized in speech) in the following way.¹

A "signe zéro" is obligatorily realized as such in all cases; e.g. the plural of "zena" is "zen" and **can** never be anything else. But an ellipsis is voluntarily realized as zero; one can always replace the zero realisation with a suitable "explicit" sign suggested by the context.²

The conclusion drawn from this opposition "obligatory"/"voluntary" is :
 "Le signe zéro est donc une unité de LANGUE; l'ellipse ne se réalise que dans la parole."³

For H. Frei, basing his ideas on the Saussurian principle of "différences", "signes zéro" could be identified if, in opposition in a given context with an explicit sign, they caused a "changement de valeurs"; since the sign "robe" can be opposed in given contexts to "robe de bal", which is a syntagm, and since ideally, paradigmatic oppositions occur between other signs "de même nature",⁴ "robe" must really be the syntagm "robe" plus "zero". Unfortunately since almost all words in a language, certainly in French, can commute with a syntagm, this would open the way to "signes zéro" being postulated ad infinitum. So Godel concludes:⁵
 "La question du signe zéro est, au fond, une question de STRUCTURE DU⁶MOT."
 as we saw with the first example "zena"/"zen".

1. *ibid.* p. 32. 2. "le signe suggéré par le contexte peut toujours être rétabli" : *ibid.* p. 32. In the example "Mary bought milk and Susan eggs", it is not difficult, in view of the context, to establish "bought" as the sign which, in this case, has a zero realization between "Susan" and "eggs".
 3. *ibid.* p. 33. 4. *ibid.* p. 37. 5. *ibid.* p. 39. 6. P. Miclau (Le Signe Linguistique, p. 23) comes to a similar conclusion : "Le signe zéro est un élément qui n'apparaît que dans la structure d'un signe complexe: il représente toujours un signe grammatical qui figure dans d'autres variantes du signe lexical au sein du paradigme de celui-ci".

The name "Buyssens" is associated mainly, in Saussurian circles, with an attack on de Saussure's basic principle: "Dans la langue il n'y a que des différences."¹ Despite his professed allegiance to de Saussure, he was for this reason rather unpopular in the Geneva school. Yet we owe to him the first serious attempt at a theory of SEMIOLOGY, in which de Saussure was sure that, after adequate research, the study of "langue" as a system of signs would find a place.² Within his system, his criteria for differentiating language from other existing sign systems are as follows: (on the general premise that "Tout acte de communication constitue un rapport social.")³

- (A) Its signs are "AUDITIVES" as opposed to those perceptible by the other four senses. (pp. 43-4)
- (B) Its signs are ONLY "auditives". (pp. 45-6)⁴
- (C) Its "sèmes" (see below) can be articulated into "signes auditives". (p. 50)
- (D) These "signes auditives" also can be articulated into purely FORMAL elements. (p. 51)

For Buyssens the pioneer, this constituted a list of differential criteria, NOT as yet a rigorous definition of language as opposed to other semiotic systems. It paved the way for such a development to follow.⁵

1. He took de Saussure's statement; "Le mécanisme linguistique roule tout entier sur des IDENTITÉS et des DIFFÉRENCES", (CLG, p. 156) as contradicting this principle, "identités" being for him by definition "entités positives". The controversy can be followed in the Cahiers Ferdinand de Saussure. Buyssens makes his initial attack in Vol. 8 (1949) in his article "Mise au point de Quelques Notions Fondamentales de la Phonologie": Frei replied in Vol. 9 (1950) with an article "Saussure contre Saussure?"; Buyssens replied to Frei in Vol. 10 (1952) ("Dogme ou Libre Examen?") 2. of CLG. p. 33.

3. La Communication et l'Articulation Linguistique p. 17 NB. This book is in the main a new version of his earlier "pioneer" work: Les Langues et le Discours: Essai de Linguistique Fonctionnelle dans le Cadre de la Sémiologie. (1943). 4. Writing is, for him, an entirely separate system of signs. 5. cf. A. Martinet: "La Double Articulation du Langage" in La Linguistique Synchronique (first published 1965). This is based on an earlier article - "La Double Articulation Linguistique", published in Recherches Structurales Travaux du Cercle Linguistique de Copenhague Vol. 5 (1949) cf. also chapters 5 and 7 below.

Another major contribution of Buysens is his notion "sème": "..tout procédé conventionnel dont la réalisation concrète (..acte sémique) permet la communication."¹ A system of such "sèmes" is a "sémie" (i.e. a communication system). Language is one among many different types of "sémie". "Signes" are meaningful components of "sèmes": but only "sèmes" have "une signification au sens véritable du mot."

Such considerations led linguists such as L. Prieto to concentrate on the phrase/sentence more than on the individual word as their basic unit. This whole approach put the emphasis more on the need of communication, not on psychology or logic, as a means of determining sign function.

1. Buysens: op.cit. p.61. 2. As in Principes de Noologie - cf Bibliography.

CHAPTER 4SIGNS AS PURE VALUES -LINGUISTIC ALGEBRA - ?

The desire to free Saussurian linguistics from its dependence on vague, psychological concepts in the definition of its entities led to consideration of the sign as a purely differential "valeur", divorced from the other aspects attributed to it by de Saussure.¹ Louis Hjelmslev, in Copenhagen, was in the forefront of this movement.

Hjelmslev received little encouragement in this from his predecessors in Denmark. Otto Jespersen,² having made important contributions to the historical linguistics of his time, and to the study of language in society, was sceptical about de Saussure. Influenced by Von Humboldt's idea of language as "energeia", he describes the word as³ "eine psychologisch-physiologische Tätigkeit des einen Menschen, um von anderen Menschen verstanden zu werden", and explains language change in terms of⁴ "der Verfall an Formen durch einen Gewinn an Gedankenreichtum". He admired de Saussure's early work on historical linguistics, but comments:⁵ "...après ce coup d'éclat...Saussure n'a plus fourni de travaux de grand étendue". With reference to the Cours de Linguistique Générale, he says of the distinction "langue"/"parole":⁶ "je ne vois pas que l'on y gagne rien, car, malgré tout, la langue n'existe que dans et par la parole des individus." Therefore "langue" is merely "l'idée"⁷ banale qu'une forme ne peut devenir générale avant d'être employée par un individu..". Jespersen REPROACHES de Saussure for trying to be rigorous in his definitions:⁸ "je trouve un.. penchant à tracer des séparations si rigoureuses qu'elles ne répondent pas entièrement à la vie concrète de la langue, avec ses nuances infinies...".

1. cf Chapter 3, p. 83. 2. Writing mainly in the 1920's and 30's.
 3. "Energetik der Sprache" (Linguistica, p.98) 4. *ibid.* p.99. 5. "Compte rendu du Cours de Linguistique Générale", (Linguistica, p.109) 6. *ibid.* p.111
 7. *ibid.* p.111. 8. *ibid.* p. 113. He aligns himself with Meillet, who also reproached de S. for this and described his linguistic system as having been made "à la règle et au compas".

Whilst admitting that the idea of signs having "a signification corresponding exactly to their sounds"¹ is absurd, he says of the opposite view,² "which denies any kind of sound symbolism...and sees in our words only a collection of wholly accidental and irrational associations of sound and meaning", that "...the³ conclusion in this case is as false as if you were to infer that because on one occasion X told a lie, he never therefore tells the truth."

Like some of de Saussure's own disciples, Jespersen was not fully aware of the DEDUCTIVE nature of de Saussure's theory, with "l'arbitraire du signe" as a premise.⁴ "Langue" is not an abstraction from speech, but a theoretical notion deduced in order to account for it. It needs to be APPLIED TO⁵, not abstracted from, speech. The "nuances infinies" which worried Jespersen are the very reason why a sharp⁶ division "langue"/"parole" is necessary if any constancy is to be achieved in a description accounting for speech data.

The work of Viggo Brøndal,⁷ however, was probably a source of great inspiration to Hjelmslev from the logical point of view. The Bulletin du Cercle Linguistique de Copenhague⁸ describes his work as a "rationalisation de la grammaire". It has been said⁹ that his doctrine "consiste à retrouver dans le langage les concepts de la logique, tels qu'ils ont été élaborés par la philosophie depuis Aristote jusqu'aux logiciens modernes." His best known work concerns the parts of speech. Sechehaye summarizes and criticizes it as follows.¹⁰

1. Language, its Nature, Development and Origin, p.397. On p.396 he refers explicitly to the etymologies in Plato's Kratylus for which see Chapt. 1. p.12 above. 2. *ibid.* p.397. De Saussure does not in fact deny sound symbolism in speech: it is simply irrelevant to "langue". CLG.p.102 Signs in langue can be partly motivated. CLG. p.181. 3. Jespersen, *op.cit.* p.397. 4. cf Chapt.3. p. 81 above. 5. cf Chapt.2. p.69 above, comparison between Locke and Buffier for a similar difference in approach. 6. cf Chapt.3, p. 83 above. 7. He wrote at roughly the same time as Jespersen, but published little in any way which would give it a wide circulation. 8. Vol.7,(1940-1), p.11. 9. Cahiers Ferdinand de Saussure Vol.3. (1943), p.68. 10. In his article "Les classes de Mots et l'Imagination" (Cahiers Ferdinand de Saussure, Vol.1. (1941), p.77ff).

"Classes de mots" are combinations of four fundamental concepts:¹ RELATUM (R) ("entité, substance"), RELATOR (r) ("le terme de relation"), DESCRIPTUM (D) ("forme") and DESCRIPTOR (d) ("terme qualificatif"). Language was originally a system of which "tout terme est plus ou moins interjectif et implique.... l'usage simultané de toutes les catégories de la pensée."² It then passed through various stages until we find "l'emploi de classes logiquement parfaites".² "Classes de mots" were then either "COMPLEXES" or "CONCRÈTES". "Classes complexes" were "fondées sur la conception globale de trois facteurs logiques", e.g. "Rdr"³("nom verbal"). "Classes concrètes" were "fondées sur la conception globale de deux facteurs logiques", e.g. "Rd"³("nom commun"). This classification of "parts of speech" forces them into a rigid and arbitrary framework not intended by the ancients and mediaeval who first conceived the idea of them. Brøndal also does not account in this theory, any more than the traditional thinkers did, for what one might call "overlap" between the different categories, e.g. "eating" can be considered a noun or a verb, depending on its context. Considerations such as these led to the final abandonment of the traditional idea of "parts of speech" as a basis for the classification of grammatical entities in language. Nevertheless, Brøndal's theory represents a step towards considering the basic entities of language in terms of logical values.

1. *ibid.* p.78. 2. *ibid.* p.78. 3. R would apply particularly to nouns, r to prepositions, D to verbs, and d to adverbs. All the parts of speech are classified in these terms according to which of them represent their most predominant characteristics.

Hjelmslev's inspiration came from three main sources, two positive and one negative. He started from de Saussure's conception of "langue" as a set of negatively defined values and the principle of "l'arbitraire du signe"; but he reacted against the Prague school phonology of N.S. Troubetzkoy¹ and he adapted some of R. Carnap's² ideas on logical syntax to his purposes.

With H.J. Uldall, Hjelmslev was assigned by the Copenhagen Linguistic Circle to a committee investigating questions of phonology. Like Troubetzkoy, they were interested in the "relations mutuelles entre le système phonématique et le système grammatical³...". The product of this was "une théorie d'ensemble appelée GLOSSEMATIQUE."⁴ On the Saussurian premiss that "langue" is "une forme et non une substance",⁵ they held that "les glossèmes⁶ sont par définition INDÉPENDANTS DE LA SUBSTANCE IMMATÉRIELLE⁷ ... ET MATÉRIELLE."⁸ Linguistic "forms"⁹ have no basis in any "forme extralinguistique"; they are defined entirely in terms of their FUNCTION, i.e. "par leurs RELATIONS SYNTAGMATIQUES et par leur FORME PARADIGMATIQUE".¹⁰ Expression and content in this theory are completely SEPARATE areas of study, and yet are "analogues et interdépendants a ce point qu'il faut les développer simultanément et en suivant un procédé de tous points identique."¹¹ In Glossematics, the "expression plane" is known as the "plan cénématique" ("empty" of signification - based on Greek "kenos" ("empty")); the "content plane" is the "plan plérématique" - based on Greek "plērēs" ("full") i.e. "having signification".

1. Grundzüge der Phonologie - first publ. 1939 - which allows for the psychological aspects of de S.'s theory. 2. cf Bibliography. 3. Bulletin du Cercle Linguistique de Copenhague Vol.II (1935) p.14 gives....a report on these developments. 4. *ibid.* p.14. 5. *ibid.* p.15. 6. i.e. units in the language structure. compare p. below. 7. i.e. "sémantique, psychologique et logique." 8. i.e. "phonique, graphique etc." 9. *ibid.* p.15. i.e. incl. signs. 10. "Formes paradigmatiques" enter into "relations paradigmatiques" - i.e. of distinctive oppositions "sans égard a leurs rapports associatifs ou de substance." (*ibid.* p.15.) This eradicates the psychological vagueness of de S.'s "rapports associatifs" - cf. Chapt.3. p.94 above. The notion "distinctive opposition" means (as for Troubetzkoy) simply that given forms, e.g. a, b, c can substitute for each other in a given context, e.g. x--y, affecting the meaning of the whole by so doing. 11. *ibid.* p.15

Troubetzkoy and Hjelmslev found much in common in their basic principles; it was in the working out of these in the system of "langue" that the differences occurred. Hjelmslev would agree that "...le processus du langage présente divers aspects si disparates que leur étude doit être répartie entre plusieurs sciences, dont chacune n'en examinera qu'une partie",¹ and that "...la face "signifiée" et la face "signifiante" du langage doivent relever de disciplines différentes."² But he sees problems in the statement: "...³il convient d'instituer.. deux sciences des sons du langage, l'une devant avoir pour objet l'acte de la parole et l'autre la langue." For Troubetzkoy, following the Saussurian distinction, ⁴phonetics would study the concrete sounds occurring in language use, and phonology⁵ the abstract relationships inherent in their corresponding entities⁶ in "langue". Phonology could not be studied without reference to the MEANINGS belonging to the same language system: "La phonologie doit rechercher quelles DIFFÉRENCES PHONIQUES sont LIÉES... à des DIFFÉRENCES DE SIGNIFICATION, comment les ÉLÉMENTS DE DIFFÉRENCIATION... se comportent entre eux, et selon quelles règles ils peuvent se combiner... pour former des mots ou des phrases."⁷ For this reason, "Le phonologue ne doit envisager en fait de son que CE QUI REMPLIT UNE FONCTION DÉTERMINÉE DANS LA LANGUE." But in order to distinguish the "distinctive features" whereby phonemes acquire this "fonction", phonology must employ certain "notions phonétiques",⁸ e.g. "sonore", "sourde".

1. N.S. Troubetzkoy, Principes de Phonologie. p.3. 2. *ibid.* p.3.
 3. *ibid.* p. 3. 4. related to "parole". 5. related to "langue".
 6. i.e. "valeurs": "le signifiant de la langue consiste en une quantité d'éléments dont l'ESSENCE réside en ce qu'ils se distinguent les uns des autres." Troubetzkoy, *op.cit.* p.11. 7. *ibid.* pp.11-12.
 8. *ibid.* p.15.

Troubetzkoy concludes: "Ainsi donc, malgré leur indépendance de principe, UN CERTAIN CONTACT entre phonologie et phonétique est NÉCESSAIRE ET INÉVITABLE."¹ For Hjelmslev, this amounts to a denial of Troubetzkoy's first assertion that phonology and phonetics should be completely separate disciplines: ²"Hjelmslev fordert eine REIN FUNKTIONELLE Analyse der Ausdruckseinheiten ohne Rücksicht darauf, dass sie materiell verschieden sind." Troubetzkoy "wollte,² (wenn er es auch NICHT selber so sagen würde) das System als eine Durchkreuzung der phonetischen und der funktionellen Einheiten darstellen; ". His use of phonetic terminology amounts to a "...nicht² theoretisch begründete, sondern nur gelegentliche Heranziehung des lautlichen Massstabes..".

In order to avoid this, Hjelmslev finds it necessary to abandon de Saussure's "langue"/"parole" division and replace it with one more "theoretically acceptable": ³taking the example of French "r", he says that one could define it in terms of "distinctive features" as "vibrante sonore roulée alvéolaire"; this definition "le fixerait ainsi comme élément de la langue considérée comme usage."⁴

1. *ibid.* p.15. A. Martinet makes the same point in his article "Substance Phonique et Traits Distinctifs" (La Linguistique Synchronique p.127) He does so in reaction against "certains structuralistes" who hold the view that phonological analysis "perdra nécessairement de sa rigueur dans la mesure ou elle fera intervenir la substance, phonique ou sémantique..." (*ibid.* p.126) The similarity of the view objected to with that of Hjelmslev (see below) leads one to think that Martinet probably had the Gløssematicians in mind here. 2. cf E. Fisscher - Jørgensen's review of Troubetzkoy's Principes de Phonologie in Bulletin du Cercle Linguistique de Copenhague, Vol.6 (1940) p. 41ff. All quotations come from p.47. 3. cf his article "Langue et Parole" in Cahiers Ferdinand de Saussure Vol.2 p.29ff.

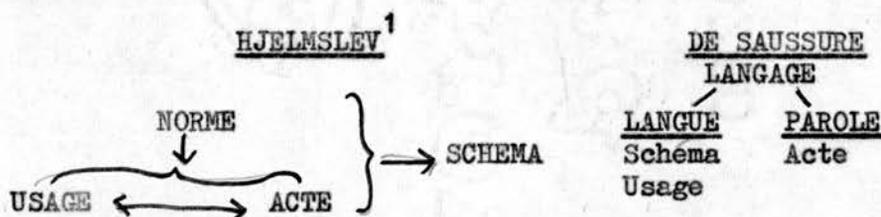
4. "Langue et Parole", p.35. There is justification here for thinking that Hjelmslev MISUNDERSTOOD Troubetzkoy. Troubetzkoy certainly "borrows" phonetic terminology, but it refers, not to positive qualities of speech sounds, but to FEATURES whereby entities in "langue" are differentiated from each other. The phoneme has these "features" as a RESULT of its DELIMITATION in terms of its relations with other entities in the system, NOT as positive qualities. So Troubetzkoy does not, as Hjelmslev implies, bring phonetics into his phonology "through the back door". One could replace terms such as "sonore", "sourd", etc. with "x", "y", "z" etc. and leave the actual system to which they belong - a system of distinctive oppositions - completely unchanged. How the entities thus defined are "realized" in speech (e.g. the degree of voicing in a speech sound [b] in a given language) is completely irrelevant to this system. This is why it is difficult to agree with Miss E. Fisscher-Jørgensen when she says (of Troubetzkoy) "seine Arbeiten haben uns in der Phonetik" (i.e. not in phonology) "...einen grossen Schritt weitergeföhrt." For reference cf p.103 note 2 above.

Hjelmslev also criticizes de Saussure's comparison of "valeur" with an economic¹ value. It is valid as regards the "langue"/"parole" division: "...c'est la forme² qui constitue la valeur et la constante, et c'est la substance qui renferme les variables, auxquelles différentes valeurs sont attribuables selon les circonstances". But de Saussure uses this analogy in connection with the "signifiant"/"signifié" relationship,¹ - which, for him, belongs to "langue" only. According to Hjelmslev, he is aware of the "problems" involved in this analogy: "une valeur³ d'échange est définie par le fait d'égaliser telle quantité déterminée d'une marchandise, ce qui sert à la fonder sur des données naturelles tandis qu'en linguistique les données naturelles n'ont aucune place." This being so, de Saussure cannot, in Hjelmslev's view, equate "valeur" with "chose échangeable"⁴ and keep the "signifiant"/"signifié" relationship in "langue".⁵ For Hjelmslev, economic "valeur" can in fact be regarded as a "variable" with regard to the "fixed quantity" of "marchandise"; hence its definition as "un terme à double face":³ "...elle joue le rôle de constante vis-avis des unités concrètes de l'argent, mais elle joue aussi elle-même le rôle de variable⁶ vis-avis d'une quantité fixée de la marchandise qui lui sert d'étalon."

1. cf Chapt.3. p.83 above & CLG. p.116. 2. "Langue et Parole" p.39.
 3. ibid. p.39 4. cf Chapt.3. p.80 note.4 above. 5. i.e. as a completely abstract system. Once again, Hjelmslev has the same misunderstanding. cf p.103note. 4. above. De Saussure is not concerned with the "donnée naturelle" ("étalon", "chose échangeable") in itself, but only with its relevance as a term, or, to use Hjelmslev's own terminology, a "functive" in the mutual implication relationship between "signifiant" and "signifié". In saying that the "données naturelles" have no place in his linguistics, de Saussure (CLG.p.116) is not admitting a problem in his own system but simply asserting this fact: as positive entities in themselves they cannot belong to "langue", but as terms in a relationship (like Troubetzkoy's "distinctive features") they can. De Saussure is "borrowing" terms from the outside world, just as Troubetzkoy "borrows" terms from phonetics, but, like Troubetzkoy, he divests them of their "positive" implications. This is what de Saussure intends by equating "valeur" with "chose échangeable" ("signifiant"/"signifié" relationship) as well as "terme dans un système" (relations between whole signs). It is the "échangeable" that matters, not the "chose". 6. De Saussure accounts for this "variation" aspect on the DIACHRONIC axis - CLG. p.115.

Because of these considerations, Hjelmslev insists that it is the "jeu d'échecs", not the "fait économique" which is "l'image la plus fidèle d'une grammaire." He concludes: "Le schéma de la langue est en dernière analyse un JEU et RIEN DE PLUS." The analogy of an economic value serves better to explain "l'espèce de fonctions qui lie le schéma ("langue") aux autres couches du langage."

Therefore, instead of de Saussure's original "langue"/"parole" distinction, he gives the following set of distinctions; the accompanying diagram shows how they correspond to the Saussurian distinction.



↔ = Interdependence

→ = Determination,
i.e. Variable

→ = Constant

Only "acte" corresponds to what de Saussure terms "parole".²

The "schéma" corresponds to "langue" as an institution; it stands on one side of the "frontière essentielle", i.e. "celle entre la forme pure et la substance, entre l'incorporel et le matériel." On the other side, the "théorie de l'EXÉCUTION renferme toute³ la théorie de la substance et a pour objet... la norme, l'usage et l'acte."

1. "Langue et Parole", p.40. 2. The Prague School, too, according to B. Tonka ("Prague Structural Linguistics" in A Prague School Reader in Linguistics), abandoned de Saussure's strict "langue"/"parole" division on similar grounds - "...the sharp Saussurian dichotomy langue - parole is no longer held to be a realistic basis of linguistic investigation by the Prague school. What F. de Saussure describes as "parole" is regarded ... as utterances.. in which a code of inherent structural rules is to be detected." p.476.

Artymovyč states the main deviation of the Prague school from de Saussure's division. He says "Language itself is mere potentiality of speaking. This potentiality of talking must be given PRIOR to the act of realization..." (On the potentiality of language" by A.Artymovyč in A Prague School Reader in Linguistics)p.75 3. "Langue et Parole" p.42.

Of these, the main factor is USAGE, "par rapport auquel la norme est une ABSTRACTION et l'acte une CONCRETISATION." Hjelmslev continues : "C'est l'usage¹ seul qui fait l'objet de la theorie de l'execution; la norme n'en est en realite qu'une construction artificielle, et l'acte...n'est qu'un document passager." By this threefold distinction, Hjelmslev hoped to account for "regular"² features in "parole" as he conceives it, such as combinatory variance between articulatory³ features not distinctive in themselves. This "regularity", assigned to "parole", but not treated⁴ by de Saussure, had also caused problems to the Geneva⁵ school.

B. Siertsema⁶ enumerates the difficulties Hjelmslev encountered in clearly defining and differentiating these notions. The final form did not appear before 1954 :⁷

1. "Langue et Parole" p. 42. 2. His recognition of such led him to abandon the Saussurian criterion "social"/"individual" for distinguishing "langue" and "parole". op.cit. p. 42. 3. e.g. allophones of a phoneme. 4. cf. Chapter 3 p. 83 above. 5. Particularly H. Frei ("Langue, Parole et Differentiation" - A Geneva School Reader in Linguistics, p. 281 ff.) Taking de Saussure's statement "tout ce qui est institutionnel est necessairement differenciel", he objects that allophones of a phoneme are socially determined in their variation patterns, but cannot be treated in langue since they are not themselves distinctive; (i.e. they are "institutionnel" but not "differentiel"); only phonemes have distinctive function in "langue". J.W.F. Mulder (Theory of the Linguistic Sign, (1972)) solves this problem without abandoning, like Hjelmslev, the basic Saussurian "langue"/"parole" distinction. He defines a phoneme as " $\{f\} R d$ ", i.e. "a specific class of phonetic forms $\{f\}$ IN ITS CAPACITY OF having a specific function (d) in the phonological system in question." (p. 35). An allophone is then a "specific phonetic form in its capacity of having such a specific function (d)." (p. 35), i.e. " $f R d$ ". The allophones of a given phoneme can thus be represented " $f_1 R d \cup f_2 R d \cup \dots \cup f_n R d$ ", (p. 35). \cup = the logical relation of DISJUNCTION¹ ("or" in a non-exclusive sense). An allophone occurring in a given linguistic context REPRESENTS the phoneme to which it belongs, appropriating the distinctive function of that phoneme; in this sense, it, too, can be regarded as "differentiel" and therefore qualifying for treatment in "LANGUE"; not "parole". The abstract nature of "langue" is maintained : only the distinctive function taken on by the phonetic form as an allophone is relevant, NOT its nature as a speech sound. 6. A Study in Glossematics, pp. 138-142. 7. "La Stratification du Language" : Word 10 pp. 163ff.

SCHEMA¹ - "ce terme ne se rapporte qu'aux FONCTIONS INTRINSEQUES dans CHACUN DES PLANS² PRIS A PART." It is "en dehors de" the following "ordre d'idées".

Norme - "L'ensemble des relations interstratigues³ POSSIBLES."

Parole - "Tout ce qui est ARBITRAIRE⁴ dans le langage." "L'ensemble des RELATIONS⁵ interstratigues effectivement EXÉCUTÉES." This covers:

Usage - "Ce qu'il y a de STABILISÉ⁶ dans la PAROLE." "L'ensemble des CONNEXIONS⁷ interstratigues effectivement exécutées."

Acte - "Les combinaisons⁸ qui sont des variantes des connexions interstratigues." These "appartiennent à la parole sans appartenir à l'usage."

R. Carnap attempted to construct a "syntax for languages in general",⁹ i.e. a "system⁹ of definitions of syntactical terms which are so comprehensive as to be applicable to any language whatsoever." Language is for him a kind of CALCULUS; "The syntax of a language,¹⁰ or of any other calculus, is concerned, in general, with the structures of possible serial orders (of a definite kind) of any elements whatsoever." Pure, as opposed to descriptive, syntax deals with the possible¹¹ arrangements, without reference either to the nature of the things which constitute the various elements, or to the question as to which of the possible arrangements of these elements are anywhere actually realized." Hjelmslev tries to apply these principles to linguistics.

1. "La Stratification du Langage" p.188. 2. cf page¹⁰¹ above. 3. "Strata" are the four parts of the linguistic sign. See below. 4. This appears, (strange as it seems when Hjelmslev regards "langue" essentially as a system of signs ("Langue et Parole" p.37) to include the arbitrary "signifiant/signifie" relationship, since the "schéma" only applies to the "fonctions INTRINSEQUES dans chacun des plans PRIS A PART" - see above. 5. i.e. "Both-and" (syntagmatic) functions - Prolegomena to a Theory of Language, p.132. 6. e.g. allophonic combinations, cf note 5 p.167. "Cohesions" in the Prolegomena - cf footnote to "La Stratification du Langage" p.188 and Glossary. - 34. Prolegomena, p.132. 8. i.e. anything in parole not of a regular pattern. 9. Logical Syntax of Language, p.167. 10. ibid. p.6. 11. ibid. pp. 6-7; by "realized" he means existing "on paper somewhere in the world"(p.7)

Asserting his agreement with Carnap, he states: "... the description¹ of a language must begin by stating relations between relevant units, and these statements cannot involve a statement about the inherent nature, essence or substance of these units themselves. This must be left to phonetics and semantics, which accordingly presuppose the structural analysis of the language pattern." According to this, linguistics will contain in the theory ("pure" syntax) models universally applicable to all individual languages; some of these models will, and some will not, be "realized" in each case of "descriptive" syntax. Siertsema² sums this up: "...it will be possible to describe each language completely in a general algebraic notation applicable to all languages." All such "structural analysis" will have to be done, according to Hjelmslev, "in terms of³ relations," i.e. "in terms of FORM and not of substance..".

The summary of a paper presented by Hjelmslev to the Copenhagen Circle clarifies this. Some of the principles involved have a direct bearing on the linguistic sign as he defines it.⁵ Firstly, "En s'appuyant⁴ sur le principe de l'arbitraire du signe, il soutient que la forme linguistique est INDEPENDANTE de la substance dans laquelle elle se manifeste, et que la forme ne peut être reconnue et définie qu'....en se plaçant sur le terrain de la FONCTION."

1. In "Structural Analysis of Language" - (Studia Linguistica Vol.I (1947) P.75) 2. op.cit. pp.24-25 3. He explains: "...linguistics describes the relational pattern of language without knowing what the relata are." Phonetics and semantics "tell what those relata are, but only by means of describing the relationships between their parts...". This makes linguistics a metalanguage (a language describing a language.) of the 1st degree and semantics & phonetics metalanguages of the 2nd degree. (ibid. p.25) One can continue composing "metalanguages" of increasing degrees of removal according to the Prolegomena until one has extended Glossematics to cover the "prescribed goal" of linguistic theory - "HUMANITAS ET UNIVERSITAS" (mankind and the universe) (p.127) Each time the descriptive possibilities of the present metalanguage are exhausted, one applies a new "metasemiology", involving a new metalanguage, to the otherwise further unanalysable entities arrived at, as at the border between "cenematics" and "phonetics". (cf Prolegomena p.120 & esp. P.122, parag. 108) Whether this "language-centred" view of the universe postulated by Glossematics is desirable is a matter for doubt. Unless some obvious advantage can be demonstrated in a Glossematic description of the universe, assuming that such a description, based on adequate theoretical models, is actually possible in practice, it is better that the "prescribed goal" of linguistic theory be restricted to its original extent - adequate and consistent description of languages. (cf Prolegomena, p.21. par.9)

4. Bulletin du Cercle Linguistique de Copenhague. Vol.4 (1937-8) p.3. 5. See below

Therefore "les unités¹ de l'expression ne sont pas à définir par les criteriums phoniques.....et les unités¹ du contenu ne sont pas à définir par des criteriums sémantiques, comme on le fait en lexicologie et, dans une certaine mesure, en grammaire." Once "la description¹ et le classement purement fonctionnels des unités" is finished, "l'étude¹ de la substance (phonique, graphique, sémantique) peut et doit s'opérer selon un procédé déductif."

Hence, although a language "first appears to us as a system of signs" we are meant in Glossematics to see it as "primarily something different, namely a system² of ELEMENTS appointed to occupy certain definite places in the chain, to contract certain definite relations to the exclusion of others." The number of elements and the "relational possibilities of each element"³ are "laid down once and for all in the LINGUISTIC STRUCTURE." Hjelmslev says of these elements that they can be "USED"⁴, in conformity with the rules that govern them, to "FORM SIGNS." When this happens, the "relational"³ possibilities" are "exploited". Which of them are actually exploited "is determined by the LINGUISTIC USAGE." It appears, according to Hjelmslev, that "from³ a superficial and external point of view", the most natural descriptive method would be that of "beginning with an enumeration³ of the signs..used in the language". But since "the usage presupposes³ the structure", it is easier and simpler to begin with the structure, i.e. "expression elements";³ these are limited⁵, whereas a list of signs is "always necessarily⁴ incomplete". New signs are continually being formed, and yet during this process "English continues to be English", provided that the newcomers are "formed according to the same rules" and are "composed⁴ of the same elements as before".

1. See note 4, previous page. 2. L. Hjelmslev - Language, p.36. Compare "Langue et Parole", p.37 3. *ibid.* pp36-7. What Hjelmslev suggests here for elements, de Saussure suggests for whole signs. The Saussurian signs, like Hjelmslevian "elements" of expression or of content, can occur in the syntactic chain (discursively-"rappports in praesentia") or as members of a paradigmeme occupying a given position in the syntactic chain (associatively - "rappports in absentia") Compare Chapter 3 p. above. 4. *ibid.* p.37 5. As are content elements too - cf p. 114 below.

So he concludes: "...it is the ¹linguistic structure, and that alone" (i.e. not "usage") that determines the identity and constancy of a language".

"The relationship² between elements and signs" is for Hjelmslev "the real secret of the...mechanism of language." He continues:² "Given once and for all a handful of elements together with their rules of combination we have an inexhaustible number of possible combinations AND HENCE OF SIGNS." Since this is so, "...within any one language, the number of elements is unalterable, but the number of SIGNS can be augmented ACCORDING TO THE NEEDS AND PLEASURE OF THE SOCIETY OR OF THE INDIVIDUAL."² The sign system, "being so fluid"² is not merely "applicable to certain situations" but "adaptable,² without restriction, to new situations of any kind." The structure is "a constant"³ and the usage "a variable"³ in relation to it. The structure "fixes the number of elements"³ and the way in which they combine.⁴ But "That is all."³ "All other phenomena³ observed in language," e.g. "the formation of signs and the utilisation of possible signs", "may vary in relation³ to this, and they therefore constitute usage."

The above statements⁵ confirm Hjelmslev's definitions, discussed earlier;⁶ "sign function", or the relationship between expression and content in Hjelmslev's notion "sign", belongs to usage and therefore to "parole"⁷, as Hjelmslev conceives it. There is an almost complete lack of isomorphism between Hjelmslev's divisions and de Saussure's "langue"/"parole" distinction.

There appears to be an inconsistency here in Hjelmslev's thought. If language is by definition a system of signs⁷, how can "sign function" belong to anything else but to the linguistic structure? It certainly cannot belong to "usage", or to any other of Hjelmslev's senses of "parole".

1. *ibid.* pp 37-8. 2. *ibid.* p.39. 3. *ibid.* p.40. 4. They act like entities in algebra - *ibid.* p.41. "Combining rules" apply to one plane only, e.g. the rules for English SYLLABLE formation on the expression plane are given on p.35 ff, and, similarly, rules for combination of elements on the content plane are given on p.102 ff. 5. Hjelmslev's Language, was not published until 1963, but it was actually composed some 20 years earlier, according to the translator's note; i.e. it was composed around the time of the first publication of the Prolegomena. So there is good justification for studying the two works together. 6. cf p. above. 7. Hjelmslev makes it clear that this is so in the Prolegomena: "That a language is a system of signs seems a priori an evident and fundamental proposition....".

F.J. Whitfield¹ is obviously not aware of this when he writes with approval:²

"IN THE ANALYSIS OF THE SCHEMA ONLY THE INTRINSIC UNITS ARE RELEVANT.....
When the full consequences are drawn from this position, it becomes clear how much more of a language is referred by glossematics to the sphere of usage than at first sight.all signs (in the glossematic sense) involve interstratal functions, the full consideration of which demands an anterior analysis of the schema."

Hjelmslev writes: "any linguistic text can.. be divided into two parts, a content plane and an expression plane WITH MUTUAL IMPLICATION RELATION".³ Therefore, since "if it is really a language that we are dealing with it must have both a content and an expression",⁴ we must regard the actual 'existence' of a mutual implication relationship between the two planes as essential to the structure of language.⁵ There is "solidarity"⁶ in all sign function relationships. One cannot speak of an "expression plane" without implying the 'existence' of a corresponding "content plane", and vice versa.

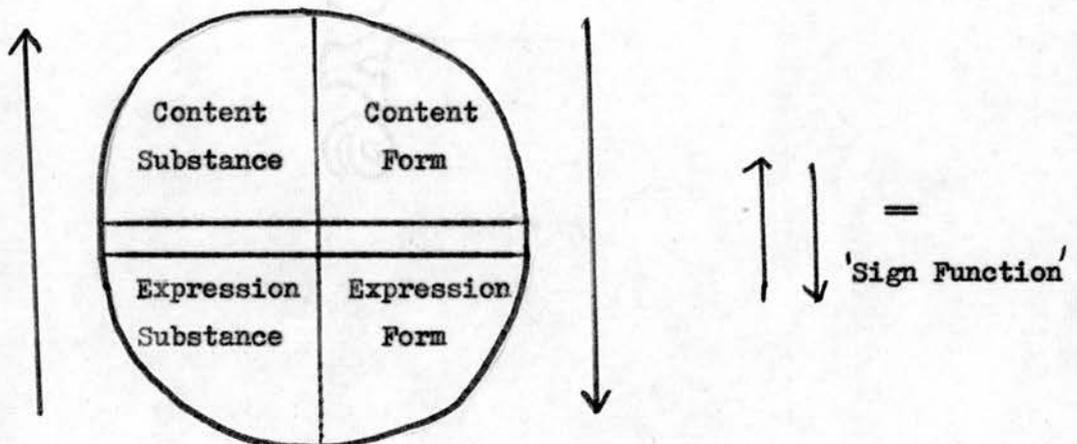
The individual "glossemes", i.e. the "expression elements" and the "content elements", are, however, established in the "anterior analysis of the schema"⁷ without reference to the sign function between the two planes.⁸ Intraplanal relationships between individual elements are,⁸ then, a matter of "usage" - 'variants' of the "constant" described above - i.e. the actual "existence" of an intraplanal solidarity relationship in any given language.

1. "Linguistic Usage and Glossematic Analysis" in For Roman Jakobson - Essays on the Occasion of his 60th Birthday. 2. ibid. p. 674. 3. Language, p.99
4. ibid. p.99. 5. Despite Hjelmslev's statement (cf p.107 above) that the term "schema" applies only to the "fonctions intrinseques dans chacun des plans pris a part." 6. cf Glossary. (48) 7. See above. 8. cf Language, p.107ff and Whitfield, op.cit. p.674.

But, since for Hjelmslev language is a system of signs¹ (i.e. of individual signs, not of individual elements with the potentiality of forming signs) it is still inconsistent for him to assign individual instances of sign function to "parole".

Hjelmslev has departed completely from the Saussurian concept of a one-to-one relationship between "signifiant" and "signifie". For him it is a requirement for a given language to be classed as such that "there must not be a one-to-one reciprocal relationship throughout between its expression elements and its content elements."²

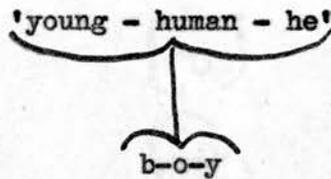
In the "Prolegomena", the interior structure of the sign is discussed in more detail. It can be represented thus:



Hjelmslev was anxious to define language, and hence the sign, entirely in terms of itself, and so, like de Saussure, he discarded any idea of a sign "pointing" to something⁴ outside itself. "Meaning" can only be "contextual" - defined and delimited, like de Saussure's "valeur"⁵, by the LINGUISTIC context. Elements of content are, like those of expression, negatively defined in terms⁶ of each other.

1. Prolegomena, p.43. cf. p.110 note.7. 2. Language, p.104. 3. My inspiration for this figure came from a representation of Hjelmslev's notion "sign" by J.W.F. Mulder (Sets and Relations in Phonology, p.34)
4. Prolegomena, p.45. 5. "Signification" in the Saussurian sense is not even implicit in Hjelmslev's theory. Only "valeur" is relevant. 6. "Language", p.103: "...the content definition points to a certain logical relation between the components into which the sign is analysed."

Hjelmslev gives an example:



The methodology involved here is clearer in other examples¹ given: the content of the signs "ewe" and "ram" can be analysed, by a sort of "commutation" test which isolates all that they do not have in common, into the components "he-sheep" and "she-sheep". The analysis could be taken further, according to Hjelmslev, by an analysis of the content of "sheep", but as he refrains from actually doing this, we have no idea of how he would go about it.² Hjelmslev gives no justification for any of the elements of content which he isolates. Why, for example, must "ram" be divided specifically into the components "he" and "sheep"? By a similar type of commutation with "cow", it acquires a content element "fleecy"; cows do not have fleecy coats. By commutation, in the same way, with "insect", it acquires a content element "four-legged"; zoologists normally classify insects as being six-legged. Commute "ram" with "snake" to obtain the content elements "mammal" and "warm-blooded"; commute it with "table" to obtain the content element "animate" - and so on ad infinitum. There is no limit to the number of content elements obtainable, by this type of commutation, for any single sign in a language. One cannot, therefore, isolate elements of content by commutation, and establish logical relationships between them, as one can elements of expression in phonology. Therefore the methodology applicable to analysis on each plane taken separately is not, as Hjelmslev would have us believe, analogous.³

1. *ibid.* p.102. 2. He merely notes that the content elements "he" and "she" also enter into the content of the signs "he", "she", "boy", "girl", "stallion", "mare". 3. cf p.101, above.

Why, then, is commutation valid as a means of isolating elements on the expression plane? As we are dealing with a restricted (finite) number of elements ("cenemes") in any given language, the commutational possibilities are not infinite. Therefore the number of isolatable elements is restricted. Troubetzkoy's requirement that such elements must be functional, "liés ... a des différences de signification",¹ and de Saussure's "langue"/"parole" distinction enables us to avoid the necessity of taking infinite variations of sound, rightfully the domain of phonetics, into consideration.

It is difficult to see how Hjelmslev is able to isolate expression elements without reference to the content plane (Troubetzkoy's "signification"), since he then has no criterion on which to decide whether or not a potential expression element is functional in the language concerned. One gets the impression sometimes that Hjelmslev is so concerned with the "structure" of language as a set of abstract, logical values that he is forgetful of the primary function of language - communication.

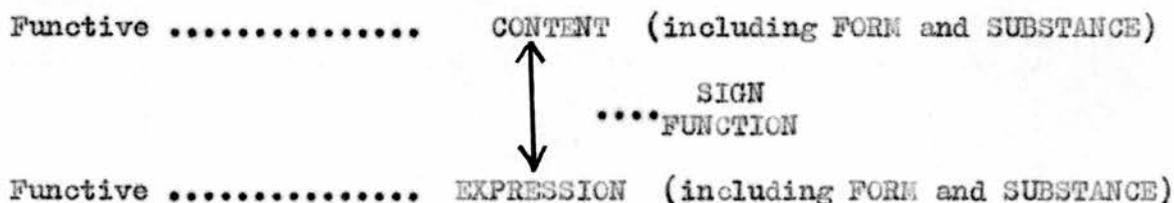
Hjelmslev's "analogous" treatment of both planes leads him, despite the problems outlined above, to "ABANDON THE ATTEMPT TO ANALYSE INTO "SIGNS" AND TO RECOGNISE THAT A DESCRIPTION² MUST ANALYSE CONTENT AND EXPRESSION SEPARATELY". Each of the two analyses will "yield a RESTRICTED number of entities, which are not necessarily susceptible of one-to-one matching with entities in the opposite plane." But, shown above, the number of entities yielded on the content plane cannot be restricted.

What is the nature of, and the relations between, the four components of the sign? Hjelmslev gives us some idea in Prolegomena and develops this more fully in "La stratification du Langage" (1954) - the most recent document we have from Hjelmslev on the subject. We shall compare statements in the Prolegomena with those in "Stratification".

1. cf. p. 102 note 7 above. 2. Prolegomena p. 46.

A. EXPRESSION IN RELATION TO CONTENT.

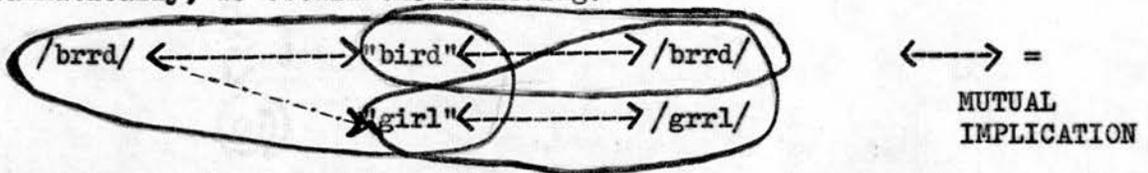
In Prolegomena they are regarded as two functives of a function in a relationship of "solidarity". Expression and content presuppose each other and are defined in terms of each other: "There will never be a sign function without the simultaneous presence of both these functives; An expression is expression only by virtue of being an expression of a content, and a content is content only by virtue of being a content of an expression."¹ This can be expressed as follows:



The sign function is a relationship of mutual dependence and implication. The above diagram, and the statements on which it is based, would appear to indicate a one-to-one relationship between expression and content, as "functives" of the same sign function. Yet² Hjelmslev has made it a requirement that there must not be a one-to-one reciprocal relationship throughout between the expression elements and the content elements of language.

1. Prolegomena pp. 48-9. Without considering sign function, we should be "unable to delimit the signs from each other" (p. 49). Hjelmslev accuses de Saussure of not taking sign function into consideration when delimiting signs; his failure to do so leads, in Hjelmslev's view, to the postulation that the two amorphous masses of sound and thought (content and expression purport for Hjelmslev, cf Prolegomena, p. 50) precede language in time and exist apart from language. For Hjelmslev, these "masses" are simply the result of the deduction processes of the theory. But de Saussure makes it clear that the two amorphous masses have no such separate existence before language in time. They only 'exist' as such from the point of view of language. Whatever "existence" sound or thought might have outside the linguistic theory is as irrelevant for de Saussure as it is for Hjelmslev, cf. Chapter 3, p. 90 note 5 and pp. 82-3. In fact de Saussure makes the same criticism of traditional sign theory: "Elle suppose des idées toutes faites préexistant aux mots." In any case, de Saussure cannot be accused of not considering "sign function": it is represented by the arrows in the sign diagram (cf Chapter 3, p. above). For both de Saussure and Hjelmslev, "sign function" is a relationship of mutual implication between "signifiant" and "signifié". 2. In Language, p. 104, cf p. 112 note 2 above.

As he rightly says,¹ without sign function we would not be able to delimit signs from each other. But the consistent delimitation of signs is also made impossible by a one-to-many relationship between expression and content elements. For example, the expression element /brrd/² can mean both a winged creature ("bird") and a human female ("girl").³ It is relevant here to ask whether Hjelmslev means us to recognize two separate signs ("bird" and "girl"), i.e. homonyms, or a single sign having the phonological form /brrd/ and at least two completely disjunct 'meanings'.⁴ Viewing this (these?) sign (signs?) from the point of view of content,⁵ a discrepancy arises. The content element "bird" presupposes only the expression element /brrd/; the content element "girl" presupposes both /brrd/ and /grrl/; diagrammatically, we obtain the following:



Where do we delimit the (discrete) signs of the English language from such a complex of relationships? The circles indicate possible solutions to the problem, but there is no clear, theoretically justified way of knowing which solution to adopt, i.e. how these 'signs' should be delimited. Hjelmslev deals with the question of homonymy and synonymy elsewhere,⁶ considering it to be "banal".⁷ But he still does not clearly differentiate between 'variations in meaning' of a single sign and what constitutes two separate homonymic signs.

1. cf Prolegomena p.49 and p.115 note 1 above. 2. I here use the phonological notation of J.W.F Mulder. For details, cf Sets and Relations in Phonology, esp. p.202. 3. Doubtless, Hjelmslev would wish to break these up into a smaller number of elements, but I retain them as they are, since Hjelmslev has not given us the particular components he would use in this case; anyway, the number of possible content elements isolatable by 'commutation' for any given sign is, as shown above (p.113) infinite. 4. Any diachronic connection they might have is completely irrelevant to a synchronic analysis. 5. If "sign function" is really a relationship of mutual implication, the relationship between content and expression will be the exact converse of the relationship between expression and content. 6. For details, cf "La Stratification du Langage", p.184ff. 7. ibid. p.184. The problems involved in the treatment of homonymy and synonymy in linguistic theory have occupied linguists, often at length, throughout the history of semantics. Hjelmslev is obviously not aware of the complexities inherent in the question, reflected somewhat by the above discussion. (p.155f above)

Similarly, he does not clearly differentiate between "variation" in the expression of a single sign and what constitutes two separate synonymic signs.

In "La Stratification du Langage", it is important for him that: "Les classes¹ se laissent concevoir du point de vue SYNTAGMATIQUE ou du point de vue PARADIGMATIQUE", i.e. "comme des chaînes ou comme des paradigmes."¹ The terms and relationships are expressed by formulae, which, in the opinion of Hjelmslev, allow for greater exactness. For details, please see the Glossary at the end of this chapter. Although syntagmatic patterning is what "s'impose² le plus", "parce que les strata se présentent a l'analyse immédiate comme coexistant", one must still consider the strata³ "comme alternant, donc comme les membres d'un paradigme⁴ dont la fonction⁵ génératrice est la corrélation."⁵

Continuing the discussion of expression and content, we find that Hjelmslev considers the two planes, in the above sense of being themselves members of a paradigm, to be mutually autonomous:⁶ "les plans paraissent être mutuellement autonomes."

$$(A) \quad \gamma^0(V) \dagger g^0(V)$$

But, syntagmatically speaking, i.e. when the planes are considered as functioning together in the speech chain, their relationship is one of solidarity:⁸ "la relation qui⁹ unit les deux plans (la RELATION SÉMIOTIQUE, ou, plus spécialement, dans le cas d'une sémiotique ordinaire, la DÉNOTATION) est, on le sait, une SOLIDARITÉ." The above quotation shows that, for Hjelmslev, there is no distinction between "sign function" and "denotation" in the case of language.⁹

1. i.e. Content/Expression; Content Form/Content Substance; Expression Form/Expression Substance. 2. "La Stratification du Langage" p. 170. 3. i.e. the four parts of the sign. 4. of Glossary (29). 5. of Glossary (29) (42). 6. Compare p. 101 and p. 107 above. of Glossary (51). 7. of Glossary (14) (20) and (15). Both planes being "variables", the presence of neither plane is a necessary condition for the presence of the other. This amounts to saying that they are independent of each other. 8. of Glossary (48). 9. "La Stratification du Langage", p. 170.

$$(B)^1 \gamma^0(V) \sim g^0(V)$$

This relationship of solidarity² between the two planes belongs, as previously considered,² to usage not structure; i.e. DENOTATION belongs to "usage". We could express the relationship thus:

$$(C)^3 \gamma^0(V) (\wedge \gamma^0 + \gamma^0) \begin{array}{c} \text{SIGN FUNCTION} \\ \text{(DENOTATION)} \\ \longleftrightarrow \\ \text{SOLIDARITY} \end{array} g^0(V) (\wedge g^0 + g^0)$$

This would confirm the view that glossematic semantics would be a theory to justify and describe the nature of the components isolated by the commutation test on the content plane, not a means of linking language as a semiotic system directly with the outside world. "Denotation" in Glossematics does not relate to the term as used in some⁴ referential semantic theories; for Hjelmslev,⁵ it is a grammatical term, not a specifically semantic one.

B. FORM AND SUBSTANCE

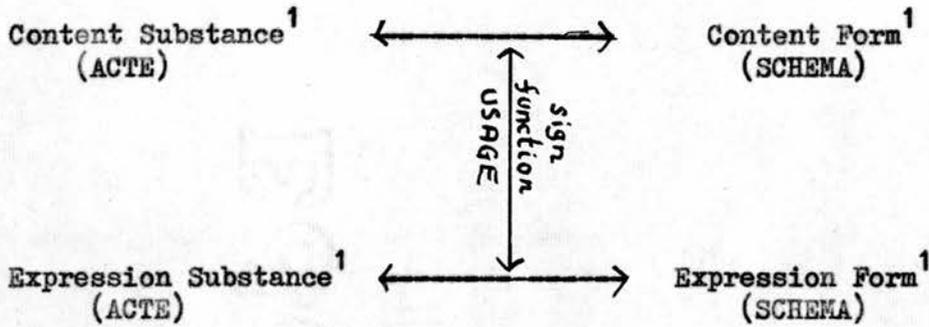
Unlike de Saussure, Hjelmslev incorporates the "substance", inevitably related to the sign in actual speaking and needing to be accounted for somehow, into his definition of the sign: "That a sign⁶ is a sign for something means that the content-form of a sign can subsume that something as a content-substance." For the traditionalists, "substance" was simply the extralinguistic "thing" denoted by the sign. For de Saussure, "substance" was consigned to "parole" and dealt with separately in a science⁷ of its own.

1. cf Glossary - (14), (22) and (15). 2. cf p. 111 above. 3. cf Glossary (14) (11) (8) (48) (15) (12) (9). 4. cf W.P. Alston - Philosophy of Language, p.12ff. 5. Hjelmslev rejects the idea of the relationship between sign and thing signified being external to the sign. See above p.112. 6. cf Prolegomena, p.57. 7. cf M.A. Sechehaye - "Les Trois Linguistiques Saussuriennes" - A Geneva School Reader in Linguistics p. 138ff.

But for Hjelmslev, who divided linguistics into separate sciences, not of langue and parole but of 'expression' and 'content', "substance" is dealt with in relation to form within the analysis on each plane. Thus an actual² ring, in traditional thinking the thing denoted by the sign "ring",³ "is an entity of content-substance which, through the sign, is ordered to a content-form and is arranged under it together with various other entities of content-substance (e.g. the sound that comes from my telephone)."⁴ In the same sense, on the expression plane, the sign "ring" is also a sign for the sound sequence [riŋ] which, being, like the actual ring, a phenomenon in the outside world, is, when "pronounced⁴ hic et nunc"; "an entity of expression-substance"⁵ which, by virtue of the sign and only by virtue thereof, is ordered to an expression-form and classified under it together with various other entities of expression-substance (other possible pronunciations, by other persons or on other occasions, of the same sign)."

Thus the sign, for Hjelmslev, is a unit designed for the purpose of bringing together, in a linguistic analysis, the areas of "schéma", "usage" and "acte", previously carefully delimited⁶ from each other, in a specific complex⁷ of relationships:⁸

1. cf "La Stratification du Langage" pp. 168-9. "L'analyste doit reconnaître l'existence de deux hiérarchies différentes et procéder par conséquent à deux analyses séparées;.. "il faut distinguer les deux plans et les exposer séparément." (p.168) 2. cf Prolegomena p.57 3. Traditional thinkers did not distinguish between a sign and a single utterance of a sign. It is an utterance which actually denotes a 'thing' in the outside world. A sign has denotation, i.e. relates to a "denotation class" of phenomena in the outside world. Compare the semantic theory of S.G.J. Harvey. (cf Chapt. 7) 4. cf Prolegomena p.57. 5. cf Prolegomena pp.57-8. 6. Compare p.107 above. 7. In contrast, for de S., the sign emerges as a result of the complete separation of these areas - it is, like "glossemes" for Hj., solely a unit of linguistic structure. De Saussure does not bring "langue" and "parole" together again after separation except in that "parole" is equivalent to "langue" in use in the speech act; similarly Hjelmslev brings his content and expression planes together after completely separate analysis in terms of linguistic usage. For his particular definition of the term and exposition of the role of sign function, cf p.107 above. note 4, p.110 above & Language, p.40 8. There is no direct relationship between (1) Content Substance and Expression Form, (2) Expression Substance and Content Form (3) Content Substance and Expression Substance. "Il n'y a pas de fonction (ou dépendance immédiate) entre Λ_3^0 et \mathfrak{g}^0 ni entre Λ_3^0 et γ^0 nientre Λ_γ^0 et Λ_3^0 ." The three inter-stratal relationships directly established in Glossematics are the ones represented in the diagram, i.e. (1) Λ_γ^0 and γ^0 (2) Λ_3^0 and \mathfrak{g}^0 (3) $\gamma^0(\vee)$ and $\mathfrak{g}^0(\vee)$ For details and source of quotation, cf "La Stratification du Langage" p.169. For γ^0 and \mathfrak{g}^0 see below (p.121)



↕ and ↔ =

relationships of
mutual implication

In "Stratification", Hjelmslev again differentiates between relationships between form and substance considered from the paradigmatic and the syntagmatic point of view.²

Viewed as paradigms, form and substance can be expressed thus:

EXPRESSION PLANE

$g^{\circ} \text{ } ^3 + \wedge g^{\circ}$

CONTENT PLANE

$^4 y^{\circ} + \wedge y^{\circ}$

"A l'intérieur⁵ de chaque plan, forme et substance sont mutuellement COMPLÉMENTAIRES."⁶

Viewed syntagmatically, the formulae are as follows:

EXPRESSION PLANE

$^7 \wedge g^{\circ} \longrightarrow g^{\circ}$

CONTENT PLANE

$^8 \wedge y^{\circ} \longrightarrow y^{\circ}$

"la forme⁹ est, a l'intérieur de chaque plan, SELECTIONNÉE¹⁰ par la substance".

1. Hjelmslev defines "form" (as far as it is definable except in pure terms of a function) as: "l'ensemble total, mais exclusif, des MARQUES qui, selon l'axiomatique choisie, sont constitutives des définitions." "La Stratification du Langage", p.172. "Substance" is then simply "tout ce qui n'est pas compris dans une telle "forme" mais qui de toute évidence appartiendrait a une description exhaustive de l'objet étudié." i.e. "forme" and "substance" are "TERMES RELATIFS", not "absolus" (ibid. p.172) Compare Glossary (56) and (57). 2. cf p.114 above. 3. cf Glossary (9) (21) (12) 4. cf Glossary (8) (21) (11) 5. "La Stratification du Langage" p.170 6. cf Glossary (47) 7. cf Glossary (12) (23) (9) 8. cf Glossary (11) (23) (8) 9. "La Stratification du Langage" pp.170-1 cf Glossary (56). The FORM is the CONSTANT (Glossary (32)) and the SUBSTANCE is the VARIABLE (Glossary (33)) 10. cf Glossary (50)

Since this is so, maintains Hjelmslev, "il est possible EN PARTIE¹.... de concentrer les relations entre les deux plans....de façon a considérer ces relations comme CONTRACTÉES PAR LA FORME DU CONTENU ... ET LA FORME DE L'EXPRESSION SIMPLEMENT, en faisant abstraction dans les deux plans de la substance."² DENOTATION (sign function) can then be represented simply as:

$$3 \gamma^{\circ} \sim g^{\circ}(V)$$

Hjelmslev thus makes provision for study of language structure in complete abstraction⁴ from questions of concrete realization and individual variations - the purpose for which de Saussure instituted the "langue/parole"⁵ division.

DEVELOPMENTS IN THE COPENHAGEN SCHOOL

Because Hjelmslev's theory is more clear-cut and highly developed than that of de Saussure, there have not been so many individual theoretical developments as there were in the Geneva school. Hjelmslev's followers confined themselves mainly to reaffirming various aspects of the glossematic theory or applying it in language description.

H.J. Uldall (1957) emphasized Hjelmslev's claims that Glossematics is capable of accounting, not only for language but for anything in the universe. He says: "As the⁶ glossematic algebra is designed to be general - in part, universal - it cannot be claimed that any particular glossematic description is the simplest possible self-consistent, exhaustive description of its object.

1. "mais non, croyons-nous, de tous les points de vue." 2. "La Stratification du Langage" p.171. This must be what Hjelmslev means when he refers to glossemes as being "independants de la substance" (Bulletin du Cercle Linguistique de Copenhague Vol.2. p.14) Compare p.101. above. 3. cf Glossary (8) (22) (9). Compare the formula (B) on p. 118. above. The meaning of (V) ("substance optional") in the symbols $\gamma^{\circ}(V)$ and $g^{\circ}(V)$ now become clear. cf Glossary (13) (57) (14) (15). 4. The sum of possible denotations (sign functions) in a given language would be the NORM (compare p.107 above), which, although belonging to the "theorie de l'execution", not to the structure ("schema") in Hjelmslev's theory, is an ABSTRACTION from "usage" and "acte". cf p.107 above and "Langue et Parole" p.42. 5. cf Chapt. 3. p.83. above. 6. Outline of Glossematics p.23.

The compensation for this sacrifice....is the gain in GENERAL simplicity which results from getting a large number of uniform descriptions." Why should this particular form of algebra be acceptable as a universal method of description? Uldall answers: "if an object should be encountered which cannot be described in terms of a finite number of classes then science itself is at the end of its tether, since a description in terms of infinite diversity is manifestly impossible."¹ This may be so, but one still feels that a language-centred view of the universe, which Glossematics, taking linguistics as its starting point and working outwards,² would give us, is liable to distortions; areas covered by other disciplines, e.g. physics, should be studied for themselves, on the basis of theories formulated from generally acceptable premisses with their particular set of phenomena in mind; a theory appropriate for treating the data of, say, biology, is not a priori going to be suitable for explaining speech data without forcing it into an unjustifiable and inappropriate mould.³

Uldall also enlarges upon the Hjelmslevian notion "content-substance": "a strong case can be made out for describing the content-substance as a sort of ETHNIC PHILOSOPHY, a Weltanschauung",....a set of hypotheses or attitudes or beliefs about epistemology, ethics, economics, religion, manners,.....history, mathematics, the sciences, music, art - the whole of the area which used to be the preserve of philosophy. ... it is that "culture" which is said to be what is left when you have forgotten what you learnt at school."

1. *ibid.* p. 4. The componential analysis proposed by Hjelmslev on the content plane, however, leads to just such a description in terms of "infinite diversity". Compare p. 113. above and Hjelmslev's Language p. 102ff
 2. See final chapter of Prolegomena
 3. The traditional grammarians did this when they tried to describe all languages in terms of the categories evident in the apparent structure of Latin and Greek, e.g. talking of a "case system" for Modern English nouns. On the other hand, a semiotic theory would be highly appropriate for describing certain aspects of other disciplines, such as the symbols employed in chemical formulae.

There is some support for this view in Hjelmslev's own writings:¹ on both planes, he divides "substance" into three related "levels":⁽¹⁾ level of "appréciations collectives";⁽²⁾ level "socio-biologique" and level "physique". (2) and (3) "selectionnent"² (1); and (1) in turn "selects"² the appropriate "form". So (1) is the "niveau immédiat": The formula for language considered as a "process"³ is:

$${}^4 *g^{\circ} \leftarrow \Lambda *g^{\circ}_1 \left\{ \begin{array}{l} \leftarrow \Lambda *g^{\circ}_2 \\ \leftarrow \Lambda *g^{\circ}_3 \end{array} \right.$$

1. "La Stratification du Langage" pp 175 - 183. 2. cf. Glossary (50)
 3. cf. Glossary (45) 4. cf. Glossary (7) (23) (10) "La Stratification du Langage" (p.178) has $\Lambda *g^{\circ}_3$ for $\Lambda *g^{\circ}_1$. This is obviously a misprint. Compare the equivalent formula for language considered as a "system" (Glossary (44)) $*g^{\circ} \vdash \Lambda *g^{\circ}_1 \left\{ \begin{array}{l} \vdash \Lambda *g^{\circ}_2 \\ \vdash \Lambda *g^{\circ}_3 \end{array} \right.$

of Glossary (7) (21) (10) (24). The "substance semiotique immediate" specifies (Glossary (49)) the other two "substances". So, depending on whether language is considered as a process or a system, there is an orientation of relationships "en sens inverse"; $\Lambda *g^{\circ}_2$ and $\Lambda *g^{\circ}_3$ select $\Lambda *g^{\circ}_1$, but $\Lambda *g^{\circ}_1$ specifies $\Lambda *g^{\circ}_2$ and $\Lambda *g^{\circ}_3$. Similarly, Hjelmslev adds "for the sake of completeness", $\Lambda *g^{\circ}_3$ selects $\Lambda *g^{\circ}_2$ but $\Lambda *g^{\circ}_2$ specifies $\Lambda *g^{\circ}_3$ (These latter relationships are not shown in the formulae above. Hjelmslev is intent on showing that both $\Lambda *g^{\circ}_2$ and $\Lambda *g^{\circ}_3$ select, or are specified by, $\Lambda *g^{\circ}_1$). All this is very hypothetical, as Hjelmslev admits himself (p.178) He does not try to demonstrate the validity of any of the terms and relationships he sets up. It is difficult to see how he could possibly demonstrate them.

Expressing this in terms of "expression substance" and "content substance", we arrive at the following¹ for language considered as a "process", (i.e. syntagmatically).²

EXPRESSION PLANE

EXPRESSION FORM Niveau d'appréciation collective
(Perception of sound differences by native speakers - characterized by adjectives such as "clair", "sombre", "long", "haut", "bas". etc. (p.178))

Niveau socio-biologique

Physiology of sound.

← Oppositions such as:
sonore: sourd
nasal: oral (p.181)

Niveau physique

← Sounds described according to acoustic phonetics. (p.181)

CONTENT PLANE

CONTENT FORM Niveau d'appréciation collective
Evaluation of the outside world by native speakers. - characterized by adjectives such as "grand", "petit", "bon" "mauvais". This amounts to USAGE SEMANTIQUE. (p.176)

Niveau socio-biologique

← "Mécanisme psycho-physiologique (p.177) (cause of the "appréciations") and socio-biological "conditions" - Presumably actual "oppositions" in the world such as "big/small"; "wide/narrow". (p.177)

Niveau physique

← Actual physical make-up of things.

1. Taken from "La Stratification du Langage" pp.175-83. 2. For language considered as a "system" (i.e. paradigmatically), replace the selection relationship (Glossary (50)) between "Niveau d'appréciation collective" and Expression Form or Content Form by a relationship of mutual complementarity (Glossary (47)). Similarly, replace all other selection relationships by relationships of specification (Glossary (49)). Compare the formulae on p.123 (one in text, one in note 4).

Hjelmslev declares¹ that the "niveau d'appréciation collective" for the two planes is "LA SUBSTANCE PAR EXCELLENCE" - in fact, "la seule substance..... qui du point de vue semiotique soit immédiatement pertinente." This means, however, that a relationship of selection² is postulated between expression form and sound perception³ and between content form and speakers' evaluation of the world.⁴ Hjelmslev's theory was originally an attempt to exclude vague, psychological notions from linguistics. Yet here he is setting up relationships, impossible to justify or demonstrate, between "strat" of the linguistic sign and just such notions, in terms of which two of these "strata" are now being described. "Expression substance" and "content substance" can stand in Hjelmslev's theory as pure values, defined entirely in terms of each other, and of the other parts of the sign, without needing to be described in terms of psychological processes; just as de Saussure's "signifiant" and "signifié" can stand as negatively defined "valeurs" in his theory, without needing to be described in terms of "images acoustiques" and "concepts".⁵ In describing "substance"⁶ in this way, Hjelmslev has reintroduced into his theory the very type of Saussurian notion which he was originally trying to avoid.

Knud Togeby has made the only full-scale attempt⁷ at applying gloss-ematic theory to a language (French). Basing his work entirely on Hjelmslevian principles, he gives his formula for a simple and exhaustive description:⁸

1. "La Stratification du Langage" p. 177. 2. See diagram on p. 124. above, and formula on p. 123. above. 3. The "niveau d'appréciation collective" on the expression plane. 4. The "niveau d'appréciation collective" on the content plane. 5. Although de Saussure was not aware of this. cf Chapt. 3. p. 84. above, especially note 4. 6. cf Glossary (57) 7. Structure Immanente de la Langue Française (1951) 8. *ibid.* p. 9.

"en divisant l'expression et le contenu séparément et en considérant la DESCRIPTION DES SIGNES comme secondaire"; description of the "substance"¹ is strictly "en dehors de la description linguistique..." He divides the disciplines necessary for a complete description as follows:

| | syntagmatique (division) | systématique (classification) |
|---------------------------------|--|--|
| A analyse fonctionnelle | syntax fonctionnelle prosodie fonctionnelle | ² morphologie fonctionnelle phonologie fonctionnelle |
| B analyse des signes | syntax des signes ³ prosodie des signes | ² morphologie des signes phonologie des signes |
| C analyse de la substance | syntaxe sémantique ³ prosodie phonétique | ² morphologie sémantique phonologie phonétique |

This threefold division (A. B. C.) corresponds to the Hjelmslevian division "schéma" (A) "usage" (B) and "acte" (C). Togeby attributes a similar distinction (on the expression plane) to Bloomfield:

1. Compare p. 121 above (consideration of "form" without "substance" - Glossary (56) (57) (13)) 2. Togeby quotes Hjelmslev's divisions in "La Structure Morphologique" (Actes du 5me Congrès International des Linguistes) as being isomorphic with these divisions: "fonctions des morphèmes" with "morphologie fonctionnelle", "signification des formantes" with "morphologie des signes" and "signification des morphemes" with "morphologie sémantique". For Hjelmslev, a 'morphème' is an "inflectional element, considered as an element of the "CONTENT" (cf Prolegomena, p.25) A "formante" is presumably its equivalent on the expression plane. 3. Togeby quotes M. Diderichsen's distinctions (cf Bulletin du Cercle Linguistique de Copenhague, Vol.9) as being isomorphic: "syntaxe topique" with "syntaxe des signes" and "syntaxe logique" with "syntaxe sémantique".

¹"PHONOLOGY" (comparable with "phonologie fonctionnelle" in (A)),
 "PRACTICAL PHONETICS" (comparable with "phonologie phonétique" in (C)),
 and "PHONETICS" (which Togeby describes as "phonétique pure").
 Presumably, then, Bloomfield's "phonetics" is regarded as comparable with
 "phonologie des signes" in (B). But surely phonetics, whether "pure"
 (theoretical) or "practical", is the science of sound. Unlike phonology,
 it deals with physical nature of sounds, irrespective of whether or not
 they occur in a language. It cannot therefore be an integral part of
 linguistic theory, particularly of sign theory, which, for both de Saussure
 and the Glossematians operates on a level of complete abstraction from
physical considerations.

On the content plane, he attributes a similar distinction to Z.Harris:²
 "DISTRIBUTIONAL RELATIONS" (comparable with (A)), "MEANINGS" (comparable
 with (B)) and "PHONEMIC SIMILARITY" (comparable with (C)).

Togeby's other main contribution is in semantics. As mentioned
 previously with respect to Glossematic semantics³, he seeks to justify
 elements set up on the content plane⁴ by commutation; he calls these
 elements "morphemes".⁵ He criticizes A.J. Greimas,⁶ who used commutation⁷
 to set up "semes" (content elements similar to his "morphèmes"), for lacking
 a "critere purement linguistique"⁸ as a basis for his analysis.

1. He refers here to L. Bloomfield: Language (1933) p.137. 2. He refers
 here to "Structural Restatements" (International Journal of American
 Linguistics, 1947. p.47) It is difficult to compare Glossematics with
 Harris because the two theories have such a different basis. cf Chapt.6,
 p. ff. Certainly Harris did not have these precise Glossematic distinctions
 in mind; also, he minimizes "meaning" as much as possible - which makes his
 sign theory (if he can be said to have one) very different from that of
 Hjelmslev. Similarities between Harris and Togeby do exist in that Togeby
 appeals to distribution as a criterion for establishing semantic components,
 but there is no similarity in the kind of entities set up by the two
 linguists. 3. cf p.118.note 5. above. 4. i.e. elements of content form.
 5. Togeby's definition of "morphème" is thus wider than that of Hjelmslev
 (see p. note above). For Togeby a "morpheme" is "l'élément fondamental
 de tous les aspects de la linguistique du contenu" ("Grammaire, Lexicologie
 et Semantique" (1965)) - Immanence et Structure, p.39. 6. ibid. p.43
 7. e.g. "haut"/"bas" contain the "semes" "spatialité", "dimensionnalité",
 "verticalité"; "long"/"court" contain "spatialité", "dimensionnalité",
 "horizontalité", "perspectivité"; "large"/"étroit" contain "spatialité",
 "dimensionnalité", "horizontalité", "lateralité"; "vaste"/"épais" contain only
 "spatialité". These examples are quoted by Togeby - ibid. p.43.
 8. ibid. p.43

Togebly's own criterion is "le comportement purement linguistique de ces morphèmes."¹ In this way, he hoped to arrive at a "confirmation fonctionnelle"² of l'analyse sémantique de Greimas."¹ In any case, "...on ne peut pas faire cette analyse sémantique de façon suffisamment sûre si l'on ne la batit pas sur les fondements de la combinatoire."¹ But the objections raised against Hjelmslev's isolation of components on the content plane³ also apply here. The commutational possibilities of such "morphèmes" would be endless. The distribution patterns of the whole signs in which they occur does not affect this fact in any way. Togebly also discussed the nature⁵ of the "morphèmes". They must be studied, not atomistically,⁶ but "dans le système."⁷ Parallels can be drawn with structures on the expression plane: "Les phonèmes⁸ forment des mots-expression qui ont un sens, et les éléments du contenu forment des mots-contenu qui ont une expression phonétique." Apart from this parallelism, sign theory as such does not directly enter this glossematic semantics - we are entirely concerned with what happens on the "plan du contenu", irrespective of structures on the expression plane. Sign theory is relevant only by implication, since a semantic analysis presupposes a linguistic analysis into "glossèmes".

Paradigmatically speaking "morphèmes" are "éléments virtuels"⁸, i.e. items in an inventory with the potentiality of being realized in the⁹ speech chain. Syntagmatically speaking, i.e. as elements in the speech chain, "morphèmes" are "variantes réelles".⁸

1. cf p. 127, note 8. 2. e.g. by comparing the distribution of "court" with that of "bref". 3. cf p. 113. above. 4. Whole signs must come into consideration here. "Morphèmes" are elements on the content plane only; to have distribution, e.g. in syntax, entities must have some form of expression. It is difficult to imagine how one could ever set up distributional patterns of expressionless content elements; It is just as difficult to set up content elements in the first place without reference to the expressions of signs. Hjelmslev does not manage to do this, despite his claims that elements on the two planes can and must be set up separately before any reference is made to sign function. (cf "La Stratification du Langage", p. 168). The examples given on p. 113 above, e.g. "ram" and "ewe" are inevitably expressed by the signs ("ram" and "ewe") of which they represent the 'content', before analysis into smaller 'components' can even start. 5. cf p. 127, note 5 above. 6. He accuses previous semantics of being "atomic" in approach. 7. cf "Lois Phonétiques et Lois Sémantiques" in Immanence et Structure, p. 52. 8. ibid. p. 54. 9. Compare p. 107 above (Carnap's "calculus", in which only certain possible elements are actually "realized" in any given instance of a 'syntax').

So, just as phonemes have "variantes¹ phonétiques" (de prononciation), "morphèmes" have "variantes sémantiques", i.e. different shades of meaning in any given instance of occurrence in the speech chain.² But how such "variantes sémantiques" could be accounted for on a consistent theoretical basis is a problem. Phonetic variants can be identified in terms of the International Phonetic Alphabet, but there is no parallel mode of classification, e.g. an 'International Conceptual Alphabet', to serve as a reference for the identification of semantic variants.

But for these difficulties, the problem of homonymy and synonymy, which Hjelmslev failed to account for in linguistics,³ could possibly have been solved in semantics, by asking whether semantic variants in the speech chain correspond to the 'same' item in the paradigmatic⁴ inventory or not.

Worthy of mention, too, is the work of H. Spang-Hanssen, who applies "considerations of probability" to problems of⁵ "structural classification"; this work is particularly concerned with the relationships between the inventory of potential language elements in the calculus⁶ and the elements actually realized in a given language structure; can there be a classification of language structures on this kind of basis? He confirms Hjelmslev's findings on the completely haphazard distribution of sign function between expression and content elements; since this is so, "anomalies"⁷ in linguistic patterns, e.g. phoneme distribution, are not a matter of the linguistic structure;

1. cf p.128 note 8. 2. *ibid.* p.54. Togeby writes: "...une nouvelle prononciation d'un phonème peut apparaître ainsi qu'un nouveau sens d'un mot." 3. i.e. distinguishing between "shades of meaning" of the same sign ("diverses significations d'un même mot" - *La Stratification du Langage*, p.185) and separate homonymic signs. cf p. 116 above. 4. i.e. the same element of content form, now a member of the semantic inventory of "morphemes". 5. Probability and Structural Classification (1959). cf Preface. 6. Compare Carnap's "calculus" (p.101 above.) A Spang-Hanssen says of sign function: "...the observed contents are distributed at random on all expressions which are possible, i.e. systematically possible for signs of the kind in question" - and vice versa. *ibid.* p.73 7. e.g. initial consonant clusters(p.75) - some theoretically possible clusters, given the phoneme inventory for the language in question, may not actually occur.

"As the occurrences of sign expressions can in principle be considered accidental within certain sign inventories..., it follows that any unit of expression can likewise be considered accidental with reference to sign inventories",¹ i.e. "... a distinction between 'systematic' and² 'accidental' conditions of occurrence can meaningfully be applied to such cases." It is difficult to pass an overall judgement on Hjelmslev's sign theory; certainly, great practical difficulties are involved in his complete separation of expression and content. Elements on the content plane cannot really be isolated without reference to what is happening on the expression plane:³ thus it seems impossible, in an actual analysis of a language, to treat signs as "secondary"; unless the elements on each plane can be delimited justifiably without reference to sign function, it will be necessary to regard it as an essential part of the language structure⁴ and take it into consideration right at the start. This would make Hjelmslev's distinction between "schema" and "usage" redundant as it stands. Most of what he incorporates under "usage" would have to be regarded as part of "langue", ("schéma").

Despite these considerations, Hjelmslev and his followers made a major contribution to the development of sign theory in pointing the way to a notion "sign" in terms of pure "valeurs", thus eliminating the psychological aspects of de Saussure's theory and their disadvantages. We can truthfully say, with Siertsema: "Hjelmslev has, like none before him, SYSTEMATIZED some of the chief functions to be found in language."⁷

1. *ibid.* p.75. 2. *ibid.* p.74. i.e. distribution is in itself systematic - a matter of structure; anomalies in distributional patterns are accidental - a matter of usage. 3. cf his examples quoted on p.113. above. 4. as Martinet, and, later Mulder & Hervey do. 5. including sign function & allophonic variations, cf. p.106, note 5. above. 6. cf p.107. above. 7. A Study in Glossematics, p.25.

GLOSSARY OF GLOSSEMATIC TERMINOLOGY AND SYMBOLS

Adapted¹ from "La Stratification du Langage", pp.166-7 and Prolegomena to a Theory of Language, pp.131-138 & p. (footnote)²

| | | | |
|----------|------------------------|---|--|
| 1. | g | = | "glosseme ³ de l'expression" ("cenemateme") |
| 2. | γ | = | "glosseme ³ du contenu" ("pleremateme") |
| 3. | * g | = | "glosseme ³ (of either plane.)" |
| 4. | ⁴ \vee | = | "manifeste par" or "forme par rapport a" |
| 5. | ⁴ \wedge | = | "manifestant" or "substance par rapport a" |
| 6. | \circ | = | "un stratum" or "une classe de strata" |
| 7. Thus: | * g° | = | "forme semiotique" (of either content or expression) |
| 8. | γ° | = | "la forme du contenu" |
| 9. | g° | = | "la forme de l'expression" |
| 10. | \wedge^*g° | = | "la substance semiotique" (on either plane.) |
| 11. | $\wedge\gamma^{\circ}$ | = | "la substance du contenu" |
| 12. | $\wedge g^{\circ}$ | = | "la substance de l'expression" |
| 13. | (\vee) | = | "absence ⁵ possible de manifestation" |
| 14. | $\gamma^{\circ}(\vee)$ | = | "plan du contenu" |
| 15. | $g^{\circ}(\vee)$ | = | "plan de l'expression" |
| 16. | * $g^{\circ}(\vee)$ | = | "plan" i.e. either of expression or of content |
| 17. | : | = | "correlation" i.e. a paradigmatic relation. |
| 18. 18. | R | = | "relation" i.e. a syntagmatic relation. |
| 19. | L | = | "langue" i.e. "systeme linguistique" |
| 20. | + | = | relation of "autonomy" (cf no. 51 below) |
| 21. | ⊥ | = | relation of "mutual complementarity", i.e. see below no. 47. |

1. The items appear in the order in which Hjelmslev presents them. Direct quotes appear between quotation marks; my own summaries and comments are unmarked. 2. To which Hjelmslev refers his readers in "La Stratification du Langage" p.170 for symbols indicating functions. 3. i.e. "élément" on either plane. Compare p.101 above. Hjelmslev defines it as "invariante irréductible". 4. These symbols were chosen to evoke the Saussurian term "valeur". 5. "due au fait que la forme est selectionnée par la substance. (cf No. 50) The brackets mean "optional".

22. = Relation of "solidarity". See below No.48.
23. = Relation of "selection". See below No.50.
24. = Relation of "specification". See below No.49
- C. From the Prolegomena,¹ pp.131-8.
25. ANALYSIS = "Description of an object by the uniform dependencies of other objects on it and on each other."
26. CLASS = "Object that is subjected to analysis"
(25)²
27. COMPONENTS = "Objects that are registered by a single analysis as uniformly dependent on the class and on each other."
(25) (26)
28. HIERARCHY = "Class of classes".
(26)
29. FUNCTION = "Dependence that fulfils the conditions for an analysis." (25)
30. FUNCTIVE = "Object that has function to other objects."
(29)
31. ENTITY = "Functive that is not a function."
(29) (30)
32. CONSTANT = "Functive whose presence is a necessary condition for the presence of the functive to which it has function."
(29) (30)
33. VARIABLE = "Functive whose presence is not a necessary condition for the presence of the functive to which it has function."
(29) (30)
34. INTERDEPENDENCE = "Function between two constants".
(29) (32)
35. DETERMINATION = "Function between a constant and a variable."
(29) (32) (33)

1. This is not a complete list of all Hjelmslev's definitions. Those terms immediately relevant to, or included in the text of Chapter 4 are underlined. The others are included simply because they are referred to in definitions of underlined items. 2. A number in brackets indicates a cross-reference to that number in this Glossary.

36. CONSTELLATION = "Function between two variables".
(29) (33)
37. COHESION = "Function among whose functives appear one or more constants."
(29) (30) (32)
38. RECIPROCIETY = "Function containing either only constants or only variables".
(29) (32) (33)
39. DEDUCTION = "Continued analysis or analysis complex with determination between the analyses that enter therein."
(25) (35)
40. DERIVATES = "Components and components-of-components of a class within one and the same deduction."
(26) (27) (39)
41. DEGREE = "Reference to the number of classes through which derivates are dependent on their lowest common class. (If this number is 0, the derivates are said to be of the first degree; if the number is 1, the derivates are said to be of the 2nd degree", etc.)
42. CORRELATION = "Either-or function".(29)
43. RELATION = "Both-and function."
(29)
44. SYSTEM = "Correlational hierarchy" (i.e. paradigmatic)
(28) (42)
45. PROCESS = "Relational hierarchy". (i.e. syntagmatic)
(28) (43)
46. ARTICULATION = "Analysis of a system".
(25) (44)
47. COMPLEMENTARITY = "Interdependence between terms in a system".
(34) (44)
48. SOLIDARITY = "Interdependence between terms in a process."
(34) (45)
49. SPECIFICATION = "Determination between terms in a system."
(35) (44)
50. SELECTION = "Determination between terms in a process."
(35) (45)
51. AUTONOMY = "Constellation within a system".
(36) (44)
52. COMBINATION = "Constellation within a process."
(36) (44) (45)

53. RANK = "Derivates of the same degree belonging to one and the same process or to one and the same system..".
(40) (41) (44) (45)
54. MUTATION = "Function existing between first-degree derivates of one and the same class; a function that has relation to a function between other first-degree derivates of one and the same class and belonging to the same rank."
(26) (29) (40) (41)
(43) (53)
55. MANIFESTATION = "Selection between hierarchies and between derivates of different hierarchies."
(28) (40) (50)
56. FORM = "The constant in a manifestation".
(32) (55)
57. SUBSTANCE = "The variable in a manifestation."
(33) (55)
58. SEMIOTIC = "Hierarchy, any of whose components admits of a further analysis into classes defined by mutual relation, so that any of these classes admits of an analysis into derivates defined by mutual mutation."
(25) (26) (27) (28)
(40) (43) (54)
59. PARADIGM = "Class within a semiotic system."
(26) (44) (58)
60. CHAIN = "Class within a semiotic process."
(26) (45) (58)
61. SEMIOTIC SCHEMA = "Form that is a semiotic."
(56) (58)
62. COMMUTATION = "Mutation between the members² of a paradigm".
(54) (59)
63. PERMUTATION = "Mutation between the parts² of a chain".
(54) (60)
64. WORDS = "Minimal permutable signs".
(63)
65. INVARIANTS = "Correlates with mutual commutation".
(42) (62)
66. GLOSSEMES = "Minimal forms which the theory leads us to establish as bases of explanation, the irreducible invariants."
(65)
67. SEMIOTIC USAGE = "Substance that manifests a semiotic schema".
(55) (57) (61)
68. PARADIGMATIC = "Semiotic system".
(44) (58)

1. This can be regarded as Hjelmslev's definition of language as a semiotic system. In "La Stratification du Langage", he calls language a "semiotique ordinaire" (p.170); but he does not specify whether or not language is the only "ordinary" "semiotic" or what kind of "semiotic" should be classed as "non-ordinary". 2. i.e. "Components" (see 27)

69. SYNTAGMATIC = "Semiotic process"
(45) (58)
70. PURPORT = "Class of variables which manifest more than
(26) (33) (55) (59) = one chain under more than one syntagmatic;
(60) (68) (69) and/or more than one paradigm under more than
one paradigmatic".
71. CATEGORY = "Paradigm that has correlation to one or more
(42) (53) (59) other paradigms within the same rank".
72. FUNCTIONAL CATEGORY = "Category of the functives that are registered
(25) (29) (30) (71) in a single analysis with a given function
taken as the basis of analysis".
73. FUNCTIVAL CATEGORY = "Category that is registered by articulation
(30) (46) (71) (72) of a functional category according to
functival possibilities".
74. LANGUAGE = ¹"Paradigmatic whose paradigms are manifested
(55) (59) (68) (70) by all purports".
75. ELEMENT = "Member² of a functival category."
(73)

1. This, according to Hjelmslev, is the criterion which separates language from all other semiotic systems. It amounts to saying that the purport of language (see No. 70), unlike that of other semiotics, includes everything in the extralinguistic world. Language can be used to communicate about anything at all. Compare "La Stratification du Langage" p. 183: "...une langue est par définition une sémiotique passe-partout, destinée à former n'importe quelle matière, n'importe quel sens, donc une sémiotique à laquelle toute autre sémiotique peut être traduite sans que l'inverse soit vrai". This criterion does not, however, separate language from such 'semiotics' as the Morse Code; language can be "translated" into the Morse Code and the Morse Code can be "translated" back into language. The Morse Code can be used to talk about anything at all.

2. i.e. "Component" (see 27 and 62 and 63).

CHAPTER 5FURTHER DIRECT DEVELOPMENTS FROM DE SAUSSURE'S
SIGN THEORY - EUROPEAN LINGUISTICS.

Saussurian sign theory was rarely greeted with indifference - it was regarded either as a major breakthrough or as untenable: Borgeaud¹, Brocker and Lohmann at first rejected the idea of a linguistics based on general semiology as being impossible, but later came to "establish" a sign theory of their own. Describing the sign as ²"une chose destinée à renvoyer a une autre chose", they recognize three relevant aspects of it - (1) "signifié"² ("l'autre chose"); (2) "signification"² (the "fonction significative" of the sign); (3) "matière signifiante" ("la chose² qui porte cette signification"). The sign is thus "une² chose munie d'une fonction significative" and that "fonction² significative" is "le lien unissant² la chose signifiée à la matière signifiante". Two conclusions come out of this: (1) "il ne peut pas y avoir de signe sans signification"; (2)³ "la matière signifiante ne peut pas signifier la signification, mais.. elle signifie AU MOYEN DE la signification." The writers say that de Saussure's sign theory is incompatible with the above principles, because "un⁴ signe est une chose qui signifie quelque chose d'autre que lui-meme. De cela il suit que la signification ... ne saurait être identifiée au signifié qui ne peut être que la chose signifiée." In fact, what the writers here have produced is another form of the TRADITIONAL notion "sign" in disguise: the sign is a "matière signifiante" in a relationship of "signification" with something in the outside world, the "signifié".

1. Acta Linguistica, Vol.3, p.24. 2. ibid. p.24. These quotations at first give the impression that there is similarity between the notions in the sign theory of Borgeaud, Brocker and Lohmann and that of Hjelmslev (see Chapter 4). But a more detailed examination of them, as outlined below, shows that this similarity is only superficial. 3. ibid. p.25. 4. Yet more of de Saussure's followers are embarrassed by his failure to expound EXPLICITLY on the relationship of the sign with the outside world; (cf Chapt. 3, p.76, above, especially note 1. .) In fact, de Saussure provides for this via his notion "signification", so that his theory is not incompatible with that of the three writers in the way they suggest. He simply has not developed the notion enough for it to take its undisputed place in his theory; thus Godel (SM p. 242) rejected it as superfluous, whereas Sechehaye and Gardiner accept it as essential. cf above, Chapt.3 p.87, note 4, p.89, p.88, note 2. .

The "signifié", being extralinguistic, cannot form an integral part of the language system, and we are left with a one-term entity "sign", only describable as a sign in virtue of the fact that it is in a relationship of "signification" with the outside world: "Le signe est signe par l'institution d'une fonction significative pour une communauté".¹ The way in which this relationship is established is also reminiscent of writers in the eighteenth² century: "Cette institution¹ se fait par l'établissement d'une association d'idées."

The writers do not add weight to their case by claiming that the "signifié" cannot be for them a "chose réelle"³ or "pensées dans la conscience de celui qui emploi le signe." Thought is, for them, "la cause de la fonction significative." Defining "signifié" as "la chose que⁴ celui qui emplci le signe entend par lui", they look to the Stoic notion "lekton"⁵ for support: "lekton"⁶, in their view, "n'existe qu'en fonction d'une idée que se fait celui qui emploi le signe, et aucune influence du réel ne peut atteindre la chose figurée en tant qu'elle n'est que figurée." But "lekton", for the Stoics, was not the "thing meant". Therefore the writers cannot justifiably use this analogy to explain what they mean by "signifiant", if their statement of the relationships between "signifié", "signifiant" and "fonction⁷ significative" is to stand.

The above definition of "signifié" makes the "meaning" of signs depend on what an individual speaker of the language concerned has in his mind at a given moment; there is no place in this theory for a language system existing apart from any of its individual manifestations.⁸

1. *ibid.* p.26 2. cf Chapt.2, p.60 above (Hartley). 3. *ibid.* p.27 - the two usual interpretations of "thing meant" by a sign in traditional thought. 4. *ibid.* p.27. 5. cf Chapt.1, pp21-23 6. The Stoics themselves found "lekton" difficult to define; as far as one can be certain, it meant a mental concept, delimited according to the categories of Stoic logic, relating, to extralinguistic "things", but not to be identified with them. Hence it corresponds roughly to the Saussurian notion "signifié" but not to that of the writers. The fact that "lekton" cannot actually be "thing meant" in any way is borne out by the Stoic differentiation between the expression/content (semainon/lekton) relationship (natural) and the sign/thing meant relationship ("semeion/tunchanon") (conventional). cf Chapt.1. p.21ff7. of p.136 above. 8. Compare Chapter 3, p. 84 above.

The writers appear to have no idea of de Saussure's notion "valeur", as opposed to "signification", and of the crucial role played by this notion in his theory. By abandoning his idea of "langue" as a system of (negatively defined) signs 'existing' apart from individual manifestations, they are abandoning the foundation of all that is new in his linguistics. If the "meaning" of signs depends on what the speaker has in mind in given circumstances, we have reverted to a Lockean¹ situation; that being so, we can argue only for an IDEOLECT, not a language. There would be as many signs in the "language" as there are individual interpretations of individual circumstances.

If signs have no relationship with "reality"², how can language be used to COMMUNICATE about the extralinguistic world? The writers appear to confuse "truth" and "reality" in the example they give: a girl hangs a towel at her window as a "sign" that she is alone in the house; the "signifié", in this case what the lover interprets from the sign, may or may not correspond with the "real" situation. If, on seeing the sign, the lover meets her in the street, "la chose³ signifiée est pour lui toujours que la fille est chez elle, mais la chose réelle estce qu'il voit des yeux...", i.e. that she is in the street. Therefore, the writers conclude, there is no relationship between the "signifié" of a sign and reality.⁴ But the situation indicated by the sign, based on an established convention between its users, is a POTENTIAL situation in the real world, irrespective of whether, in a particular act of communication, it is "the truth".

1. cf Chapt. 2 pp. 54-6. 2. *ibid.* p.28. 3. *ibid.* p.28. 4. The writers ask: "... comment peut-on dire dans ce cas que la chose signifiée renvoie à la chose réelle?" (*ibid.* p.28). This "cas" is illustrative of the general statements made on p.27: "Mais comment faut-il entendre le rapport du "lekton" avec le "tunchanon", c. à d. de la chose signifiée avec la chose réelle? Est-ce qu'il y a aussi entre eux le rapport d'un signifiant à un signifié? Mais la distinction entre le "lekton" et le "tunchanon" n'existe pas pour celui qui emploi le signe sans réfléchir." (My underlining).

Linguistic signs can relate to all types of situation in the extralinguistic world, which includes the real world. For instance, the sign "unicorn"¹ relates to a pure product of the imagination 'existing' in the extralinguistic world but not in the real one. Unicorns have no empirical existence. It makes no difference to the functioning of a linguistic sign whether the situation to which it relates is real (i.e. actually the case), fictitious (i.e. not actually the case) or imaginary (i.e. never the case). Therefore it is fallacious to argue that the "signifié" of a sign² cannot relate to reality simply because, in a given instance of an act of communication, it happens to relate to a fictitious situation rather than to a real one. On the other hand, it is correct to argue that the "signifié" of a sign does not relate to TRUTH. As the writers themselves point out,³ signs used in an act of communication have no means, in themselves, of indicating, to the person in receipt of the information communicated, whether or not that information is true, i.e. whether the signs used are in this case relating to a real or to a fictitious situation. This, a person can only decide through making an independent assessment of the situational context in which the communication takes place ("réfléchir", as Borgeaud and company put it).³

The following statement is also unfounded: "Au fond, de Saussure entend par "concept" la fonction significative Mais cette fonction se confond avec l'acte subjectif de celui qui emploie le signe ... d'une part, et avec la chose signifiée d'autre part!"⁴ The "fonction significative" in de Saussure's system does not occur between the sign and something extralinguistic, but between expression and content;⁵

1. Similar examples are the signs "fairy", "elf", "nymph", etc. 2. For de Saussure, the whole sign, because of the mutual implication relationship between "signifiant" and "signifié". In the case of Borgeaud and company, too, the argument implies that there can be no relationship between whole signs and reality. Signs, in their theory, are equipped with no means, apart from the "signifié" in its relationship with the "matière signifiante", of relating to 'reality,' despite the fact that, for them, the "signifié" is, in itself, extralinguistic. (see p.137 above). 3. of the quotations (ibid p.27) set out in note 4, p.138 above. 4. ibid. p.28. 5. - as shown by the arrows in the Saussurian sign diagram - of Chapter 3, p.73 above.

As such, it is certainly not confused with the content ("concept") itself, or with the "thing meant".¹ De Saussure was particularly careful to distinguish between "langue" and its USE;² therefore there is no confusion in his system between "signifié" and "acte subjectif".

Alfons Nehring agrees with the writers that de Saussure's concept of a sign as a combination of "signifiant" and "signifié" is erroneous:³ "...since a sign stands for something different from itself, that thing cannot very well belong to the sign itself. It is only connected with the sign-form by the function of the form. It is this very function, not the "signifié", that together with the form establishes the sign". One can only say about this what was said above.⁴ Nehring does not really criticize the sign as de Saussure conceived it at all, since he does not anywhere take into account his notion of the sign as a negatively defined unit in a system of "valeurs"; for de Saussure, the "signifié" (concept) is an integral part of the language system, not "something different" for which the sign stands, since the concept only 'exists' as such in virtue of its delimitation as a result of the relationships between all the "valeurs" in the system of "langue".⁵

Taking Nehring's interpretation of "concept" as quoted above, we appear to have returned to an Aristotelian set-up, where the sign is linked, via what Nehring calls "sign function",⁶ primarily to a concept, secondarily to reality, both as "things meant". The secondary relation, according to Nehring, only occurs in "parole": "Relation⁷ to reality necessarily means relation to a "chose déterminée", to use a term of Borgeaud-Brocker-Lohmann, that is, to an individual object.

1. The "thing meant" is not even explicitly discussed by de Saussure. It is not essential to his theory of "langue" treated as a system - cf Chapter 3, p. 82 note 8 - and hence not essential to his definition of "sign". See Chapter 3, p. 75 above, where it is made clear how it was the very non-essential nature of the sign/thing relationship that led de Saussure to the notion "signifié". De Saussure found it necessary later to make statements which imply a sign/thing relationship (cf Chapter 3, p. 76 especially note 1) - but this relationship (inherent in the notion "signification", which is DEPENDENT on "valeur") is contracted by the whole sign, already established theoretically as a twofold unit. 2. cf Chapter 3, p. 76 above. 3. Acta Linguistica Vol. 6, p. 1 (footnote). 4. cf p. 137 especially note 2 above. 5. cf Chapter 3, p. 82, note 8 above. 6. This has no direct connection with Hjelmslev's term "sign function" of Chapter 4. 7. "The Problem of the Linguistic Sign", p. 5.

But a word as such, that is, as a sign of "langue",¹ can never have such a relation. It can get it only momentarily in speech acts.....". In speech, "the² word is usually applied only to such objects as fall under the word concept." He continues: "In² this case, the relation to the object can hardly be called arbitrary, since it is dictated by the meaning of the word and is as obligatory as the latter itself." He thus criticizes de Saussure:
³
 "It simply is not true that the relation between acoustic form and concept is under all circumstances "arbitrary"; for the relation to the real object for which both sign and concept are created, is normally⁴ not arbitrary." Nehring thus postulates a non-arbitrary relationship both between sign and its 'meaning',⁵ and between the sign (plus its 'meaning') and the 'real object', on the same grounds as Benveniste⁶ - if a relationship is NECESSARY it cannot be ARBITRARY. It is certainly "necessary", in a given language system, to continually associate particular 'forms' with particular 'meanings' otherwise the system could not function as such; no sign would ever have any constancy of meaning. But what Nehring and Benveniste forget is that this very "necessity" is based solely on social conventions, which are, themselves, arbitrary. How can a relationship which is based entirely on arbitrary conventions be, itself, non-arbitrary? There is no "necessity", apart from the constraints imposed by the conventions of a particular language system, for the association of any given form with any given 'meaning'. Similarly, there is no obligation on speakers of a language, apart from the constraints of social convention, to associate a particular 'sign meaning' with a particular 'object'.

1. cf note 7, previous page. 2. *ibid.* p.6 3. *ibid.* pp. 6-7 4. Wholly arbitrary "exceptions" are e.g. pronouns (*op.cit.* p. 15) - arbitrary because, being "signals" they "are not co-ordinated to a concept." "Signals" (as opposed to normal linguistic signs) are also the definition under which the flower pots, towel, etc. used in the above illustration fall. They point to "the conceptual picture contained in the sense of a sentence" but have no "structured sense" themselves. Therefore they cannot give a representation of "the thing meant". 5. For him, a "concept", see above. 6. cf Chapter 3 p. 87 above.

If there were a general agreement among speakers of English to use a sign having the phonological form, say, /nork/ in relationship with a horse, instead of the usual sign "horse" having the form (/hors/) it would make no difference at all to the functioning of the English language system. The 'meaning' of a sign is, for Nehring, a concept.¹ But even if English speakers, following the 'agreement' suggested above, started using the phonological form /nork/ in association with all the concepts which had previously been represented by the form /hors/, and with no others, they would be under no obligation to associate any of those concepts with any given flesh and blood animal. There is no guarantee at all that an idea of a horse in any particular person's mind will necessarily be applicable to any particular member of the equine species. For example, a nervous person may tend to associate horses in his mind with potential danger; such a conceptual association would be totally inapplicable, say, to the docile animal in the field opposite his house. An infinite number of such examples could be given. Any respect in which a person's concept of an extralinguistic phenomenon might seem to be applicable to a given instance of such a phenomenon is totally a matter of chance. There is nothing 'natural' or obligatory about it.

1. See above.

Sympathizing with E. Cassirer's neo-Humboldtian conception of language¹ as "energeia", not "ergon",² Nehring accuses de Saussure of putting emphasis "on the form³ of the sign only and its immediate relation to the object or the concept substituting for the object." Thus what Nehring calls the SENSE of the word³ "is disregarded". The "consequence" of this is that de Saussure's definition of the nature of the sign is largely insufficient." Nehring continues: "There is NOT ONLY ONE "signifié", and therefore ONLY ONE relation of the sign form, there are TWO DIFFERENT KINDS of "signifié" and therefore TWO conceptual relations of the acoustic form, since a word can have both "meaning" and "sense".

¹ cf. E. Cassirer - The Philosophy of Symbolic Forms.

² cf. Chapter 2, p.71 and Cassirer, op.cit. p.91. In order to regard language as an ACTIVITY rather than a FINISHED WORK, as Humboldt did (cf. L. Kukenheim - Esquisse Historique de la Linguistique Française et de ses Rapports avec la Linguistique Générale, p.45), it is necessary to take DIACHRONIC considerations into account, as Nehring does here. Cassirer, with whom Nehring compares de Saussure, represents a more modern version (1953) of many of the ideas derived from the Romantic movement and developed in Humboldt's work. For Cassirer, the sign has an intimate "natural" relationship with the "thing meant": "... the acquisition of the sign really constitutes a first and necessary step towards knowledge of the objective nature of the thing." (op.cit.p.89). The linguistic sign differed little, as a notion, from the sign as conceived by the traditional grammarians and the Romantic movement - derived through Aristotle and the Alexandrian tradition. The expression is still sound: "Language seems fully definable in terms of a system of phonetic symbols." (ibid. p.86). He, like Humboldt, followed KANT in his approach to the MEANING of signs. For Kant, the conceptual side of symbols was, like all knowledge, reducible to a set of semantic and logical universals: "The schemata of the pure concepts of the understanding are the true and sole conditions that make possible any relationship of the concepts to objects, and consequently the conditions of their having any meaning" (quote from Kant reproduced in op.cit. p.13 - introduction by C.W. Hendel). According to Cassirer, linguistic signs first ARE meaning and nothing more; he says: "... their being arises from their signification." "Their content subsists purely and wholly in the function of signification." This idea, that a sign is not a sign except by virtue of the sign function, is similar to the thought of both Borgeaud, Brocker and Lohmann and of Nehring. cf. above p.136 and p.140. Cassirer explains what he means by saying that signs are meaning at first (i.e. it seems, items in the Kantian inventory of universal concepts): "... consciousness creates definite concrete sensory contents as an EXPRESSION for definite complexes of meaning" (ibid. p.106). An expression is found, or created, for a pre-existing "Meaning"; thus a linguistic sign comes into being. As we go back in the history of speech, the "ideal of a purely natural language in which all arbitrary convention is excluded seems thus to be realised." (ibid.p.182).

³ Nehring, op.cit. p.8.

The American slang expression "flatfoot" .. means "policeman" but its sense is "having flat feet". 'Sense', in this view, often fades into 'meaning' in the course of historical development. Nehring says:¹ "It is the outward form of the sign that carries the meaning, whereas the sense is carried by the internal structure." This seems to imply that "meaning" is the external relationship of the whole sign with reality, whereas "sense" concerns the internal relationship of signifiant and signifié.² If this is so, there is in fact no conflict between Nehring and de Saussure; de Saussure makes provision for the study of Nehring's "sense" in diachronic linguistics, but simply says that this kind of study cannot be brought into synchronic study, since the latter concerns a set of values in equilibrium at a given point in time; how that equilibrium came into being has no relevance to the description of the actual state of affairs at that point in time, or, more important, to the entities (signs) delimited and distinguished solely in terms of the present, not the past or the future, set of relationships within that equilibrium.³

THE END OF THE DISPUTE OVER "L'ARBITRAIRE DU SIGNE".

The above disputes all arose primarily as part of the general debate about "l'arbitraire du signe". The most extreme point of view reached in the opposition came from P. Naert,⁴ who maintained that ".. le linguiste n'a, dans le fond, pas besoin de cette notion."⁵

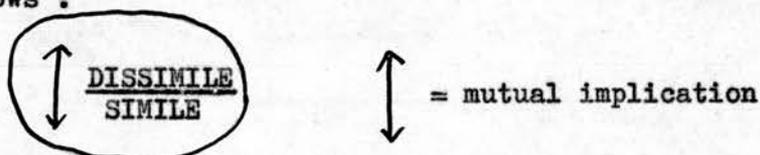
1. *ibid.* p.9. 2. This changes in the course of time in de Saussure's system, too. cf Cours de Linguistique Generale, p.115. 3. cf Chapter 3, p. 79 and references indicated chapter 3, p.79 note 7 .
4. "Arbitraire et Necessaire en Linguistique" in Studia Linguistica, Vol.1 (1947) 5. *ibid.* p.9.

The arguments on which he bases this conclusion can be summarized as follows: He agrees¹ that "...les sons qui constituent le signifiant, sont, en tant que sons, la plupart du temps... arbitraires, tant par rapport aux choses désignées en elles-mêmes que par rapport a nos concepts dans la mesure ou nous avons des concepts sans...avoir des mots pour les désigner."² Naert, in fact, denies³ the existence of real things per se ("choses en soi"): "Il n'y a que des concepts, avec ou sans représentation imagée."⁴ Concepts can 'exist' apart from language,⁵ but those which are "named" are "presqu'aussi socialisés que les images acoustiques qui en sont, on peut dire, le double."⁶ There is a "convention conceptuelle" just as there is a "convention linguistique".⁶

1. *ibid.* p.7. 2. This remark is reminiscent of a dispute which had raged since the 18th century. Locke (cf Chapter 2, p.54ff) did not acknowledge the existence of "innate ideas" apart from language (cf Essay on Human Understanding, Book 3, Chapter 6, especially p.57ff). He described the (nominal) essence of a 'thing' as "that abstract idea to which the name is attached, so that everything contained in that idea is essential to that sort." (my underlining). Leibnitz (cf Chapter 2, p.70 above) argued for the 'existence' of 'innate ideas' apart from language: "...les idées ne dependent point des noms les idées nous sont innées ..." ("Leibnitz on Locke on Language" in American Philosophical Quarterly, Vol.1. (1964)p.179. The Romantic movement mainly followed Leibnitz in this matter, but Humboldt identified language and thought completely. (cf Chapter 2, p.71 above). De Saussure and most of his followers regarded concepts (as far as language is concerned) as being delimited entirely in terms of patternings in a linguistic system (cf Chapter 3, p.82 above), but allowed for the possible 'existence' of concepts (per se) on some level unconnected with language (cf Chapter 3, p.90 above). Hjelmslev held a similar view (cf Chapter 3, p.90 above). Naert, however, inclines towards the views of Cassirer. (See p. note 3 below). 3. Compare this denial with Cassirer's statement: "True content of signs cannot be revealed as long as we hold fast to the belief that reality is a given, self-sufficient being, as a totality prior to all spiritual formation." (Cassirer, *op.cit.* pp.188-9). NB for Cassirer, too, "content" is an (extralinguistic) concept, linked to the sign by a relation of signification but not an integral part of it. cf p.143 note 2 above. 4. *ibid.* p.7. 5. Naert states: "concept n'est...qu'abstraction". (my underlining). 6. *ibid.* p.8.

It would appear to follow from this that for Naert, "concepts" are, too,¹ not an integral part of the sign; if they were, there could be no distinction between the two "conventions". The concept is, as for Borgeaud and Nehring, the "thing meant" by the sign. This finds support in the remark made after describing the relationship between expression and content ("le signifiant² étant ce qui signifie le signifié"³) as a "rapport mutuel de nécessité":³ he condemns Bally's attempt to defend de Saussure⁴ "en le faisant penser a un rapport entre signifiant et concept et non entre signifiant et réalité"⁵ as "malheureuse".⁵ For Naert, as we have seen, "concept" is all there is of "reality". So he argues: that between the expression and the (by definition extralinguistic) concept, there is a "rapport⁶ d'implication réciproque, non une identité. l'un ne peut etre sans l'autre mais l'un n'est pas l'autre." Therefore "la seule chose dont celui-ci" (i.e. "le linguiste" as opposed to the philosopher) "s'occupe en soi (pour soi) c'est le SIGNIFIANT".⁶ Since, however, a 'signifiant' is inconceivable except by reference to a 'signifié',⁷ a linguist following Naert's advice in this respect would be attempting an impossible task. If he leaves the study of 'signifiés' outside linguistics, he can study phonological forms, but not 'signifiants'.

Leaving the question of 'reality' aside,⁸ there is nothing in Naert's premises which necessarily contradicts de Saussure. He never claimed that the internal structure of the sign, "signifié" and "signifiant" had to be identical in nature. Discussing the notion "valeur" applied internally⁹ to the sign, he demonstrates the relationship between "signifiant" and "signifié" as follows¹⁰:



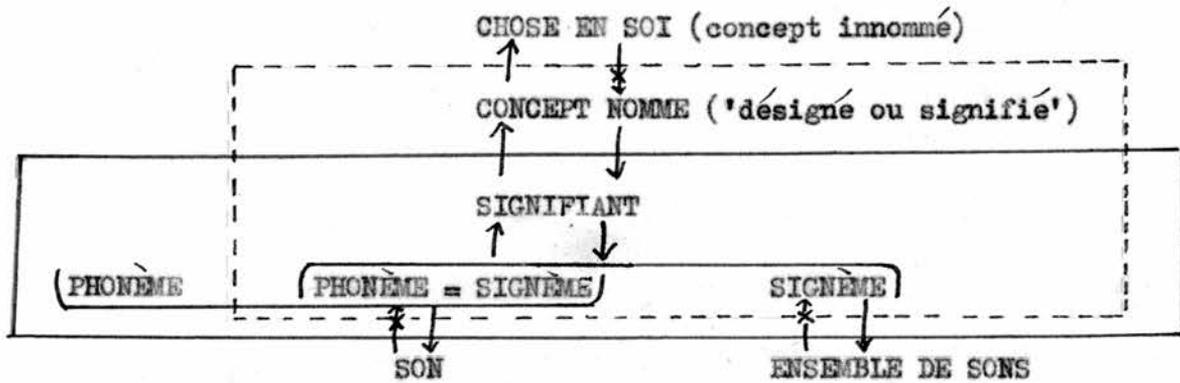
1. Compare with Borgeaud and Nehring (see above) 2. One might by now just as well say 'sign' (as in traditional grammar). 3. cf p.145 note 6. 4. i.e. Bally, Secheyay, Frei - "Pour l'Arbitraire du Signe" - A Geneva School Reader, p. 191ff. 5. *ibid.* p.7 "Concept" is here used in the Saussurian sense - i.e. relating to the internal structure of the sign - to mean the "signifié", an integral part of the sign. 6. *ibid.* p.9 7. cf Chapter 3, p. 79 above. 8. I have already dealt with it - cf p.138~~4~~ above. 9. cf Chapter 3, p. 80 10. cf Chapter 3, p.80 .

Both halves of the sign are similar in that they are psychological¹ images in the mind; both are delimited in terms of relationships² with other units in the system; but the "signifié" is DISSIMILAR in that it carries the⁵ function of meaning (signification), linking the sign as a whole with what it denotes in the external³ world (a concept must be a concept OF something);³ the "signifiant" does not; it merely serves to distinguish⁴ the sign from others in the system. Truly, for de Saussure, as for Naert, "l'un n'est pas l'autre." But TOGETHER, they constitute a unit which, in the language system concerned, is regarded as a single entity; separate the two halves and the entity is destroyed.⁶

So Naert's conclusion, i.e. that it is the SIGNIFIANT alone which is relevant to the work of the linguist, does not follow at all from his premisses. For de Saussure, it certainly does not follow.

Naert sums up his views in the following diagram:⁷

1. Chapter 3, p.73 2. Chapter 3, p.79 3. Chapter 3, p.76 note 1 & p. 88 note 2 . 4. The CLG says of the "signifié", not of the "signifiant" that "...il symbolise la signification." Signification is "la contrepartie de l'image auditive." (CLG. p.162 & Chapter 3, p.76). So 'signification' is clearly linked with the "signifié", not the "signifiant". De Saussure does not elaborate further on the actual distinctive function of the "signifiant" - his phonology was never developed enough to distinguish it clearly from Phonetics. Troubetzkoy (1939) - cf Chapter 4, pp.102-3 esp. p.103 note 4 - did this for him. 5. This is what de Saussure means when he talks of the "signifiant"/"signifié" relationship in terms of an economic value - the analogy behind the above diagrams. The "valeur" of a sign, on which signification depends, (Chapter 3, p.76), is likened to a "chose échangeable" - e.g. the "fonds de terre" above. This gives it a foundation "sur des données naturelles" (cf Chapter 4, p.104). But for de Saussure "... en linguistique, les données naturelles n'ont aucune place." The "signifié" is vehicle of "signification", thus linking the sign with "données naturelles" in the outside world, so that to some extent the delimitation of signs corresponds to delimitations of "things" in the real world - the distinctive identity of a sign is in that sense founded "sur les données naturelles"; but the actual delimitation of "signifiés" of signs (and of whole signs, of course) is completely independent of "données naturelles", founded only on the interplay of relationships between all the terms in the system. Since "signification" is in fact dependent on this delimitation in terms of the system, de S. can still say (paradoxically) that "données naturelles" have no place in linguistics. They are, by definition, unlike the signifié, extralinguistic. 6. CLG, p.157 & Chapter 3, p.73 note 3 . 7. Naert, op.cit. p. 10 .



- = relation of implication and necessity
 -X→ = optional relation
 — delimits the domain of linguistics
 - - - delimits the domain of possible relationships of →

"Signeme" stands for "l'ensemble organique des phonemes qui constituent un signifiant autre que monophonematique." In "mots monophonematiques, such as "eau", "le signeme se confondra avec le phoneme."

After Naert (1947) and Nehring (1950), most linguists claiming¹ to work on Saussurian principles accepted "l'arbitraire du signe" without further dispute.

Niels Ege,² a glossematician, maintains (1949): "...le signe glossematique est arbitraire au sens de Saussure (c-a-d immotive);³ parce que sa SEULE raison d'etre est la fonction semiologique, c'est a dire la solidarite entre "la forme de l'expression" et "la forme du contenu".

1. The disciples of Cassirer, such as Nehring, maintained their views to the last - as did Benveniste - cf Chapter 3, p. 87 and Problèmes de Linguistique Générale (1966). 2. "Le signe Linguistique est Arbitraire" - cf Bibliography. 3. Compare CIG (1st Ed.) p. 103, quoted in Ege (op.cit.) p.13: "Le mot "arbitraire" appelle aussi une remarque. Il ne doit pas donner l'idée que le signifiant depend du libre choix du sujet parlant...; nous voulons dire qu'il est IMMOTIVE, c-à-d. arbitraire par rapport au signifié, avec lequel il n'a aucune attache dans la réalité." Thus for de Saussure "arbitraire" ("immotive") did not mean completely haphazard, as some members of the Copenhagen School seemed to think - Compare Chapter 4, p. 129. (Spang-Hanssen).

Jerzy Kurylowicz¹ (1949) agrees; in addition, he emphasizes the complete lack of isomorphism between the system formed by the "signifiants" of a given "langue" and that formed by the "signifiés" - i.e. between the patterns arising on each level from "oppositions² phoniques et sémantiques": "C'est³ que le domaine phonique et le domaine sémantique, indépendamment de la relation qui les unit et qui constitue l'essence même de la langue, représentent, chacun, un système de signes,⁴ et représentent des systèmes hétérogènes en ce qui concerne la forme, le contenu et la fonction des signes."

Andre Martinet⁵ (1949) regards the previous discussions about l'arbitraire du signe" as "sans resultat positif";⁶ therefore, refraining from trying "par⁶ l'introspection, d'en analyser le contenu psychologique," he relates the "arbitraire" to the connection between the sign and the extralinguistic "thing" it denotes: "Tout le monde tombera d'accord qu'il n'y a aucune ressemblance, aucun rapport entre un cheval qui broute dans un pré, et les vibrations qui correspondent à ce que nous transcrivons [saval]." Unlike Benveniste, he feels that it does not matter whether one talks of the "expression"/"content" relationship or the "sign"/"thing" relationship as being arbitrary, given a strictly Saussurian definition of "sign"⁷: Le fait⁶ que la formation du "concept" de CHEVAL suppose...un grand nombre d'experiences successives ne change pas grand chose à l'affaire.

1. "Linguistique et Théorie du Signe"-originally published in Journal de Psychologie Vol.42 (1949). 2. *ibid.* p.232. 3. *ibid.* p.228. 4. Not used in the same sense as "signe linguistique" as regards the phonological level. "Signes" on the phonological level, as he uses the word, do not have "meaning" they merely have distinctive features which give them an identity in the phonological system; i.e. they are "phonèmes", not mere sounds: "le contenu, par exemple la somme des marques articulatoires d'un phonème, le contenu sémantique d'un morphème, n'est qu'une condensation de ses emplois, c'est à dire, découle des oppositions phoniques ou sémantiques...". (*ibid.* p.232). p.229 gives us his scheme to show the relations between "signs" on the phonological and the "semantic" levels:

| <u>Domaine</u> | <u>Sémantique</u> | <u>Phonique</u> |
|-------------------|-------------------|-----------------|
| Forme | Phonèmes | Sons |
| Contenu | Sens | Phonèmes |
| Emploi (fonction) | | |

Opposition a l'interieur d'une structure ou d'une classe. The "contenu" of "signs" in phonology is the "forme" of signs in "sémantique". 5. "La Double Articulation Linguistique" - cf Bibliography. 6. *ibid.* p. 32. 7. cf Chapter 3, p.73 above.

Si les vibrations avaient été du type de celles que nous transcrivons [pfer] [hst] ou [ma] l'association se serait produite exactement de la même façon.¹ Ceci nous paraît condenser l'essentiel de la théorie du signe arbitraire ...". If, as Gardiner² said, a concept cannot but be a concept of something, it follows that, if the sign/thing relationship is arbitrary, the "signifiant"/"signifié" relationship (phonological³ form/concept of that thing) must also be arbitrary. One cannot distinguish, in terms of arbitrariness, between the two relationships. To maintain this view, Martinet did not need to retain the Saussurian notion "concept"⁴. In fact, he came to define "signifié" as a pure value: "signifié"⁵ ...n'existant⁶ que par opposition à "signifiant"⁷. Provided that the notion "signification"⁷ (relationship of the sign, through the "signifié", with the outside world) is maintained, the rôle of the "signifié" - a vehicle for the link of the sign with the thing denoted - is maintained, and the same conclusions can be drawn⁸ as before.

1. Martinet maintained this view consistently; compare "Arbitraire Linguistique et Double Articulation" (In "La Linguistique Synchronique" - 1965), p.27: writing of the advantages of the "double articulation" (see below), he states: "Ils (les avantages) comportent notamment une hiérarchie des faits de langue qui n'est pas sans rapport avec celle qu'on aurait pu probablement dégager des exposés saussuriennes relatifs à l'arbitraire du signe si l'on s'était attaché plus aux faits fonctionnels et moins aux aspects psychologiques du problème." 2. Chapter 3, p.88 note 2 . 3 Used in Martinet's sense - see below. 4. De S. himself may not have retained it had he lived longer - cf Chapter 3, p. 83 5. *ibid.* pp24-5 . 6. This is what he means by "faits fonctionnels" - cf p.150 note 1 above. 7. Martinet defines "sémantique" as "non point une réalité psychique, mais bien le processus de signification qui implique la combinaison du signifiant" (*ibid.* p.25). 8. i.e. those drawn from Gardiner's statement. - cf p.150 note 2 above.

C.E. Bazell (1954)¹ agreed with Martinet about the "arbitraire du signe" but doubted the efficacy of the "double articulation" as a defining criterion for language: "Martinet's¹ criterion is a perfectly good one, but certainly it is not a definition. For there are other criteria equally good. Among these is the criterion of the arbitrary. This is not a less specific criterion, as Martinet asserts.³ For Bazell, this arbitrary relationship is between expression units of the sign ("morphemes")² and the content plane as a whole, not with individual "units of content", delimited by the sign in some way: criticizing Glossematics, he says: "In order that⁴ a unit of expression may be regarded from the standpoint of content, it is necessary that it should be isomorphic with a content unit. Which it may or may not be."³ He emphasises that "no⁵ semantic conclusions may be drawn" from the "distribution"⁶ of a unit. He says the same of the "word" (which he rejects as a meaningful unit): "... the word⁷ is a unit of expression. Its boundaries do not answer to boundaries in content..." What, then, in Bazell's system, corresponds to "sign" as de Saussure conceived it, and how are "contents" of signs determined?

1. "Correspondence Fallacy in Structural Linguistics", p.283. 2. i.e. a minimum unit of expression: "By adding that the morpheme "has meaning" we are saying something not implied by the methods used for its determination, and which may, in any given instance, be right or wrong." ("Problem of the Morpheme", p.217) NB. For Hjelmslev, "morpheme" was a unit of the CONTENT, Chapter 4, p.126 note 2. In a footnote, (same page) he explains how, in his view, this "function of the morpheme in expressing distinctions of meaning" (i.e. without necessarily being meaningful in itself - see above) is not insufficient to distinguish it from the phoneme: "... the phoneme does not express distinctions of meaning, nor does it even "distinguish between meanings"; it distinguishes between the expressions of meanings, i.e. between "forms", in the popular sense of "being a distinctive feature". (footnote, p. 217). 3. Despite this statement, Bazell does not mean by arbitrary "haphazard" in the sense of Spang-Hanssen's completely haphazard distribution of function" - Chapter 4, p.129. Although there is "total asymmetry of morphemic and sememic levels" ("The Sememe", p. 336) "sign function" (to borrow glossematic terminology) is for Bazell still determined by the language system: "The speaker can no more choose to say "the cats is".... than he can choose to say "grinded" instead of "ground"... the speaker has no choice, apart from the choice of speaking his own language or not." ("Three Misconceptions of Grammaticalness", p.4.) 4. "The Sememe", p.334. 5. *ibid.* p.336. 6. Contrast the views of K. Tooby (cf Chapter 4, p.128 above), and compare Bazell's article "The Choice of Criteria in Structural Linguistics", pp.134-5, where he discusses Tooby's view on this matter. 7. Bazell: "The Sememe" (originally published in Litera (Istanbul), Vol.1. (1954)), in Readings in Linguistics, Vol.2. cf p.334.

Comparing his statement".. a meaning is a meaning of a unit which may be identified by distributional criteria"¹ with the above, Bazell admits an "apparent inconsistency"²; no conclusions may be drawn semantically from the "fixed"³ distribution of an expression unit; yet "if we wish to examine² the meanings of these units, we must start from their distribution". He "clarifies" this by stating:²"If the meaning of a unit is being studied one must start with MEANINGFUL distribution, i.e. FREE⁴(but not INDIFFERENT) distribution." But, he continues, "free" distribution can only be statistically checked. Therefore "it is..legitimate to use bound distribution as presumptive evidence of free distribution." Firstly, he does not inform us how he proposes to ascertain meaning on the basis of "free" distribution, or what exactly he means by "free" distribution. Secondly, he works on the assumption of a "parallelism" between "free" and "bound" distribution, which he admits is not satisfactorily verifiable. Regarding this assumption nevertheless, as "legitimate", he ascertains entities of content entirely on the grounds of the distribution patterns of expression units - the very grounds from which he said no semantic conclusions could be drawn.

1. ibid. p.330. 2. ibid. p.336. 3. Bazell does not clarify exactly what he means by "fixed". Presumably, he means the distribution patterns of an expression unit as fixed by the system of a given language. 4. Again, he does not make clear what he means by "free": can distribution (as not fixed by the language system?) be, in his sense, related to word frequency as reckoned in information theory by (statistical' methods? If this were so, "meaning" would be a phenomenon completely independent of the language system itself, and could not possibly be ascertained on the basis of any parallelism between "bound" and "free" distribution. In other words, distribution as determined by the system (bound) would have to be parallel with distribution not determined by the system (free) for 'meaning' to be ascertained. But how could such a parallelism be consistently maintained, except via some permanent link between distribution patterns fixed by the system and those not fixed by the system? Such a link would make both distribution patterns ultimately 'fixed'. The view that Bazell associates non-fixed distribution with 'word frequency' appears to be confirmed in "The Choice of Criteria in Structural Linguistics", p.135 (footnote): "The objection to such analyses" (i.e. analyses similar to those carried out by Tooby) "might be expressed by saying that they do not answer to the criterion of FACTUALLY FREQUENT COMMUTATION ... One may of course agree with the glossematists that frequency is a matter of USAGE alone, not of linguistic SYSTEM. But it would be mistaken to conclude from this that frequency can be disregarded in the process of constructing the system. The system is constructed so as to account for all the facts of speech, including those facts which are not recorded in the formulation of the code as such."

He has not resolved the "inconsistency". If boundaries of content units (simple or complex) do not coincide with boundaries of expression units, how can he hope to ascertain them by such "distributional" criteria?¹

The sign is "by definition minimal"², since higher units are to be regarded as combinations of signs, not as complex signs". But the sign is not co-extensive with a morpheme, as the justification for "morpheme" lies in an asymmetry between expression and content which a system of signs does not necessarily suppose."³ Does this mean that in language, looked at as a sign system rather than as a morpheme system, there are discrete, one-to-one relationships between units of content and units of expression as de Saussure envisaged? Seemingly not. Bazell⁴ compares language to a code, such as Morse, where "each discrete "signans"⁴ has a discrete "signatum" ", and finds it easy in such a code to "adopt the⁴ image of two chains, the chain of the code and the chain of the decoded message." But, he concludes, "this⁴ image is totally inadaptable to ordinary language." Alluding to the Saussurian "amorphous⁵ masses", he remarks: "There is no "amorphous⁴ semantic chain" from which sememes may be abstracted, as there IS an amorphous phonetic chain from which phonemes may be abstracted." Bazell appears, here, not to have grasped the purely theoretical nature of de Saussure's two "chains". For de Saussure, neither of the two chains has any actual (empirical) 'existence'; they are simply 'models' used by him as a means of accounting for the patternings inherent in "langue" as a sign system.

1. Presumably, using the commutation test. 2. "The Problem of the Morpheme" (originally published in Archivum Linguisticum Vol.1. (1949)), in Readings in Linguistics Vol.2, p.217. 3. ibid. p.218. 4. "The Sememe", p.346. My underlining. 5. cf Chapter 3, p.82 note 8 above.

Whether or not 'sound' and 'thought' actually take the form of an amorphous chain in reality is irrelevant to de Saussure's purposes. Since for de Saussure, "langue" imposes its patterns on sound, and not vice versa, 'phonemes' cannot, in a truly Saussurian theory,¹ be abstracted from sound, whether or not conceived as a chain.

Even given that Bazell prefers the inductive² approach to speech data suggested by his assumption that 'phonemes' can be abstracted from a chain of speech sounds, he cannot justifiably postulate the 'existence' of an amorphous 'phonetic' chain but not that of a semantic one. Since the 'structure' of thought³ is inaccessible to any direct empirical observation or analysis, one cannot say for certain what form it takes; i.e., it is theoretically possible that it could consist of an 'amorphous chain'.⁴

Any information conveyable by the Morse Code is also conveyable by language, and vice versa; both can be used to communicate about anything whatsoever. Therefore it is absurd to say that the "decoded message" takes the form of an "amorphous chain" in the case of the Morse Code but not in the case of language. How can one and the same message both be and not be an "amorphous chain"? If, however, by the "decoded message" of the Morse Code, Bazell means just the letters of the alphabet for which the various dot and dash combinations stand, and not the actual information conveyed when the Code is used, he can indeed speak of a chain (i.e. a chain of letters); but the said chain is, in that case, neither amorphous (since letters have shape and form) nor semantic (since letters of the alphabet are, in themselves, meaningless).

1. cf Chapter 3, p.82 note 8 above. 2. The disadvantages of an inductive approach to linguistic description have been discussed in Chapter 2 above. cf. p.55 ff (with reference to Locke), p. 58ff (advantages of a deductive, axiomatic approach according to Wallis) and p.68 ff (disadvantages of Locke's inductive method as compared with the deductive method of le pere Buffier). 3. Compare Chapter 7 below. The theories of Lamb and Gleason (and Chomsky - cf Chapter 6 below) run into the same difficulties for the same reason - the 'structure' of thought. (if it, in fact, has one as such) is inaccessible to direct, empirical observation. 4. It is, in fact, anomalous to speak of an "amorphous chain". How can a chain, which is inevitably 'structured' in some way (i.e. having 'links' of some kind) be at the same time amorphous, (i.e. without shape or structure of its own)? De Saussure, in fact, does not use the expression "amorphous chain"; he speaks of an "amorphous mass" (cf Chapter 3, p.82 note 8 above.)

For Bazell, the "morpheme" not the sign, is the "central"¹ unit of language; it "bridges"¹ the asymmetry of content and expression"; between the morpheme and the two planes stand intermediate units, the "morphoneme" between phoneme and morpheme, and " - though¹ still to be named - some unit between the morpheme and the semantic elements" which in their turn contribute to the reduction of the "asymmetry"² between the two planes as Bazell conceives them.

R. Jakobson (1959) translates de Saussure's "arbitraire" as "Willkürlichkeit".³ Siding with Benveniste, he writes that one can "keinesfalls vom synchronischen³ Standpunkt der Sprachgemeinschaft, welche die gegebenen Sprachzeichen gebraucht, diesen Zeichen einen willkürlichen Charakter zuschreiben". Es ist nicht willkürlich, sondern schlechthin obligat, im Französischen ... "fromage" und im Englischen "cheese" zu sagen." Following a contemporary of de Saussure, M. Kruszewski, whose notions he preferred, Jakobson calls the relationship between "signans"⁴ and "signatum"⁴ "eine gewohnheitsmässige, erlernt KONTIGUITÄT, die für alle Mitglieder der gegebenen Sprachgemeinschaft obligat ist."⁵

1. "The Problem of the Morpheme", p.226. 2. i.e. lack of a strict, one-to-one relationship between elements on the two planes. Bazell possibly 'borrowed' the term "asymmetry" from S. Karcevski ("Du Dualisme Asymétrique du Signe Linguistique" in Travaux du Cercle Linguistique de Prague, Vol.1. (1929)). cf Chapter 6, p.17 ff below. 3. "Zeichen und System der Sprache" in Selected Writings of Roman Jakobson, Vol.2 (Word and Language), p.272. (Originally published in Schriften zur Phonetik, Sprachwissenschaft und Kommunikationsforschung, Berlin, 1962 from a lecture given in 1959). 4. Jakobson does not make it clear here whether he means the "sign"/"thing" relationship or whether he is interpreting "signatum" as de Saussure's "signifié" counterpart of "signifiant". If he means the former, he is, like Benveniste, confusing de Saussure's internal and external relationships with regard to the sign (cf Chapter 3, p.855 above); if he means the latter, he is saying nothing which contradicts de Saussure; for de Saussure, the "signifiant"/"signifié" relationship was 'indissoluble' (cf Chapter 3, p.73 note 3 above.) It is, indeed, necessary (or 'obligat') that "signifiants" should be indissolubly united to "signifiés" in a sign system; but this does not make any difference to the arbitrary nature of the relationship between any given "signifiant" and any given "signifié" - their union depends solely on convention. 5. Jakobson, op.cit. p. 273.

Like Benveniste, however, he does not realize that any such 'obligation' is in no way absolute; it is, itself, of an arbitrary nature, being based on the conventions determining the language system concerned. In calling the "signifiant"/"signifié" relationship a "contiguity", resulting from learning and habit, and exercising constraint on speakers, Jakobson, in fact, emulates de Saussure's conception of "langue" as a "fait social"¹ and unwittingly confirms the Saussurian notion of "arbitrariness" in the linguistic sign. The fact that he is completely unaware of doing so is evident in his statement: "Any attempt to treat verbal signs as solely conventional, "arbitrary symbols" proves to be a misleading simplification."²

Jakobson, however, refuses to believe that the Saussurian sign is "a novelty".³ He says: "His definition of the total sign as a combination of "signifiant" and "signifié" literally corresponds both to the Stoic "semeion"⁴ and to St. Augustine's adaptation of the Greek model: SIGNUM = SIGNANS + SIGNATUM. This conception was inherited⁵ by the schoolmen.....". This likening of de Saussure's sign with the traditional variations⁶ comes from an interpretation of "signifié" similar to that of Borgeaud⁶ and Nehring.⁶ Borgeaud sets out his view of "signifié" as being incompatible with de Saussure's conception of it as being an integral part of the sign, but Jakobson attributes the Borgeaudian conception of "signifié" (i.e. "signatum")⁷ to de Saussure; in either case, a traditional⁸ notion "sign" (but not a Stoic one) is arrived at: Borgeaud and company did not admit this; Jakobson, however, recognized it, and thus failed to recognize the revolutionary nature of de Saussure's sign.

1. cf Chapter 3, p.82 above. 2. "Language in Relation to other Communication Systems" in Selected Writings of Roman Jakobson, Vol.2, p.700. 3. "Linguistic Glosses to Goldstein's "Wortbegriff" " in Selected Writings of Roman Jakobson, Vol.2, p.267. (Originally published in Journal of Individual Psychology, Vol.15 (1959). 4. cf Chapter 1, p.21 above - however, he gives "lekton" the same interpretation as Borgeaud. (cf p.137 above), and so the comments made on that page about "lekton" apply here, too. (Jakobson likens "semainomenon" (another term for "lekton" - cf Chapter 1, p.21 above) to "signatum"). 5. cf Chapter 1 above. This is not strictly true. The Modistae developed a Stoic-type sign notion, but the traditionalists, on the whole, retained the notion deriving from Aristotle and the Alexandrians, of which St. Augustine's notion "sign" is a development - cf Chapter 1, p.35 above. Compare Chapter 1, p.15 and p.21 above. 6. cf pp.136-7 above. 7. = "thing meant". 8. cf p.137 above.

Jakobson, taking this "signans + signatum" sign notion as his own, differentiates "signifié" and "signifiant" as follows: "The signans¹ is PERCEPTIBLE, the signatum INTELLIGIBLE." Thus, he maintains, "we perceive the sound-shape of the word "tree" and we may translate² this word by other verbal signs with more or less equivalent signata but each with a different signans: for instance, by "arbor" or "woody plant" or by corresponding foreign names like the French "arbre"....". (i.e. for Jakobson, "intelligible" - a term applicable indeed to concepts³ - is equivalent to Peirce's "translateable", "to put it more concretely and operationally").³

Jakobson regards both halves of the linguistic sign as "correlated"⁴ signs: "Each of them has a different signans, but the two signs can replace each other because they have a similar signatum. The first sign is a "symbol"⁵ and the second an "icon"⁶ according to Peirce's classification of signs." In this way, Jakobson hoped to solve the "problem of universals"⁷ which had troubled sign theory since mediaeval days. The relation of signans to signatum would be general ("symbolic") but the relation of the signatum to what it in turn signifies would be particular and depend on situational context. However, Jakobson does not try to demonstrate this theory: without adequate justification it is merely conjectural to maintain that the relationship between a ⁸concept and what it "refers to" is "iconic". The thing "referred to" by the concept "tree", signatum of the sign "tree", in statements such as the following is certainly neither "single", nor "spatial" nor "temporal": "A tree⁹ is a tall plant with a hard stem".

1. *ibid.* p.267. 2. A term taken from C. Peirce (1870). 3. It is difficult to see a true connection between "intelligible" and "translateable"; applied to a "signatum" regarded as a concept, the opposition "intelligible/perceptible" is understandable - (mentally as opposed to sensually perceptible). But, could not "signans" be regarded as "translateable" as much as "signatum"? For instance, /her/ could be 'translated' by signs 'having equivalent signans but each with a different signatum', e.g. by "hare" (animal) and "hair" (of the head). Similarly, in Jakobsonian terms, could not the 'signans' /rok/ be, equally much, 'translateable' by the sign "rock" in English and by a "corresponding foreign name" (see text above) such as German "Rock" (meaning "skirt")? 4. *ibid.* p.268. 5. "Any symbol is endowed with general meaning, and the general meaning of any symbol... has a generic character.... Thus "tree" means any species and any individual instance of a kind of plant, and only a context can adapt this word to one single species or to one single specimen." *ibid.* p.268. 6. "As to the icon, it is able to present an individual landscape, a single spatial and temporal instance." *ibid.* p.268. 7. cf Chapter 1, p.37 - Boethius. 8. For Jakobson, "signatum" is the "conceptual aspect" of a sign. *ibid.* p.268. 9. Apologies to botanists! This is not meant to be a definition of a tree!

The signatum of "tree" "refers" here to "any given instance of a tree in any situational context", not to a single instance of a tree in a specific situational context, as it would need to be by Jakobson's own stated definition of "icon"¹; in fact, the signatum in this case fits Jakobson's definition of "symbol",

It is relevant to ask here whether "concepts" ever, in fact, really refer to anything outside themselves, i.e. act as signs. Certainly, as Gardiner pointed out,² concepts must be concepts of something. But this does not necessarily imply that concepts must act as "signs" of anything. Concepts are, as far as we can call them anything with any degree of certainty, IMPRESSIONS in our minds, of phenomena in the outside world; such 'impressions' need, themselves, to be EXPRESSED. In view of this need, they can hardly be said to be EXPRESSIONS of signs. If they could be said to express anything, they would be in some way accessible to us in terms of empirical data, just as phonological features contained in the forms of linguistic signs can be 'realized' in terms of speech sounds. Yet it is the very inaccessibility of concepts to any form of empirical observation which makes it impossible to account for 'meaning' in terms of them in any rigorous way in a linguistic description.

Considerations such as these are in contradiction with Jakobson's assertion that the linguistic sign is necessarily a correlation of two signs. Jakobson justifies this assertion on the grounds that the correlated 'signs' have a "similar signatum". But what, exactly, does he mean by "similar"? It would appear that, according to his definitions, the linguistic sign has a "general", conceptual 'signatum', whereas the signatum, in its turn, has a particular, real³ signatum of its own. What is, necessarily, similar between these⁴ two signata? Nowhere in this theory do we come across the Saussurian notion "valeur".⁵

1. cf p. 157 note 6. 2. cf Chapter 3, p. 88 note 2. 3. At least, it would appear to be "real" from the definition given of "icon" of note 6 on previous page. If it is only a concept of something individual, spatial, temporal, etc. the sign could have no ultimate connection with reality, as Borgeaud maintained (above, p. 137 note 6 & p. 138). Or, at least, Jakobson makes no theoretical provision for it if "real" is not to be understood here. 4. Since we do not know exactly what a concept is, it is difficult to establish "similarity" either between concepts and the real world or between two concepts. cf above, p. 141 note 4. 5. It is because he ignores this notion with respect to signs that Jakobson feels obliged to set up concepts as signs in their own right and to regard linguistic signs as 'correlations' of two (traditional type) signs. See above.

In striking contrast to his sign theory, Jakobson defines phonemes¹ as "merely differential components devoid of proper meaning"; their "signatum" is "bare otherness";¹ judging by his classification of semiotic systems, Jakobson seems to see a contradiction between "signification" and "valeur": if a system, such as that of linguistic signs, has a "referential component"², it has an "extroversive semiosis", and its elements are defined positively; in the absence of the referential component, i.e. with "introversive semiosis", where the message "signifies itself", and only then, we have the situation, as with phonemes, where "chaque element n'existe qu'en fonction du reste."³ However, as mentioned previously,⁴ if "signification" is regarded as dependent on "valeur", no contradiction arises; the signs in the system are defined negatively in terms of their relationships with other signs in the system (their "pure otherness"), and what they signify in the outside world is delimited with respect to the boundaries thus established. No two languages delimit the phenomena of the outside world in exactly the same way.⁵

In Jakobson's idea of the linguistic sign as a correlation of two signs lay the germ of objections raised by some linguists, particularly in Russia and France, against the whole concept "linguistic sign". Derrida phrases it thus:⁶ "Le maintien de la distinction rigoureuse - essentielle et juridique - entre le signans et le signatum, l'équation entre le signatum et le concept ... laissent ouverte la possibilité de penser un CONCEPT SIGNIFIÉ EN LUI-MÊME, ... dans son indépendance par rapport à la langue, c'est à dire par rapport à un système de signifiants. En laissant cette possibilité ouverte Saussure⁷.....fait droit à l'exigence classique de ce que j'ai proposé d'appeler un "signifié transcendantal",⁸

1. "Language in Relation to Other Communication Systems", in Selected Writings of Roman Jakobson, Vol.2.p.707. 2. ibid. p.705. 3. ibid. p.705 quoted by Jakobson from D. Vallier, who applies it to music, as does Jakobson himself. 4. cf Chapter 3, p. 81 note 9 & p. 82 note 8 above. 5. This is demonstrated clearly by Hjelmslev's comparison of the divisions imposed on the colour spectrum by English and Welsh. of Prolegomena to a Theory of Language, p.53. 6. This is written with reference to R. Jakobson: Essais de Linguistique Generale (Paris 1963), p.162, which contains another exposition of Jakobson's general sign theory as discussed above. The quotation comes from Derrida's article: "Semiologie et Grammatologie" (cf Bibliography), p. 13. 7. - to whom Derrida traces Jakobson's sign theory. But, as the above discussion makes clear, Jakobson has diverged so far from de Saussure's central doctrines that to call his sign theory "Saussurian" would constitute a misrepresentation of de Saussure. 8. Compare Kant's ideas on 'content' as mentioned in connection with Cassirer. See p.143note. 2 above.

qui ne renverrait en lui-même, dans son essence, à aucun signifiant, excéderait la chaîne de signes, et ne fonctionnerait plus lui-même, à un certain moment, comme signifiant." From the time one postulates such a "signifié transcendantal", according to Derrida, and when one recognizes that "tout signifié est aussi en position de signifiant",¹ "la distinction² entre signifié et signifiant - le signe - devient problématique à sa racine."² - Presumably, because, since all 'signifiés' can act in³ turn as 'signifiants', and vice versa, one cannot, in Derrida's view, continue to adequately distinguish "signifiant" and "signifié"; and the notion "sign" depends on that distinction.

J Kristeva agrees, on the grounds that "La notion⁴ de signe comporte une distinction symbolique/non symbolique qui correspond à l'ancienne division esprit/matière et empêche l'étude scientifique des phénomènes dits "de l'esprit". Therefore, "certain structuralistes' have abandoned the "signifié" and restricted themselves "pour des raisons de rigueur scientifique, au seul espace du SIGNIFIANT."⁵ Communication theory, according to the author, has done the same. But even this is objectionable to her because "signifiant" presupposes "LE SIGNE"; this "démarche" "implique⁵ un idéalisme indépendamment des intentions de ceux qui la pratiquent."

1. Jakobson postulates this, with his idea of the sign as a correlate, of two signs, but de Saussure does not. There is no reason in fact why he should; for him, a concept does not, as far as language is concerned, 'exist' prior to its delimitation due to imposition of the patterns established by the relative "valeurs" of a sign system on the 'amorphous mass' of thought; whatever 'concepts' do if they 'exist' per se on some level independent of language does not concern him. Compare Chapter 3, p. 82 note 8 & p. 90. And they do not, in any case, serve as expressions of signs, since they themselves need to be expressed. See above. 2. *ibid.* p.14. 3. They cannot, in de Saussure's system; "signifiés" and "signifiants" exist only in terms of the system, as "valeurs" in "langue"; a concept can act as "thing meant" - the "signification" of a sign, but could not be a "signifiant" which is by definition an "image acoustique". (NB the notions "image acoustique" and "concept" do not contradict the idea of signifiant & signifié as negatively defined "valeurs" - cf Chapter 3, p. 82 note 8). Outside "langue", neither 'signifiant' nor 'signifié' exist. 4. "L'Expansion de la Semiotique", (cf Bibliography) p.34. Presumably, the 'signifié' corresponds to "esprit" and "non-symbolique" ("transcendantal" - see above) and the 'signifiant' to "matière" and "symbolique". This is not made clear in the quotation but is borne out by the continuation of the text at this point. 5. *ibid.* p.34 - Is this a reference to Naert? - see above, p.146ff.

This "cercle vicieux" will only be broken in her opinion, when one restricts the notion "sign" to "la¹ sphère (assez limitée) des gestes signifiants à laquelle la notion de signe peut s'appliquer, sans essayer de faire entrer toutes les pratiques sémiotiques dans la moule de la problématique du signe."

Kristeva's remedy to the problem, is "l'axiomatisation". By this she means "une approche² scientifique (symbolique) OUVERTE" which "étudiera les différentes pratiques sémiotiques comme des systèmes de relations, sans se préoccuper de la problématique du signe."

It is clear from discussions above that Derrida and Kristeva, possibly inspired by Jakobson's³ views, have misrepresented de Saussure. He never postulated a "signifié transcendental"; the "signifié" has no 'existence' outside "langue"⁴, in which it is a negatively defined "valeur". Secondly, the proposed solution, insofar as it is "échappant à l'atomisme" and seeks to explain "langue" in terms of⁵ "système de relations", is⁵ nothing new; de Saussure and, later,⁵ Hjelmslev, proposed such systems.

Later work, particularly Prieto (1966), Mounin (1968), Miclau (1970) and Mulder and Hervey (1966 and 1973) testifies clearly that the view of the notion "sign" as an impediment⁶ to progress is not generally shared. On the contrary, Mulder writes; "Theories that lack some sort of a sign theory are theories without a backbone."⁷ It is the notion "concept", not the notion "sign", which has been a stumbling block; a sign theory⁸ not involving this notion⁹ could meet the demands of scientific¹⁰ rigour which form the basis of the objections made.

1. *ibid.* p. 34. Does she mean gestures by "gestes signifiants"? More clarification is needed. Why does the notion "sign" apply only to these and nowhere else? The author does not justify her claims. 2. Compare *ibid.* p. 36; the "méthode axiomatique" is the "seule approche scientifique échappant à l'atomisation et au postulat de l'intelligibilité du signe" (a reference again to Jakobson - cf p. 157 above). 3. cf p. 156 above. 4. See above, p. 158 note 5. 5. Jakobson's abandonment of de Saussure's notion "valeur" with respect to the sign (as opposed to phonological features) is probably what obscured the relativistic nature of both de Saussure's and of Hjelmslev's systems to Derrida and Kristeva. 6. This view was, in any case, based on a misrepresentation of de Saussure. 7. Theory of the Linguistic Sign (1972), Forward, p. 5. 8. Hjelmslev attempted this, but his work, because of its complete lack of outward similarity to existing schools of linguistics, particularly in some of his terminology, was not widely accepted. cf Chapter 4, 9. - and all that goes with it - e.g. anything "transcendental" in the Kantian sense, e.g. "universal" semantic features. Everything must be justifiable, if at all, on the basis of relationships in the linguistic system, not per se. cf particularly the advances made along these lines by J. Lyons and S.G.J. Hervey, for whom semantic features are establishable on the basis of relationships in the system of a language, such as hyperonymy/hyponymy. cf Chapter 7. 10. cf. p. 160 above - quote from Kristeva.

The only alternative that meets the requirement of describing semiotic systems in terms of "systèmes de relations" is the attempt made by Harris, and later by the Transformationalists, at describing language in terms of distributional relations without recourse to "meaning". We shall consider in the next chapter which of these two lines of approach gives a more adequate solution to the problems outlined above.

Some of the objections raised against sign theory, particularly the idea that all "signifiés"¹ can in turn act as "signifiants" of other signs, did not trouble Miclau. Despite his siding with Benveniste over the "arbitraire du signe" issue, he maintains in his theory, unlike Jakobson, a notion similar to the Saussurian notion "valeur": "Il existe donc un rapport nécessaire² entre le signifiant et le signifié, ce qui veut dire que ce rapport découle des particularités essentielles des deux éléments du signe. ...si l'on considère le signifiant on constate que celui-ci n'existe comme fait de langue que dans la mesure où il est associé³ à un sens." However, this notion is not completely analogous with de Saussure's notion "valeur". Miclau says of signs; "leur aspect⁴ différentiel n'est autre chose que la manifestation de la valeur objective du signifié. Cela revient à dire que la valeur d'un signe repose sur un invariant qui reflète des objets et des phénomènes." This statement arises from Miclau's interpretation of de Saussure's⁵ analogy of the relation between "signifiant" and "signifié" with an economic value. This analogy leads, for Miclau, to "une valeur objective⁶ du signe qui repose sur la substance et une valeur relative résultant des rapports établis entre les éléments." The above quotations, by making differential "valeur" a "manifestation" of "valeur objective", and therefore dependent on it, REVERSES de Saussure's theorem of "signification"⁷ (relationship between the sign and extra-linguistic phenomena, i.e. with the "données naturelles" - comparable with Miclau's "valeur objective") being dependent on differential "valeur".

1. cf p.160 esp. note 1 above. 2. Benveniste's influence - compare Chapter 3, pp. 87. On p.64, Miclau describes the content ("contenu sémantique") as being "abstrait" but not "arbitraire" (presumably because according to him it conforms directly to the "objective organization of the material world" - see below p.163); on the contrary the "signifiant" is, for him, "essentiellement arbitraire", ce qui est prouvé par la diversité des langues". It is obvious that "arbitrary" here does not refer to the "signifiant"/"signifié" relationship at all; it refers to the relationship of the "signifié" with the world on the one hand and of the "signifiant" with the realm of phonetic sounds on the other. 3. Le Signe Linguistique, p.89. i.e. 'signifiant and 'signifié' exist in terms of each other - a relational approach similar to that of de Saussure. Compare also Martinet - above. p. 149. 4. ibid. p.27. 5. cf Chapter 3, p.80 & Chapter 4, p.104 note 5. 6. ibid. p.71 7. cf Chapter 3, p. 76.

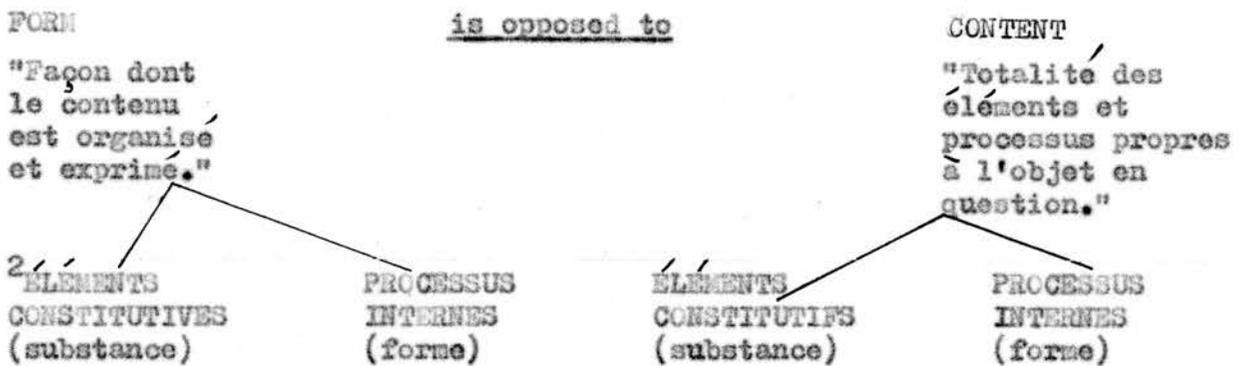
"Valeur" becomes in Miclau's theory dependent on "signification". This conclusion is supported by the following; "il ne s'agit¹ donc pas de découper² des tranches de deux masses amorphes, puisque la réalité désignée par la langue est objectivement organisée. on peut dire que le signe a - par son signifié - une VALEUR OBJECTIVE". Thus no longer does "langue" impose its own patterns on reality according to its own set of differential values; it derives its "valeurs", according to this view, from the "objective organization" of the material world.

How does this work out in practice? Miclau attributed, not only to the sign, but to "tout objet³ ou phénomène" what he calls "un contenu et une forme." These are defined somewhat differently in "philosophy" (in general) and in linguistics.

⁴ GENERAL PHILOSOPHY

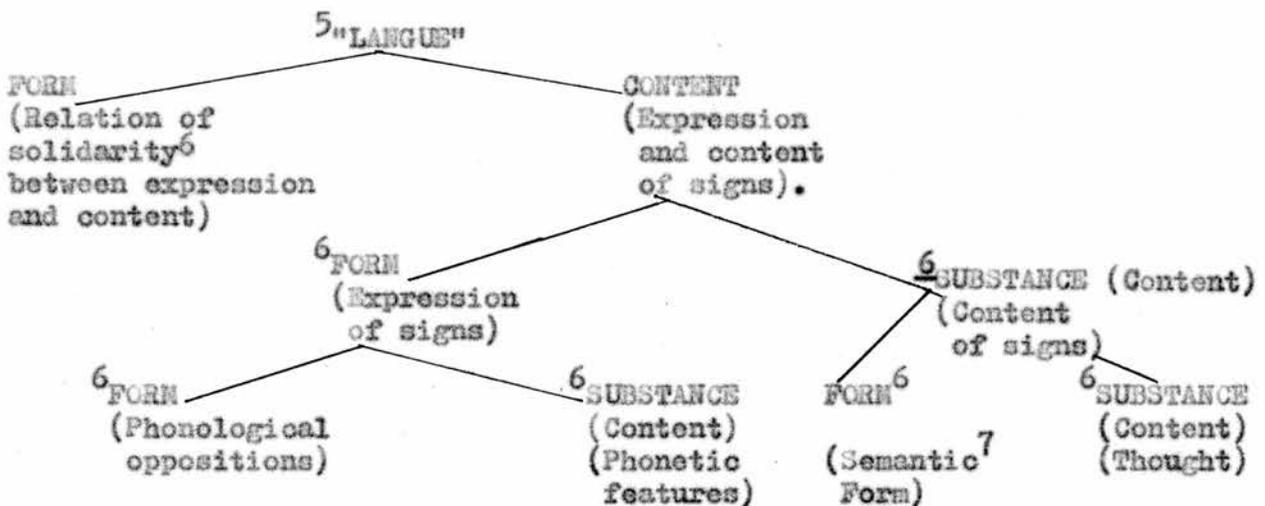
| FORM | <u>is opposed to</u> | CONTENT (Substance) |
|--|----------------------|---|
| "Catégorie générale qui concerne l'organisation interne des objets et phénomènes". | | "Manifestation particulière d'existence de la matière." |

1. *ibid.* p.27. 2. Compare Chapter 3, p.92 note 8. This would however contradict Hjelmslev's example of how English and Welsh impose different patterns on the colour spectrum - cf *Prolegomena*, p.53. Miclau was a great admirer of Hjelmslev - *ibid.* p.4. 3. *ibid.* p.71.
4. *ibid.* p. 71. The diagram is mine.

¹LINGUISTICS

- ³(A) Form is determined by the content, which has the "rôle primordial."
 (B) It follows from the expression of content by form that form, too, will have both aspects (elements and processus).

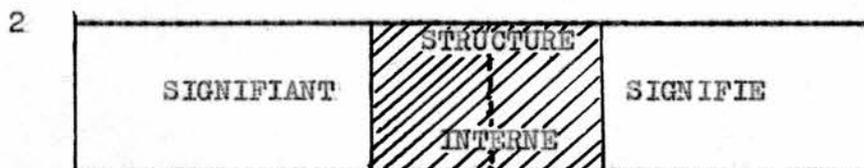
Applying these divisions to "langue", Niclau quotes the views of Em. Vasiliu and I. Coteanu,⁴ which can be represented in the following diagram:



Niclau comments on this view; "Ce point de vue semble correspondre à la réalité des faits."

1. Niclau op.cit. pp. 71-2. 2. Compare with the 'general philosophical' diagram, p. 163. 3. *ibid.* p. 72 - "mais la forme n'est pas passive, elle influe sur le contenu." (p. 72). 4. In: Probleme de Lingvistica Generală (Bucarest) Vol. II, pp. 9-18. 5. Langue, as shown in the diagram contains SIGNS. But "parole" according to Niclau, contains "signaux"; "...chaque élément du message est le résultat d'un choix appliqué à une classe de signes. Une fois choisi, l'élément en question est réalisé, sous la forme d'un SIGNAL; celui-ci représente une étape, un état de la séquence" (p.53). A sequence of such signals transmits the message. A signal is "une unité d'expression correspondant aux formants des signes élémentaires ou monèmes" (p. 54). It relates, "sur le plan du signifié," to "un faisceau de traits lexicaux et grammaticaux qui sont nécessaires pour déterminer le message dans le sens voulu par l'émetteur." My own diagram constructed from the text in Niclau, op. cit. p. 72. 6. N.B. the similarity in terminology to Hjelmslev.

Miclau¹ presents the linguistic sign as a diagram:



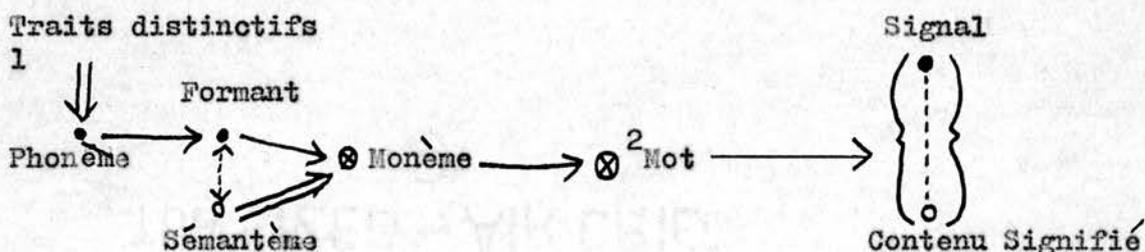
He criticizes, on the one hand, the "bilatéralistes"³ who "insistent sur la structure interne du signe, mais négligent ses substrats matériels, sociaux", and on the other hand, those who⁴ neglect "même les faces, par la réduction du signe à la simple relation qui existe entre elles."

Explanation of the above diagram is clearer if one considers the distinction "langue"/"parole" in relation to the idea that "tout objet ou⁵ phénomène" has form and content. Elements of parole are "signals"; but, belonging to "langage",⁶ they are signals of a secondary signalling system. The primary signalling system is that of sensations; a "reflexe conditionné"⁷ in the Pavlovian⁸ sense signals the effect of a physical stimulus on a living organism which has been trained ("conditioned") to respond to it in a certain way (i.e. by regarding it as an (arbitrary) signal of something else, e.g. a bell for food). According to Miclau, "I.P. Pavlov⁹ même désigne les sensations comme les plus élémentaires signaux (images) entre l'organisme et le monde extérieur." Conditioned reflexes are thus "le⁹ mécanisme du premier système de signalisation."¹⁰ But their nature "explique⁹ celle aussi" (i.e. "la nature") "du second¹⁰ système de signalisation..."

1. *ibid.* p.68. 2. The shaded portion represents the "form" as opposed to the "substance" of the 'signifiant' and 'signifié' - see the diagram of "langue" on p.164 above. 3. e.g. the Geneva School, direct followers of de Saussure. 4. This would apply to Borgeaud and Nehring. 5. cf p. above. 6. in the Saussurian sense. 7. *ibid.* p.61. 8. Pavlov was a psychologist investigating animal behaviour patterns. His conclusions were in many ways similar to those of the "behaviourist" psychologist, B.F. Skinner. A conditioned reflex is the reaction made by an animal, e.g. a dog, to a physical stimulus (.e.g. a bell) which it has been "conditioned" by repeated similar occurrences to recognize as a signal for something outside itself, e.g. food. After a time, the dog will continue to salivate at the sound of the bell, even if in actual fact no food is forthcoming. 9. *ibid.* p.61, my underlining. 10. i.e. language, - an "excitant conditionné" (p.61) and a "signal du signal" (p.60). The mechanism of this would work out as follows: a conditioned reflex signals the effect of a physical stimulus (e.g. a bell associated with dinner) on a person. Language (e.g. the person might say "It is dinner time") is a signal of his response to the bell (i.e. of his conditioned reflex). This statement also acts as a stimulant to any hearer thus producing more conditioned reflexes - further speech or action. This account of the act of speech is in many ways similar to that given by L. Bloomfield (see Chapter 6 below) in his book Language (1933) p.26ff.

In man, (as opposed to the animals) "la signalisation se réalise par la connexion des deux systèmes, le second ayant le rôle dirigeant dans toute la vie psychique."

The connection, in turn, of this signalling process of "langage" (in "parole") with the language structure underlying it is illustrated by Miclau as follows:



Traits Distinctifs

- = Signifiant
 - = Signifié
 - ⊗ ⊗ = Signe
- = Direction des unités linéaires
 - ⇒ = Direction des éléments non linéaires.
 - > = Correspondance Sémiotique.

1. Miclau, op.cit. p.56. He acknowledges this diagram to be an adaptation of a similar scheme proposed by L. Lekomcev. 2. i.e. "Signes complexes" (ibid.p.23) There are three subdivisions under the heading "mot": (1) Signe lexical ("lexème"), (2) "signe morphologique" ("morphème") - depending on the relative predominance of lexical or grammatical distinctive features in the signifié and corresponding differences in the signifiant. (for full details, see diagram on p.23 of Miclau, op.cit.), (3) "signe syntactique" - a "lexème" plus grammatical function; the sign as a unit in syntax. "Morphèmes" alone cannot be units in syntax; syntactic signs consist of "formants lexicaux & formants grammaticaux" (the signifiants of "morphèmes" - a "formant grammatical" can be zero.) A word, whether "lexème" or "morphème", is always "complex"; the signifiant consists of either "Formants lexicaux & formant grammatical synthétique" ("lexème" - the "formant grammatical" being, for example, an inflectional ending, or zero) or "Formants grammaticaux & formant lexical synthétique" ("morphème" - here, the "formant lexical" would be, for example the "root" to which the inflections are attached). As opposed to these categories, a "monème" is simply a minimal sign, consisting of "plérèmes" and "morphs" in the signifié (cf below note 3, p.167) and "phonèmes" and "prosodèmes" in the signifiant. It is by definition not complex.

The "second système de signalisation" (i.e. "language"), contains, apart from the "signal" ("parole"), an organisation fonctionnelle¹, represented in the diagram by the various constituants uniting into signs ("monème" and "mot"), and consisting of "l'ensemble des signaux du second degré (complexes sonores)², l'ensemble des invariants de signifié³ et la règle fonctionnelle⁴ qui repose sur la corrélation de conditionnement existant entre les éléments des deux ensembles."

However, it is doubtful if one can call "monème" and "mot" in the above diagram "signs", considering that the "traits distinctifs" in the "signifiant" and the "signifié" depend on physical sounds and physical stimuli from the outside world respectively. These will vary every time a 'sign' occurs, and so the diagram, as it stands, represents a model, not for a sign and its realization, but for an instance of a sign and its realization.

-
1. *ibid.* p. 65. 2. (Physical phonetic features (distinctive features) and the phonemes they distinguish = "formant" (signification).
 3. Distinctive features and the neuro-physiological stimulus-response mechanisms, (cf *ibid.*, p. 38ff) on which they are based constitute a "sémanème" (signifié). Distinctive features form a hierarchy: (1) "Traits représentatifs" (sensual "images" of concrete reality) e.g. the visual image in signs such as "man", "rabbit", the auditory image in signs such as "sifflement", the olfactory image in signs such as "parfum", etc. (2) "Traits abstraits" - notions; these can be concrete, as in "chaise" (the sum of the "traits représentatifs" involved) or abstract, as in "haut" (a notion with no "traits représentatifs" of its own - it only acquires them in speech, in conjunction with a noun denoting an object); numerals are completely abstract in this sense. (3) "Traits catégoriels" - grammatical features of meaning, e.g. the function of the parts of speech (noun, verb, etc.) - this is the highest degree of abstraction for Miçlau. He acknowledges a debt to V. Brøndal (Les Parties du Discours - Copenhagen, 1928), who tried to establish the parts of speech as categories on a purely logical basis. (cf Chapter 4.) "Eléments" (of Miçlau, *op.cit.* p.23) are the sum of "traits représentatifs" and "traits abstraits" in a sign; "morphs" are the sum of its distinctive features of grammatical meaning; together they constitute the "sémanème" ('signifié') of the sign.
 4. i.e. the "correspondance semiologique" between "sémanème" and "formant".

We can view the sign diagram on p. 165 as a complex of three overlapping areas, all having the basic division into "forme" and "contenu". For the SIGNIFIÉ, "contenu" consists of physical stimuli from the real world; "un substrat neurophysiologique"¹... Il repose sur des processus nerveux a caractère signalisateur, qui lui pretent des traits sémiotiques", and "forme" consists of distinctive features ("semantic form")², derived from the physical stimuli; "un ensemble de traits abstraits qui reflètent plus ou moins fidelement la réalité". For the SIGNIFIANT, "contenu" consists of physical sound (phonetic features), i.e. "son aspect physique, qui a une valeur objective", and "forme" consists of phonological features, "son image acoustique, qui entre en corrélation avec le signifié"³. For the STRUCTURE INTERNE,⁴ the "contenu" is the "forme sémantique" (distinctive features) in the signifié and the "forme" is the "image acoustique" of the signifiant.

Miclau's complex theory makes it clear that, unlike Derrida and Kristeva⁵, he did not regard a situation where "tout signifié est aussi en position de signifiant"⁶ as making the notion "linguistic sign" too problematic to be of any use in linguistics. Such a situation is, in fact, an integral part of his own sign theory: semantic features ("traits abstraits") form part of the "signifié" of its 'internal structure'; yet the role allotted to them in the (twofold) 'signifié' of the whole sign is that of 'signifiant' ('semantic form');⁷ similarly, phonetic features ("l'aspect physique") are part of the (twofold) 'signifiant' of the whole sign, but, within that 'signifiant' are allotted the rôle of 'signifié'.

1. *ibid.* p.67 and p.72. The "content" of the "signifié" is "thought" according to p.72. For a behaviorist seeking to avoid 'mentalistic' notions, "neurophysiological mechanisms" in the brain are a convenient way of accounting for human reasoning processes. Compare the diagram on p.165 above. 2. cf p.164 note⁷ above. 3. *ibid.* p.67. Compare *ibid.* p.72. 4. i.e. the vehicle of the 'relative', as opposed to the 'objective' 'valeurs'. cf p.162 above. 5. See above for a summary of the objections made to the notion "sign" by Derrida and Kristeva (p.159ff). 6. cf p.160 note 1 above. 7. NB; Miclau makes no rigorous distinction between "form" and "expression" or, despite his acknowledged debt to Hjelmslev as the inspiration for much of his terminology, between "content" and "substance".

For Jakobson,¹ the linguistic sign is a correlation of two overlapping signs (the 'signatum' is at the same time a 'signans', a concept 'referring to' a 'thing')² and for Miclau, the linguistic sign is a correlation of three overlapping 'signs', as explained above.³

Miclau's 'correlation' is, however, open to the same objections as that of Jakobson. Like Jakobson's 'concept', Miclau's 'semantic features', and the 'neurophysiological mechanisms' which underlie them, are not accessible to empirical observation. Since both need, themselves, to be expressed in some way, neither can act as 'expression' for the other. Similarly, (abstract) phonemes, for the same reason, cannot act as an 'expression' for the phonetic features which, in Miclau's theory, are their 'content'. On the contrary, it is because phonemes can be 'realised' in speech by the (phonetic) speech sounds to which they correspond, i.e. by what can be termed 'empirical data', that they constitute an adequate model for the phonological forms contained in the 'expression' of a linguistic sign.⁴

By making the 'signifié' of his notion "sign" rest ultimately on

¹ See above.

² For criticism and discussion of this idea, see above, p. ff.

³ Strictly speaking, a 'correlation' of two (arbitrary) 'signs' and a 'signal', since Miclau denies the status of 'sign' to the 'contenu sémantique' on the grounds that the relationship between 'semantic form' and 'neurophysiological mechanisms' is not arbitrary, but states that "les formes de la connaissance sensorielle" are "signaux du premier degré", because they "représentent directement des aspects concrets de la réalité" (ibid. p.64). The twofold structure of the 'signifiant' and the 'signifié' of the (whole) linguistic sign in terms of each having a 'signifiant' and 'signifié' of its own is described on p.72, and the parallelism between the structures, in terms of a twofold "signifiant"/"signifié" relationship, of all three correlated and overlapping entities, i.e. the 'signifiant', the 'structure interne' and the 'signifié' of the (whole) linguistic sign is described on pp. 67-8.

⁴ For J.W.F. Mulder's sharp distinction between 'form' and 'expression' in a linguistic sign, see Chapter 7 below and Sets and Relations in Phonology, p. 36.

what he conceived to be the objective, 'universal' structure of the extralinguistic world, Miclau has created the very sort of 'signifie transcendental' which, in the view of Derrida and Kristeva, invalidates the notion "sign" as an adequate model for use in a linguistic description.¹ But by making "signification" depend on the "valeurs" inherent in a particular system of "langue", not on the constitution of the outside world,² de Saussure made it clear from the start that a 'signifie transcendental' is by no means essential to sign theory.

Despite the behaviouristic terms in which much of Miclau's theory is clothed, he has not really succeeded in eliminating the notion "concept" from his theory; he has simply attempted to account for it in a non-mentalistic way. But the behaviourist theory of mental processes³ is but one hypothesis among many possible 'explanations' of what goes on in our minds. Until a psychological theory is evolved which can give us a demonstrable, scientifically rigorous account of such matters, notions such as "concept" are best kept out of sign theory.⁴ A description of the relationship between psychological processes and language is, in any case, not a description of a language as a self-sufficient system which can 'exist' apart from instances of its use in speech utterances. The former is a task for a psychologist, the latter for a linguist.

¹ See p. 159 above.

² of Chapter 3, p. 76 ff above.

³ It is neither demonstrable, nor refutable, nor universally acceptable.

⁴ Their inclusion, in fact, makes "langue" as a system of signs dependent on mental processes for part of its 'structure'; admittedly, mental processes are employed in the use of language in speech, but this is no justification for saying that they must have a place in the language system. De Saussure did not develop his theory enough to realize that a language system can be described adequately as a system of pure "valeurs" without the essential inclusion of the notions "image acoustique" and "concept".

CHAPTER 6

EUROPEAN AND AMERICAN LINGUISTICS CONTRASTED -HAS SIGN THEORY A ROLE TO PLAY IN AMERICAN LINGUISTICS?

The predominance of the notion "sign" for so long in European linguistic theory was greatly due to Prague School linguistics. This School is renowned mainly for its achievements in phonology,¹ but S. Karcevski's² idea of the "dualisme asymétrique"³ of the linguistic sign was very influential.

Karcevski was concerned about the Saussurian notions "sign" and "signification": "...leurs⁴ limites ne coïncident pas dans tous les points: un même signe a plusieurs fonctions, une même signification s'exprime par plusieurs signes. Tout signe est virtuellement "homonyme" et "synonyme" à la fois, c'est à dire qu'il est constitué par le croisement de ces deux séries de faits pensés." We have already discussed similar ideas in the work of subsequent linguists, such as Kurylowicz,⁵ Bazell⁵ and

1. Particularly the pioneer work of N.S. Troubetzkoy - cf. Chapter 4.

2. Karcevski was also closely connected with the Geneva School. His sign theory was published first in Prague, (Travaux du Cercle Linguistique de Prague Vol. 1, pp. 88 - 93). The notion of the "dualisme asymétrique" appears in Vachek's School Dictionnaire Linguistique de l'Ecole de Prague (1960) on p. 67.

3. A theory propounded in his article "Du Dualisme Asymétrique du Signe Linguistique" (1929) - Travaux du Cercle Linguistique de Prague, Vol. 1 (1929).

4. Karcevski, op. cit. p. 81.

5. cf. Chapter 5 Bazell's discrete elements of expression do not have boundaries which coincide with "discrete" elements of content. Kurylowicz postulated independence of expression and content as systems of elements - there is no isomorphism between elements on each level.

Hjelmslev,¹ regarding the relationship between expression and content elements (as opposed to that between whole signs and their signification, as in Karcevski's theory); they, like Jakobson,² were influenced in their thinking by Karcevski.

Karcevski is protesting against the strict one-to-one correspondence of 'signifiant' and 'signifié' as discrete units in the Saussurian³ sign. The "valeurs sémiologiques" of a language system have in his opinion, "nécessairement⁴ un caractère virtuel." Otherwise they could not, as elements in "langue", remain apart from individual, concrete situations. But: "Ces signes virtuels⁴ doivent cependant s'appliquer à la réalité concrète toujours nouvelle." The result of this is: "...la nature d'un signe doit être stable⁵ et mobile, tout à la fois." In a concrete speech situation, both "le connu"⁶ (the "valeur" of the sign in "langue", carrying a general signification) - the source of its "stability" and "l'inconnu"⁶ ("le nouveau"⁶ - the individual sense acquired by the sign when used on a specific occasion - the source of its "mobility") are

1.

cf. Chapter 4. Hjelmslev, emphasizing the complete lack of isomorphism between systems of elements on the expression plane and the content plane, made it a requirement for a definition of language that there must be no one-to-one reciprocal implication relationship throughout between expression elements and content elements. (Chapter 4, p.112).

2.

Jakobson openly acknowledges this in "Signe Zero", p. 211 - first published in Mélanges de linguistique offerts à Ch. Bally (1939).

3.

As did Bally and Burger (cf. Chapter 3) in proposing polysemy as the normal situation in language. Ullman (1951) tried to develop de Saussure's theory along similar lines. (cf. The Principles of Semantics, p. 78).

4.

Karcevski, op. cit. p. 81. Compare K. Togeby's ideas about 'virtual' elements of content and their "reality" when occurring in the speech chain - Chapter 4, p.128.

5.

Karcevski, op. cit. p. 81.

6.

ibid. p. 82.

indispensable¹ pour tout acte de compréhension." So, the internal² structure of the sign in "langue" comprises, semantically, its general signification (circumscribed by the "valeurs" in the system) and all "modifications" of that signification on specific occasions. The sign "ne"³ peut se modifier que partiellement, il faut que par l'immobilité de l'autre partie, le signe reste identique a soi-meme." Such modification sometimes leads to the creation of new words. These correspond, like all signs, in their "structure intérieure",³ to "un croisement de coordonnées de divers degrés de généralisation..." What is really new in such cases is not the coordinates themselves but the "croisement". Karcevski concludes: "On pourrait prétendre qu'il est impossible de créer un mot unique, et qu'on ne peut créer que deux mots à la fois, au moins". This is because the identity of a sign is determined entirely by its relationships with other signs in the system, and the introduction of a new entity in the system therefore affects the identities ("valeurs")⁴ of these other signs.

This "croisement", then, is between "deux séries"⁵ de valeurs sémiologiques (i.e. "le général et l'individuel") "l'une servant a différencier l'autre." True differentiation, maintains Karcevski, presupposes "une ressemblance⁶ et une différence simultanées."

1.

ibid. p. 82.

2.

This is another attempted solution to the "problem of universals" - cf. Chapter 1, p. 37 (Boethius).

3.

ibid. p. 82.

4.

De Saussure made no distinction between "valeur" and "identity". cf. Chapter 3, p. 79 .

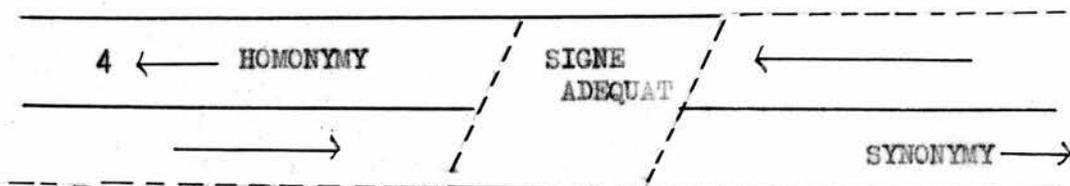
5.

ibid. pp. 82-3.

6.

Karcevski does not go into explanations as to why this should be so. He merely says that "l'opposition pure conduit nécessairement à un chaos". So, to be systematic, it is not enough for him to regard (his example) a tree as being a tree simply because it is not a house or a horse, etc.

"Ressemblance" occurs in homonymy ("une série¹ de valeurs transposées du même signe", and "différence" occurs in synonymy ("une série² de valeurs analogues mais exprimées par des signes différents"). The sign at the "croisement" of these two sets of "valeurs" can be represented thus:³



Because of these various forces acting on the signifiant and signifié of the sign, the latter are "asymétriques; accouplés, ils se trouvent dans un état d' équilibre instable."⁵

In this theory, "langue" is much more 'fluid' as a system than in de Saussure's theory, where 'signifiants' and 'signifiés' are not in a state of continuous instability, but indissolubly united.⁶ The instability of Karcevski's system is increased because the homonymic series is, in his view, "d'essence⁷ plutôt psychologique et repose sur des associations." Every modification of an individual sign leads to another "concept."⁸ Such "valeurs sémantiques"⁹ can never be

¹ *ibid.* p. 83. Homonymy is for Karcevski a subclass of the general phenomenon of "homophony" - two different signs with unconnected meanings being identical as to phonological form).

² Thus the homonymic series is the 'individual' one (see above) (-i.e. individual modifications of the same sign -) and synonymy the general sequence.

³ An adaptation of Karcevski's own diagram on *ibid.* p. 86.

⁴ The arrows represent the directions of the various forces being exerted on the sign through the series of 'valeurs'.

⁵ *ibid.* p. 86.

⁶ i.e. from the synchronic point of view.

⁷ *ibid.* p. 84. The synonymic series is, on the contrary, "plutôt de caractère LOGIQUE, car ses membres sont pensés comme variétés différentes d'une même classe de faits." But he gives no clear criteria for establishing synonymy.

⁸ *ibid.* p. 82. So the general "valeur" of a sign must be isomorphic with the sum of all such concepts, - and, therefore as Karcevski says, lacking in stability, even at a given point of time. One cannot predict what concepts might be added or subtracted from this sum due to the interacting forces.

⁹ *ibid.* p. 84.

decomposed into "éléments¹ aussi "objectifs" que le sont les valeurs formelles." "Valeurs sémantiques" also depend on "la situation¹ concrète" for their establishment. This amounts, however, to saying that "langue" cannot be a self-sufficient² system; at least on the semantic level, its entities cannot be clearly defined and are dependent on the external speech situation.

Karcevski appears to have confused de Saussure's notions "valeur" and "signification" in his theory. For de Saussure, the relationship of the sign with the outside world is via "signification", which is in turn dependent on "valeur". "Valeur" is, unlike Karcevski's "valeurs sémantiques", free of any dependence on the outside world for its establishment; it results entirely from oppositions within the system of "langue" concerned. Karcevski's "valeurs", on the other hand, depend both on oppositions within the system and on relationships with the outside world ("la situation concrète"); the dependency relationships are, in fact, reversed - the language system, instead of determining the relations with the outside world ("significations") of signs, is partly determined by them. Also, in Karcevski's theory, "valeur" cannot determine the sign's 'identity'. Since any given sign possesses a whole SERIES of "valeurs transposées", it must, if, as for de Saussure, there is no distinction between "valeur" and "identité"³, have as many different 'identities' as it has "valeurs transposées". Yet the whole idea of a sign's being at the 'crossroads' between two sets of "valeurs" seems to imply that Karcevski would ~~like~~ to think that 'sign identity' is determined entirely in terms of distinctive oppositions within the language system.

1. *ibid.* p. 84.

2. cf. Chapter 3, p. 84 & Chapter 5, p. 170, note 4.

3. cf. Chapter 3 p. 79 above, and references indicated in Chapter 3 p. 79 note 4.

or that of an adjective with a quality, etc.

As an item of "langue", a sign resides in the memory, and relates to the speaker's previous experience of classes of extralinguistic items; in "parole" i.e. in use in speech, it relates to actual items, comparable with the classes in the memory. Thus spoken words are, for Gardiner, "nothing but copies¹ of purely psychical counterparts." Words as signs in "langue" can "only represent classes of things similar to the thing now to be indicated, so that¹ the discovery of the latter has to be left to the listener's active intelligence". The "thing meant" in any act of speech is "that which the speaker intends to be understood from it by the hearer".² Thus, both in "langue" and "parole" the "signifié" of a sign is explained in terms of psychological processes. Gardiner declares: "The word-meaning and the word-form³ must be conceived of as casting jets of light upon the thing as intended by the speaker, revealing its true characters as intended or meant."⁴

The allocation of signs in "langue" to the past⁵ (the speaker's⁶

¹ ibid. p. 103.

² Compare Borgeaud and his views; Chapter 5, p. 13655

³ i.e. grammatical function, not phonological form - see above.

⁴ ibid. p. 149.

⁵ ibid. pp. 102-3. Gardiner speaks of signs in use as "physical substitutes, the meaning of which both user and recipient know in advance."

⁶ This differentiation between signs as in the speaker's memory and as related to the external world is comparable with F. Slotty's distinction between "Bedeutung" (the "Fähigkeit des Wortes, anzuzeigen, wie der denkende oder phantasiebegabte Mensch die Erscheinungen der Umwelt ausdeutet") and "Meinung" (the "Fähigkeit des Wortes, auf eine Gegebenheit der Umwelt zu weisen") - pp. 94-5 of "Wortart und Wortsinn" in Mélanges Linguistiques dédiés au Premier Congrès des Philologues Slaves (Travaux du Cercle Linguistique de Prague Vol. I (1929)) - cf. Bibliography. Slotty relates this distinction, not to "langue" and "parole" but to synchronic and diachronic studies, "Bedeutung" relating mainly to diachronic studies.

memory) means that any present instances of language are automatically cases of "parole". Gardiner applies this principle to the sentence: "Sentences are like ad hoc constructions run up for a particular ceremony, constructions which are pulled down and their materials dispersed as soon as their particular purpose has been served."¹ Just as the vagueness of Gardiner's psychological terminology² is generally unacceptable to linguists with a desire for scientific rigour, so his allocation of sentence structure to "parole" met with particular objections from the Prague School. Vilem Mathesius³ (1936) objects to Gardiner's "clear statement"⁴ that "the function of naming,⁴ that is, of putting words into relation to objective reality, belongs to speech,"⁵ This view is due, according to Mathesius, to his overemphasis of "conceptual" meaning.⁶ B. Trnka⁷ (1958) objects that, since there are regular patterns in syntax which cannot be accounted for adequately in "parole", "the Prague School"⁸ holds that morphology and syntax cannot be linguistically contrasted to each other as two disciplines concerned with "parole" and "langue respectively".⁹

¹ *ibid.* p. 90.

² and of such expressions as "jets of light" - see above.

³ "Problems of the Systematic Analysis of Grammar" in A Prague School Reader in Linguistics. - cf. Bibliography.

⁴ Mathesius: *op. cit.* p. 310.

⁵ A linguist adopting Gardiner's views on this would be obliged to consign the whole Saussurian function of "signification" (cf. Chapter 3, p. 83ff) to "parole".

⁶ *ibid.* p. 310.

⁷ "Prague Structural Linguistics" in A Prague School Reader in Linguistics.

⁸ Trnka: *op. cit.* p. 475.

⁹ Trnka appears to have got "langue" and "parole" the wrong way round in this quotation, since the view against which he is protesting assigns SYNTAX (not morphology) to "parole".

A psychological theory similar in many respects to that of Gardiner is the highly influential semantic account of the sign given by C. K. Ogden and I. K. Richards¹ (1938). They criticize de Saussure in very strong terms: "This theory of signs, by neglecting entirely the things for which signs stand, was from the beginning cut off from any contact with scientific methods of verification."² Yet they do not postulate any consistent, direct relationship between 'sign' and 'thing meant' themselves: "Words mean nothing by themselves. Only when a thinker makes use of them they stand for something."³ This amounts to saying, in Saussurian terms, that a sign in "langue" can never be a meaningful entity;⁴ meaningful signs can only 'exist' in "parole". However, the distinction "langue"/"parole" (and its advantages!)⁵ does not apply in the theory of Ogden and Richards. Without such a distinction, one must take into account all the variations involved in individual speech in individual situations, and so it is a reasonable conclusion to reach that "meaning" is a matter of use: "A symbol⁶ refers to what it is actually used to refer to, not necessarily to what it ought in good usage or is intended by the user.⁷....". Hence in the statement: "My pipe is alight", the 'thing meant' is not necessarily burning tobacco: "I may admit or deny my referent⁸ was a feeling...". However,

¹ The Meaning of Meaning - cf. Bibliography.

² *ibid.* p. 6. This, as we have seen, is not entirely true of de Saussure: his notion "signification" implies a relation of signs with the outside world (cf. Chapter 3, p.76 note 1); it is simply not stated explicitly.

³ *ibid.* p. 10 - he adds "or, in one sense, have meaning".

⁴ Therefore since a sign in "langue" is by definition meaningful (it has a signifié) signs in "langue" (as opposed to "parole") cannot be postulated at all.

⁵ cf. Chapter 3, p. 82-83

⁶ Ogden & Richards criticize de Saussure's use of "sign" for "symbol" on the grounds that signs are completely arbitrary. For Ogden & Richards they are not: hence the use of "symbol."

⁷ *ibid.* p. 103.

⁸ i.e. 'thing meant'.

it is essential to the definition of "symbol"¹ that it must have a 'referent' of some kind.² However, in this respect the authors distrust the notion "concept". For them, a concept is an entirely internal phenomenon, as opposed to "perception" which is the effect on someone of something external.³ Therefore, if "concepts" are regarded as 'referents' of 'symbols', the result is "the creation of bogus entities".³ The referent of a symbol must be something in the outside world. In fact, it is because these "concepts" - "non-verbal sensations and images"⁴ - are, for the authors, such "unreliable signs"⁴ that symbols "are so important."⁴ So, having tried to eliminate the notion "concept" as "unreliable", they bring in equally vague psychological notions via their notion "sign".⁵ They comment⁶ that all our experience is interpreted in some way or another. Therefore: "An account of the process of interpretation is thus the key to the understanding of the sign-situation." This situation, the effect on the organism⁷ due to any sign,⁸ depends on the past history of the organism. Past occurrences of things leave in us engrams - "residual traces which determine present mental processes."⁸ Signs, then, are "a stimulus similar to some part of an original stimulus and sufficient to call up the engram formed by

1.

ibid. p. 103.

2. cf. ibid. p. 105.

3. ibid. p. 100.

4. ibid. p. 203.

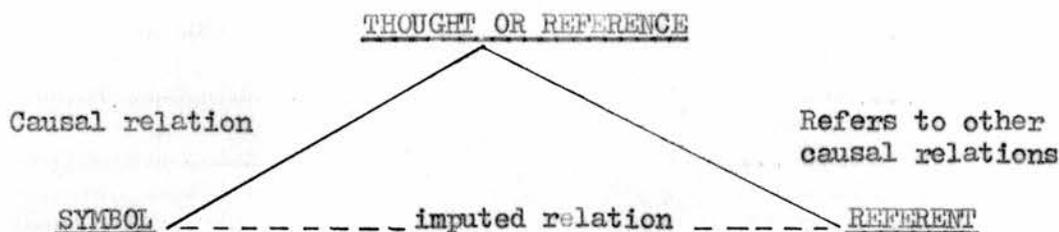
5. as opposed to 'symbol.'

6. ibid. p. 50.

7. i.e. a person.

8. ibid. p. 52.

that stimulus."¹ The interaction of sign and symbol situations² is illustrated in the celebrated Ogden and Richards "referential triangle": (p. 11) (simplified)



Causal relations hold between thought and symbol; they hold, too, between thought and referent, but via a "chain of sign-situations".³ Between symbol and referent "there is no relevant relation other than⁴ the indirect one, which consists in its being used by someone to stand for a referent. The Prague School particularly favoured⁶ the sign theory of K. Bühler (1933), who regarded language as: "...organum,⁷ um einer dem andern etwas mitzuteilen über die Dinge...". Three relationships are involved here: the "organum" is linked (1) to the speaker.

¹ ibid. p.53, e.g. we expect a flame when we light a match. The lighting of the match is a sign (stimulus) calling up the "engram" of previous stimuli, i.e. occasions when the striking of a match has produced a flame.

² a symbol situation is an act of speech.

³ e.g. the thought "Napoleon" is connected via "word - historian - contemporary record - eye witness - referent - Napoleon" (himself) - ibid. p.11.

⁴ ibid. p.11

⁵ There have been many variations on the theme "meaning = use" - e.g. L. Wittgenstein (cf. Bibliography): "... the meaning of a word is its use in language" (cf. T. de Mauro - Ludwig Wittenstein - His Place in the Development of Semantics (cf. Bibliography) (p.46); B. Malinowski (1923): "the utterance has no meaning except in the context of situation" - (D.T. Langendoen - The London School of Linguistics, p.16.); W. Haas (1954), who gives examples of linguistic contexts in which the sign "cat" might appear, e.g. "The --- caught a mouse", "I bought fish for my ---", and says that "...its privilege of occurring in those contexts ... is the linguistic meaning of 'cat'. (quoted Langendoen, p.63); J.R. Firth (1951 & 1957), who believes in "meaning by collocation", and writes: "One of the meanings of 'night' is its collocability with 'dark', and of 'dark' ... collocability with 'light'." (quoted Langendoen, p.62). For the relevant works of these linguists, cf. Bibliography.

⁶ Expounded in "Die Axiomatik der Sprachwissenschaften" in Kantstudien, Vol. 38 (1933).

⁷ Bühler, op. cit. p.74.

(2) to the hearer (3) to the "thing meant":



This gives rise to three different kinds of sign function: the "Darstellungsfunktion"¹ (representation of 'things'), "Ausdruck" and "Appell" (relation of the sign to speaker and to hearer respectively).² The sign as "Ausdruck" expresses the inner feelings of the speaker,³ and the sign as "Appell" ("Signalrelation")⁴ affects the behaviour ("Benehmen") of the addressee: "Das signalhafte Konkretum ist berufen, einen Steuerungsimpuls des Benehmens zu liefern".⁴

Communication systems in general, such as a naval signalling system with flags, and language, differ, according to Bühler, in one important respect: "Ein System vom Typus der Sprache beruht nicht auf einer, sondern (mindestens) auf zwei Klassen von Setzungen (Konventionen) und enthält dementsprechend zwei Klassen von Sprachgebilden".⁵ These he

¹ibid. p. 79 - the sign represents both objects and relationships between them, "Gegenstände und Sachverhalte", i.e. absolutely anything in the universe.

²ibid. p. 80. - "Wie nennen die semantische Relation des Lautzeichens zum Tarer der Sprechat den Ausdruck und die semantische Relation des Lautzeichens zum Adressaten den Appell."

³ibid. p. 86 - "Man erkennt ... dass der Begriff "Ausdruck" das Diakritikon braucht, das wir ihm durch sein Korrelat "Innerlichkeit" verliehen."

⁴ibid. p. 88.

⁵ibid. p. 69. On p. 68, he sums this up: "Globale Signale dort" (i.e. a single system corresponding to what would be a whole sentence in language) "und gegliederte Symbolik hier, das ist der entscheidende Systemunterschied."

calls "Wortwahl und Satzbau".¹

"Ausdruck" and "Appell" both require an act of speech in order to function, and so, despite the Prague School's efforts to expound them as an essential aspects of the linguistic sign, they soon came to the conclusion that only the referential utterances (the "Darstellungsfunktion" of the sign) "permit a maximally instructive insight into the structure of language".²

In explaining these three functions of the sign - a central part of Bühler's theory - the author relies entirely on psychological³ terminology, mainly adapted from the terminology of the Behaviourist⁴ linguists. This does not absolve him from the objections (e.g. vagueness) levelled against the notion "concept", even though he does not explicitly use such a term:⁵

¹ *ibid.* p. 69. Trnka takes this theme up in his strong insistence that morphology and syntax as distinct disciplines belong equally much to "langue". The recognition of two distinct levels as the defining feature of language prefigures Martinet's (and later Mulder's) "double articulation". But both Bühler's distinctions are on the level of the first articulation. The second articulation for both Martinet and Mulder concerns purely phonological features (phonemes, distinctive features).

² A.V. Isacenko - "On the Conative Function of Language" (first published 1948) in A Prague School Reader in Linguistics. - p. 89.

³ such as "Innerlichkeit" (cf. above p. 182), which is even more vague and difficult to define than the notion "concept".

⁴ e.g. from that of L. Bloomfield; "Reizquelle" in the diagram reproduced on the following page from *ibid.* p. 75, explaining the interrelationships of the sign's functions is translatable as "source of stimulus." Compare Miclau's terminology - Chapter 5, p. 168. Bühler, favourable on the whole to behaviourist systems, attempted here to correct what he felt to be their main failing: "Dieser echte Zeichenbegriff hat seinen logischen Ort im Programm der Behavioristen nicht etwa irgendwo an der Peripherie des Erforschten sondern ganz im Zentrum.....". (*ibid.* p. 77).

⁵ cf. Chapter 5, p. 170 notes 3 and 4.

forms. The hearer may react to "s" by speaking; i.e. his reaction is another "r", not an "R". A whole chain of "r"/"s"/"r" interactions might take place before an action (R) is finally prompted in the hearer.

Buhler's influence on the Prague School, and the psychological basis of their own notion "sign" is shown clearly in the account chosen by J. Vachek for inclusion in his dictionary of Prague School terminology¹ (1960): "Toute² la réalité³, à commencer par la perception sensorielle et à terminer par la construction de la pensée la plus abstraite, est apparue comme un ample empire de signes, d'organisation complexe La langue peut nous informer avant tout du rapport objectif, c.-à-d du rapport entre le signe et la réalité à laquelle le signe se réfère, car la langue veut surtout exprimer la réalité, agir sur elle, quoique cela soit indirectement." It does this in a situation similar to that envisaged by Buhler: "Dans la langue,⁴ il y a en dehors de deux sujets - celui qui émet le signe et celui qui le reçoit - encore un troisième point fixe tendant le tissu de la construction antérieure du signe: c'est la réalité que le signe vise".

American linguistics attempted to avoid the psychologism which characterized so much of European sign theory right from the start. This avoidance was not so much a reaction against European "mentalism"

1.

J. Vachek - Dictionnaire de Linguistique de l'École de Prague.

2. Under the heading "signe linguistique" (Vachek: op. cit. p. 67). This extract is taken from "Thèses programmatiques élaborées par la rédaction de la revue Slovo a Slovesnost", by B. Havranek, V. Mathesius et. al., in Slovo a Slovesnost Vol. 1, (1935), pp. 1-7. The quotation is from p. 5.

3. "Realite" is conceived in terms of perception and thought, i.e. of psychological processes of the human mind - this is why the sign can relate only "indirectement" to reality per se. Compare Chapter 3, p.75 note 5 (de Saussure and Dürkheim).

4. Under the heading "Signe - un phénomène" - Vachek, op. cit. p. 67, taken from the same article, pp. 5-6.

as a separate development which later became such. Leonard Bloomfield, the "father" of American structuralism drew much inspiration from his predecessors and contemporaries. Behaviourist psychology was then developing as a reaction against "mentalism" in that field; this reaction, and its influence (through W. Wundt, M. Meyer and A.P. Weiss - all at the turn of the century) on Bloomfield, is what paved the way for similar tendencies in linguistics. According to Esper,¹ (1968), Wundt "analyzed consciousness into its elements as chemistry analyzed matter."² "Meaning" was not denied, but it was excluded as far as possible from methodological procedures. Meyer's testimony was that speaking had its origin in the necessity for humans to co-operate in muscular activity. He says: "I accepted that. And since all skeletal activity is governed neurologically, I concluded that all thinking is governed neurologically by mediation of speech. That fixed my psychology for the remainder of my life." Following these, it was Weiss, according to Esper,³ who "created the "mechanistic psychology" which constituted the extralinguistic starting point of Bloomfield's major work ...".

In linguistics, attention was focussed on the relationship between language and thought. F. Boas, whose work⁴ was known to Bloomfield but whose most explicit grammatical pronouncements did not appear before 1938,⁵ claimed that grammar not only "choisit, classe et exprime

¹Mentalism and Objectivism in Linguistics - p.8.

²ibid. p. 112. This argument is a non sequitur. Why should thinking (a purely mental activity) be 'governed' in the same way as the purely physical activities of the body?

³ibid. p. 2. Bloomfield's major works were: "A Set of Postulates for the Science of Language" in Language, Vol. 2 (1926) and Language (his own book) (1933).

⁴Especially Handbook of American Indian Languages, published, Washington, 1911 onwards.

⁵i.e. his article "Language" in General Anthropology, Boston, 1938.

different aspects de l'expérience", but also "détermine quels sont les aspects de chaque expérience qui doivent être exprimés".¹ This "caractère obligatoire"¹ of grammatical categories was what distinguished lexical meanings. Therefore: "... la vraie différence entre les langues ne réside pas dans ce qu'elles peuvent ou ne peuvent pas exprimer mais dans ce que les locuteurs doivent ou ne doivent pas transmettre."² This implies that the grammatical structure of languages moulds the thought patterns of speakers: "... les concepts grammaticaux d'une langue donnée orientent l'attention de la communauté linguistique dans une direction déterminée, et, par leur caractère contraignant, influencent la poésie, les croyances et même la pensée spéculative"³

B. L. Whorf (1925 onwards),⁴ however, favouring von Humboldt's complete identification of thought with language, postulated what is known as the "Whorfian hypothesis", whereby each speech community lives

¹"La Notion de Signification Grammaticale Selon Boas" in Essais de Linguistique Générale by R. Jakobson. (in translation) - p. 197.

²ibid, p. 201. Jakobson expands: the aspects of experience "chosen" by particular groups of languages vary greatly; e.g. in English, it is obligatory to express time and number in a sentence such as "The man killed the bull". In some other language, these may not be obligatory, but some other aspect, such as place (distance from speaker) and point of view (source of information) will be; thus the above sentence might in such a language be obligatorily expressed: "The man (men - optional, not affecting meaning) kill (time indeterminate) as seen by me the bull (bulls - optional as above).

³ibid. pp. 201-2.

⁴A selection of his writings has been published under the title "Language, Thought and Reality" (1958). His works began appearing in print from 1925 onwards.

in a different, completely separate 'universe', simply because its thought patterns are indistinguishable from the structural patterning of its language, and languages vary very greatly in this respect. Whorf writes: "... the forms of a person's thoughts are controlled by inexorable laws of pattern of which he is unconscious. These patterns are the unperceived intricate systematizations of his own language And every language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyzes nature, channels his reasoning, and builds the house of his consciousness".¹

However, the linguist through whom such views had immediate influence on Bloomfield was E. Sapir (1921). Sapir declared² that "the feeling entertained by so many that they can think, or even reason, without language is an illusion." For him, thought processes set in as "a kind of psychic³ overflow, almost⁴ at the beginning of linguistic expression". The concept, once defined thus, "necessarily"⁵ reacted on the life of its linguistic symbol, encouraging further linguistic growth." A "concept" was for Sapir "a convenient capsule of thought that embraces thousands of distinct experiences and that is ready to take in thousands⁵ more." He continues: "If the single,⁶ significant elements of speech⁶ are the symbols of concepts, the

¹Whorf, op. cit., p. 252.

²In his book Language (1921), pp. 14-15. - cf. Bibliography.

³ibid. p. 16.

⁴This implies that language is prior to thought - confirmed on p. 14: "... language is primarily a pre-rational function".

⁵ibid. p. 12.

⁶i.e. signs.

actual flow of speech may be interpreted as a record of the setting of these concepts into mutual relations." This process is a means of expressing "images,¹ which are the raw material of concepts." These "images", relating to things in the real world, must in some way be produced in us, via our sensual perception of external phenomena.² Yet, being the "raw material" of concepts, they are inextricably bound up with language if thought (interpreted by Sapir in terms of concepts) and language are identifiable with one another. The objective structure of the real world as such can, if these sensual images come to us prior³ to being formed into concepts by language, penetrate our consciousness and give us some idea of itself independently of language! But this would contradict the idea that a speaker's conception of the real world is entirely conditioned by his language.

It was possibly in order to avoid such an inconsistency that Sapir was anxious to define thought "solely and exclusively for its own sake"⁴ and maintained that "the world becomes increasingly irrelevant as a means"⁴ of doing so. But Sapir cannot make the world irrelevant to his definition of "thought" without abandoning his presentation of it in terms of concepts,⁵ and hence his idea of linguistic signs as symbols of concepts.⁶

¹·ibid. p. 39. Language can also express "the conceptual (NB!) world of science, abstracted from the realities of experience" via its "radical and grammatical elements" - cf ibid. p. 33. The "images" occur on what Sapir calls the "pre-rational plane". (same page).

²·Where else could they conceivably come from?

³·- and this is implied by Sapir's idea of them as the raw material of 'concepts'.

⁴·ibid. p. 34.

⁵·- which imply images of reality as their raw material in Sapir's theory - see above, p. 188 .

⁶·cf. above, p. 188 .

Sechehaye¹ pointed out the logical conclusions of the Humboldtian identification of thought with language. Bloomfield was more aware of such conclusions than Sapir, whose mentalist approach allowed speakers some responsibility for their thought.² But, according to Bloomfield's³ behaviourist approach, "the variability of human conduct, including speech, is due only to the fact that the human body is a very complex system".⁴ If one bases one's views, as Humboldt and Sapir did, on the hypothesis that thought and language are completely identifiable with each other, one cannot regard thought as having any 'existence' in itself. From this point of view, attempts, such as those made by many traditional grammarians,⁵ to study 'thought' for its own sake, can only be considered futile. So Bloomfield unlike Sapir, who did not clearly see this consequence of his own approach, had no difficulty in avoiding any reference to 'thought' at all, especially to notions such as "concept", as distinct from language. This does not mean that he adopted the Humboldtian approach as it stood; he merely adopted its consequences.

These tie in very well with behaviourist doctrine, which also allows a speaker no personal responsibility for, or control over, his own thought or behaviour. Everything is explained in terms of

¹cf. Chapter 3, p. 89.

²See above. The speaker forms his impression of the world ('images') into concepts, and orders them - a process in which language is inextricably involved.

³- And it is a behaviourist approach despite his claims (in the Preface of Language (1933)) that it is not based on any school of psychology: "... we have learned ... that we can pursue the study of language without reference to any one psychological doctrine...". Bloomfield and his followers are by no means the only linguists who base their approach to language on notions from Behaviourism: cf. Bühler (above p. 181) and Miclau (Chapter 5, p. 162).

⁴Language (1933), p. 33. For further explanation, see below.

⁵Especially the Port-Royale school, and Condillac, who made language ancillary to thought. - cf. Chapter 2, pp. 62-6 and p. 67.

stimulus-response mechanisms in a person's nervous system; all aspects of a person's behaviour, including his speech right down to the very words he uses on a given occasion, result entirely from a combination of the external circumstances and the chemical composition of his body at the time, which is in turn due to the immense variety of previous stimuli it has experienced. These are beyond our ability to count; this is why we can never predict what a person is going to say at a given point of time, even though theoretically it would be possible, according to this mechanistic theory, to do so:¹ "We could foretell a person's actions (for instance, whether a certain stimulus will lead him to speak, and, if so, the exact words he will utter) only if we knew the exact structure of his body at the moment, or ... if we knew the exact make-up of his organism at some early stage - say at birth or before - and then had a record of every change in that organism, including every stimulus that had ever affected the organism." Views such as these led Bloomfield to make the claim² that all considerations of meaning, by reason of the immense complexity involved, should be left outside linguistics altogether. Yet he also states clearly³ that "... in human speech, different sounds have different meanings. To study this co-ordination of certain sounds with certain meanings is to study language." In "Postulates for the Science of Language" he differentiates "form" and "meaning"⁴: "The vocal

¹ *ibid.* p. 33.

² *Language*, p. 162.

³ *ibid.* p. 27. my underlining.

⁴ Definition 6.

features common to same or partly same utterances are 'forms'; the corresponding stimulus-reaction features are 'meanings'. "What this amounts to is a simple substitution of the behaviourist explanation of mental processes¹ for Sapir's "concepts", which is in many ways similar to Miclau's application of such an explanation to the Saussurian notion "signifié".² The same remarks apply as were made earlier about Miclau's theory.³ Also, if 'meaning' is to be conceived in terms of stimulus-response features, no constant 'meaning' can be allocated to any given sign in the language. This would make it impossible for language to function effectively as a communication system. Stimulus-response features must by definition involve 'organisms' (people) on whom the stimuli can act, and who respond to them; as Bloomfield himself points out, in his "Jack and Jill" story,⁴ the response Jack actually makes to Jill's request for an apple is dependent on many different factors,⁵ as is Jill's initial request. A sign would, following Bloomfield's interpretation of "meaning", have as many different 'meanings' as there are possible stimulus-response mechanisms, possible situational contexts connected, or potentially connected, with its use, and possible states of peoples' body chemistry. Bloomfield himself comments:⁶ "... the meanings of a language could be analyzed or systematically listed only by a well nigh omniscient observer." Unfortunately for Bloomfield, linguists are no more omniscient than any other type of scientist!

1.

Which are not thoughts at all, but stimulus-response mechanisms on a par with all other (physical) bodily processes - all equally beyond any control on the part of the individual.

2. Though not so complex.

3. cf. Chapter 5, p. 170, notes 3 & 4 .

4. Language, p. 23ff.

5. e.g. previous experience, present circumstances.

6. ibid. p. 162. My underlining. Bloomfield calls such 'meanings' "sememes".

The following definition also occurs in "A Set of Postulates for the Science of Language":¹ "A minimum form is a morpheme; its meaning is a 'sememe'. Bloomfield defines "sememe" in Language (seven years later) as "some feature of the practical world".² This interpretation of "meaning" would at least enable us to recognize a particular distinctive 'meaning'³ for every sign in a language; but it brings us back to a traditional⁴ notion "sign" and involves us in difficulties which some traditional grammarians, by saying that signs signify ideas,⁵ have tried to overcome. If the meaning ("sememe") is the actual feature of the world to which a sign refers, that sign would have as many different 'meanings' as there are instances of that 'feature' in the world.⁶ In any case, the above definition of "sememe" contradicts Bloomfield's definition of 'meaning' in terms of stimulus-response features.⁷

Bloomfield expresses his despair of ever being able to account adequately for the 'meaningful' aspect of linguistic signs:⁸ "A

¹ Definition 9.

² Language, p. 162.

³ i.e. the particular feature in the real world to which it refers.

⁴ Bertrand Russell's definition of "sign" is a good example of a traditional notion as mentioned above: "Words all have meaning, in the simple sense that they are symbols that stand for something other than themselves" (Principles of Mathematics, London, 1903 - quoted in W.P. Alston - Philosophy of Language, p. 12) Compare H. Estienne's definition: "Les noms sont les mots qui signifient un corps ou chose..." (cf. Chapter 2, p. 50. Bloomfield would of course, not tolerate a traditional notion "sign" such as that of Locke (cf. Chapter 2, p. 54ff) in which ideas, not 'things' were symbolized by the sign.

⁵ Condillac took this to its most extreme conclusion in making language merely ancillary to thought.

⁶ Alston (ibid. p. 13) gives a good example of this: the sign "I" refers on one occasion to "Jones" and on another to "Smith", depending on who is speaking. Similarly, (my own examples) "dog" would mean on one occasion a police dog and on another the neighbour's poodle - all these would have to be taken as separate 'meanings' of the sign concerned if the equation: meaning = thing signified is taken just as it stands.

⁷ See above.

⁸ Language, p. 162. my underlining.

workable system of signals, such as a language, can contain only a small number of signalling-units, but the things signalled about - in our case the entire content of the practical world - may be infinitely varied.

The signals can be analysed but not the things signalled about". In "A Set of Postulates for the Science of Language," because of his problem about "meaning", he says: "Every utterance is made up wholly of forms."¹ Obviously this cannot be so if his statement² that forms in utterances have corresponding "meanings" is to stand; similarly, the existence of the 'sememe' is essential to his definition of "morpheme"³ if it is to be differentiated from "phoneme" (a "minimum same of vocal feature");⁴ a "vocal feature" is by definition a "form", as we have seen;⁵ therefore a phoneme, too, is definable as "a minimum form". Since, according to Bloomfield, "Every form is made up wholly of phonemes",⁶ and, as we have seen above, "Every utterance is made up wholly of forms", we could conclude from these statements that every utterance is made up wholly of phonemes; this would imply that an utterance must be by definition meaningless, since phonemes are themselves meaningless.⁷

"Meaning" embarrassed Bloomfield. He felt the need to account for it, hence his inclusion of entities involving form: meaning correlations⁸

¹ Assumption 2.

² Definitions 6 & 9.

³ Definition 9.

⁴ Definition 16.

⁵ Definition 6.

⁶ Assumption 6.

⁷ Assumption 6.

⁸ His nearest equivalent to de Saussure's "linguistic sign" - a notion of which, despite de Saussure's "mentalism", he apparently approved. In his review of the Cours de Linguistique Generale in The Modern Language Journal, Vol. 27, he says that de Saussure has "given us the theoretical basis for a science of human speech." (p.320) The only objection to de Saussure stated there is that he would base his analysis "on the sentence rather than the word." (p.319).

in his theory - but his inability to do so led him to treat language as if meaning were irrelevant; hence the contradictions outlined above.¹

Z. Harris² (1951) took Bloomfield's views further, maintaining that meaning was unnecessary and even irrelevant to linguistic description. For him, everything in the structure of a language is explainable in terms of distribution. He regards the meaningful aspects of language as "correlations between ... utterances and the phenomena not described or identified by current descriptive linguistics ...".³ These 'phenomena' are "the social situation in which they" (i.e. the utterances) "occur".⁴ He states in a footnote that the term "social situation" - his equivalent of 'meaning' - is not defined further because "the whole discussion of this section is not at present given to exact statement."⁴ This conveniently vague excuse is used by Harris here as a means of avoiding the whole issue of 'meaning'. If his linguistic theory is to meet the demands of scientific rigour - and that is what he sets out to do - it must be as exact as possible in all its aspects, including that of 'meaning', which is an essential factor in the functioning of language as a communication system. No linguistic description can be complete and adequate which does not account for this factor.

Harris's notion of 'meaning' as "social situation"⁵ almost certainly precludes further definition as it stands, because of its complexity and infinite variability. Harris, in fact, concludes:⁶

¹ J.W.F. Mulder draws attention to such inconsistencies in Bloomfield's work on his article "On the art of definition, the double articulation of language and some of the consequences" (Forum for Modern Language Studies, Vol. 5, 2).

² Methods in Structural Linguistics (1951).

³ *ibid.* p.186. Compare what Bloomfield says about extralinguistic phenomena - p. 192, note 6 above.

⁴ *ibid.* p. 187.

⁵ i.e. situational context.

⁶ *ibid.* p.187.

"If we try to correlate each phoneme or component with the social situation in which it occurs, we will obtain no high correlation....".

But this lack of 'correlation' between linguistic units and the outside world is due, one has the impression, to the very fact that he has left his notion of 'meaning' so vague that there is nothing definite for any linguistic unit to 'correlate' with. In any case, how can he obtain a correlation of (meaningless) phonemes with a social situation? He has given us no exact criteria for doing so. Even given such criteria, how can he expect to find out whether or not such a 'correlation' is 'high' until he has adequately defined "social situation"?

"Morphemic segments" are determined, according to Harris, on the basis of two criteria; an element is "morphemic"¹, firstly, "if it can be matched by others which are phonemically identical with the first except that the element in question is replaced by another element or by zero"², and, secondly, "only if it will turn out that many of these sequences have identical relations to many other tentatively independent phonemic sequences".³ But we never find out how many are 'many' or how 'identical' the relations need to be.

¹ i.e. "independent in a particular utterance" (ibid. p.157).

² ibid. p.157 - this is merely the "commutation test" similar to that used to isolate elements by Frei (Chapter 3, p.94) or Hjelmslev (Chapter 4, p.113) - but without respect to "meaning" in any way.

³ Harris explains this further:- given several sequences, A, B, and C, all occur after morphemes D, E, F, but not ever after G or H (provided that D, E, F, constitutes a distributional class as against G, H - i.e. that D, E, F are the only morphemes which occur in environment X --).

Harris gives as an example¹ sequences ending in /s/, e.g. "books", "myths" which occur in the environment "My --- are old"; "Take the ---". These sequences can be matched with identical ones without /s/, such as "My book is old"; "Take the book". Clearly "the /s/ is independent of both the preceding free form, e.g. "book" and of everything else in the utterance."¹ Testing the example by the second criterion, "We now find that almost every sequence which ever occurs after "The ---", "The good ---", ... etc. also occurs in the environment "The --- s", "The good --- s", ... etc., whereas this is not true of sequences such as "very" which occur in "The --- good", ... etc."¹ Harris's conclusion from this is that "/s/ ... is not merely a very common phoneme (so common that countless sequences which don't end with "s" can be matched by otherwise identical sequences which do) but rather an element added on to any one of a positionally particular group of sequences".¹ Thus "both the bound /s/ .. and the various free forms to which it is added are separate elements or morphemic segments".²

However, adds Harris, "The fact that a phoneme sequence is recognized as a morpheme in one environment therefore does not make it a morpheme in another environment."³ Here, he gives the example "-er",

¹ibid. p.160 - this method appears to be a double application of the commutation test - to two sets of elements simultaneously (/s/ and the class of nouns which can precede it.) This is an attempt to overcome the difficulty that, if an element is to be set up on the basis of its environmental distribution, and its 'environment' consists of similar elements set up in the same way, one set must have had to be pre-established in order to stand as an environment for the other. But this is impossible in Harris's theory, since all elements are established in precisely the same way - on the basis of their distribution in given environments. So Harris first applies the commutation test to isolate /s/ in the environments he gives, and then he has to use /s/ as a constant, along with "the", in order to establish the nouns as morphemic elements, i.e. as a valid "environment" for /s/. Yet he has already used them as if they were previously established as morphemic elements in order to set up /s/ as independent. This procedure is completely circular.

²ibid. pp. 160-1.

³ibid. pp. 161-2.

which is not a morphemic segment in "hammer" but is one in "governor", since "the total environment in which it is a morphemic segment is e.g. "The --- is no good", but not "The --- stopped".¹ But does this mean that "er" in "other"² is a morpheme, because it can occur in the environment "The --- is no good" but not in the environment "The --- ing stopped? Similarly, is the "er" in "monitor", or that in "flower", a morpheme or not?³ Both can occur in both environments! The "-er" in "hammer", the example given by Harris, can also occur in both environments. Does this mean that it is a morpheme when it commutes with the "er" of governor" in the environment "The --- is no good" but that it is not a morpheme when it commutes with, say the "-er" of "whither"⁴ in the environment "The --- ing stopped? Harris admits that "the segments resulting ... will not always be identical with those which might be desired from the point of view of meaning analysis",⁵ and suggests that "where considerations of meaning are at variance with this segmentation special note can be made."⁶ But, considering even the few examples quoted above, the "special notes" would have to be as numerous as the remarks made in the actual description. By analyzing language in terms of "forms" without regard to 'meaning', Harris is trying to carry out the task without a sign theory. The above-mentioned problems result.

In complete contrast to Harris's avoidance of 'meaning'

¹ ibid. p. 162.

² Intuitively, one would not wish to set it up as such.

³ Similarly, "motor", "water" and "plaster" can occur in both environments, but we would not wish to set up the "-er" as a morpheme in these cases.

⁴ One cannot place "wither" in the environment "The ----- is no good".

⁵ ibid. p. 173.

⁶ ibid. p. 173.

considerations, W. Cook, a tagmemicist¹, writes: "In using a functional² model for the description of language, no apology is given for the use of meaning. The recognition of the lexical meaning of forms, and the grammatical 'meaning' which these forms have in syntax, is essential to the system."³ But 'sign', in this type of theory, means something entirely different from the notions we have been discussing so far, although there are some relevant connections. Cook says of what tagmemicists call the linguistic sign: "Any linguistic sign is fully defined by its meaning, form and distribution."⁴ The term in Tagmemics for the fundamental unit of grammar, i.e. the sign, is "tagmeme", i.e. "the correlation of a grammatical function, or slot, with the class of mutually substitutable items that fill that slot".⁵ For example, the tagmeme "S:N" consists of the slot with the grammatical function "noun in subject position" and the class of all the possible linguistic items that can fill that slot, such as "boy", "dog", "man", "love", "snow", etc. These 'mutually substitutable items' are 'isolated' by commutation performed on the available data: "When there is a change in meaning parallel to a change of form, the meaning change is attributed to the form change".⁶ Membership of a particular 'filler class' will depend on the context provided by the construction of the whole "syntagmeme" to which a particular tagmeme belongs. A "syntagmeme" is

¹. A member of a school of linguistics of Bloomfieldian descent. Some (but by no means all) of its adherents are connected with the "Summer Institute of Linguistics" (Ann Arbor). Tagmemic theory has been applied particularly to previously unknown and unwritten languages.

². i.e. a model which defines units primarily in terms of their function in the grammar of the language, not of their form (unlike Harris).

³. Introduction to Tagmemic Analysis, p. 10.

⁴. ibid. p.16.

⁵. ibid. p.15.

⁶. ibid. p.10.

a chain of "tagmemes" comprising a larger unit. The size of this 'larger unit' depends on the 'level' at which the linguist happens to be working. A "syntagmeme" at a particular 'level' (e.g. Cook's "word level") counts as a "tagmeme", i.e. a constituent of a "syntagmeme", at the next higher level (e.g. Cook's "phrase level"). For example, "driver" at Cook's "word level" represents a "syntagmeme" comprising two slots filled by "drive" and "-er" respectively. But at Cook's "phrase level" it represents a "tagmeme" in "syntagmemes" such as that represented by "for the driver"; this "syntagmeme" comprises three slots filled by "for" "the" and "driver" respectively.

Forms (with their lexical meanings) thus isolated, such as "driver", "for", etc. are listed in a lexicon.¹ As mentioned above, they are not, themselves, regarded as the signs of the language; they are merely "fillers" (called "tagmas") of the slot involved in the "tagmeme" - a term interchangeable with "sign".² Tagmas belonging to the class of mutually substitutable "fillers" of one and the same slot are "allotagmas of the same tagmeme". Tagmas differing in form alone (seemingly this would include synonyms) are automatically allotagmas of the same tagmeme; tagmas differing in meaning alone (seemingly this would include homonyms) may or may not be allotagmas of the same tagmeme; tagmas differing in both form and meaning are always tagmas of different tagmemes if their distribution is also different.³

"Allotagmas" are, according to Pike, "etic" variants of the "tagmeme" ('sign') which is an "emic" unit on the level in which it

¹ ibid. p.10

² ibid. p.10

³ cf. ibid. p.16. For Cook, "distribution" is the occurrence patterns of items in the constructions of a given language.

occurs. "Emic" units in Tagmemics are essential to the functioning of the language system on the level at which they occur; "etic" ones are merely a matter of 'usage' in speech. However, there is no isomorphism between this distinction, made originally by Pike, and the "langue"/"parole" distinction made by de Saussure. Pike writes:¹ "... the present volume is written from the point of view that emic systems and emic units of these systems are in some sense to be discovered by the analyst, not created by him Etic systems, on the other hand, are assumed to be classifications created by the analyst - constructs for the handling of the comparative data, or for the handling of data before its emic ordering can be ascertained." What is "emic" on one level of an analysis for a tagmemicist may well be "etic" on another level. For example, the 'structure' of the "syntagme" represented by "driver" on Cook's "word level"² is completely irrelevant to the 'structure', in terms of "tagmemes", of the "phrase level" "syntagme" represented by "for the driver". "Driver", (and the "word level" "syntagme" represented by it), is merely an "etic variant" ("allotagma") of the "tagme" in third position in that "syntagme".³

According to Cook, "tagmemes" are "emic" (functionally relevant to the structure of the language) if they contrast; he regards "tagmemes" as "contrasting" if⁴ they differ in at least two of the following features: slot, filler class, position.⁵

K. Pike, the founder of "tagmemics" states his grounds for setting

¹ Language in Relation to a Unified Theory of the Structure of Human Behaviour, p.55.

² See above.

³ Other "allotagmas" of that same "phrase level" "tagme" do not necessarily have forms representing identical "emic" structures at "word level".

⁴ Cook, op. cit. p.26.

⁵ By "position" he means merely sequential order.

up the "tagmeme" as the basic grammatical unit:¹ "If the linguist can .. analyse the word "man" without any tacit reliance on the fact that it has, in relationship to the total language system, a specific meaning - more than just a differential one - then he has demonstrated that there is a dichotomy between form and meaning²". In order to avoid this "dichotomy", Pike sought to develop "a point of view within which form and meaning must not be separated in theory".³

A linguistic item is not a "bearer of meaning"⁴ since no linguistic units are available for this function: "there are only form-meaning composites".⁴ For these reasons, Pike rejects de Saussure's sign theory. But what he does not admit is that de Saussure formulated his theory with precisely the same aims as his own: de Saussure's 'sign' is also a "form-meaning composite"⁴ in which both aspects 'exist' only by virtue of each other.⁵ There is no question of the 'signifiant' being available in itself as a linguistic unit to which 'meaning' might be attached; the two halves of the linguistic sign are indissolubly united⁶ - any separation of them, except by abstraction⁷ for the

¹*Pike, op.cit., p.62.

²*ibid. p.62 - for this reason, he particularly rejected Hjelmslev's complete separation of expression and content planes.

³*ibid. pp.62-3. He allows that they may, on occasion, be discussed as if they were separate, but this must be "corrected at proper intervals" (p.63).

⁴*ibid. p.63.

⁵*cf Chapter 3, p. 79 above. Compare the account of Martinet's sign theory on Chapter 5, p. 149SS above.

⁶*cf Chapter 3, p. 73 , note 3 - the two halves of the linguistic sign are like two sides of a piece of paper - one cannot cut one side without cutting the other. In de Saussure's theory, to separate the 'form' and the 'meaning' aspects of the linguistic sign is to destroy it as an entity.

⁷*As for Pike, one can, in de Saussure's theory, focus the attention on one half without explicitly mentioning the other, but, in contrast to what Pike says, no 'correction' at intervals is necessary, since when this happens, i.e. when one half is considered in abstraction from the other, the other half is still there by implication.

purposes of linguistic description, involves the destruction of the whole sign as a linguistic unit. Like Pike, de Saussure recognizes no linguistic units on the grammatical level other than these 'form-meaning composites' which he calls 'linguistic signs'.

Pike does not seem to be aware that for de Saussure, 'meaning' is not merely differential; the Saussurian notion "signification" links each (indeed, negatively defined) linguistic unit with the outside world.¹ Admittedly, de Saussure accounts only for lexical and not, as far as one can tell, grammatical² meaning; his 'mentalistic' interpretation of "signifié" is also too vague to be useful in a linguistic description based on rigorous criteria. But de Saussure's followers sought to put both these matters right³ without, like Pike, making them grounds for rejecting de Saussure's whole sign theory.

The "meaning" of a tagmeme is primarily grammatical: for example, a slot such as "S:N"⁴ 'means' a subject position slot filled by tagmas which are nouns. The question now arises as to whether the 'tagmas' are in fact 'fillers' or 'correlations' of a slot and a specific filler. This is not made altogether clear. If the latter is what is meant by the notion 'tagma', then it is in some respects similar, as a notion, to J.W.F. Mulder's notion 'syntagmeme'.⁵ Mulder, however, extends his

¹cf Chapter 3, p. 76 especially note 1. Pike does not mention this. The oversight is somewhat excusable, since de Saussure did not develop his theory enough to make the function of "signification" explicit. But implicitly, it is clear there. cf Chapter 3, p. 76.

²Possibly because he never made a serious attempt to evolve a theory of syntax.

³cf particularly J. Kurylowicz: "Dérivation Lexicale et Dérivation Syntaxique" in Readings in Linguistics II, p.42ff for the correlation of grammatical and lexical meaning, and L. Hjelmslev (cf above Chapter 4) for elimination of the Saussurian notion "concept."

⁴Cook: op.cit. p.69. Compare Longacre's definition of "tagmeme" (Grammar Discovery Procedures, pp. 15-16): "The tagmeme is a functional point ... at which a set of items and/or sequences occur, So intimate is the correlativity of function and set that each is mutually dependent on the other; the function cannot exist apart from the set nor has the set significance apart from the function." Note the similarity between this and de Saussure's views about the relationship of "signifiant and 'signifié' - see above.

⁵See Chapter 7 below and Sets and Relations in Phonology, p.12 and p.71.

notion of "syntagmeme" to phonology. If the former is what is meant, then there is an inconsistency in tagmemic theory. Pike¹ calls 'tagmas' 'etic variants' of 'tagmemes'; 'tagmemes' are by definition correlations; therefore variants of actual 'tagmemes' must also be, by definition, correlations; otherwise, although they may be variants in (i.e. within) tagmemes, they cannot be variants of 'tagmemes'. A 'tagmeme' (qua correlation) could be represented in a given utterance by one of its 'tagmas' (e.g. Subject: a particular Noun) but not by that 'tagma' interpreted as being merely 'a particular Noun'.

Many of the terms used to describe the "function" (i.e. 'meaning') of tagmemes - appear to be derived from traditional grammar.² It is, however, recognized that in many languages such terms are wholly unsuitable. Then it is up to the linguist to invent whatever 'labels' he thinks best to describe the tagmeme's 'functional meaning': "The analyst need not be unduly disturbed if he has difficulty thinking up appropriate name-labels to distinguish one tagmeme ... from another. He should search for a label that is as adequate as he can find in respect to the slot meaning of each tagmeme that he catalogues ..."³ Lexical meaning must in an exhaustive description be accounted for,

¹ See above.

² e.g. (Cook, op.cit. p.70): tCl = +S:pn + P:tv ± O:n. This reads: "A transitive clause consists of a subject slot filled by a pronoun, a predicate slot filled by a transitive verb and an optional object slot filled by a noun".

³ Longacre, op.cit. pp. 71-2.

but, as Longacre recommends, be 'kept to the background'.¹

Pike's theory of lexical meaning is closely tied up with human behaviour.² It has many (not always clear-cut)³ components. Reality cannot be considered "objectively": All phenomena somehow reach him" (i.e. the individual) through perceptual and psychological filters which affect his perception of the structuring .. and relevance of the physical data he observes."⁴ Bearing this in mind, Pike regards lexical meaning as being largely referential; this, together with "structural meaning",⁵ is a component of the "class meaning" of a set of tagmas. "This class meaning is .. determined ... in reference to an a priori etic⁶ classification of its semantic components, but is in part determined in reference to the function which the class fills within tagmemic slots of the language."⁷ Peoples' perceptions of

¹ *ibid.* p.23. In Tagmemics, the lexical meanings of tagmas filling a given slot may vary greatly. They constitute an essential part of any linguistic description, but are secondary to the functional ("structural") meaning of a tagmeme. Pike says that it is "impossible to separate the structural meaning of the tagmeme from the meaning of that distribution class as a whole." Most, but not all members of a "distribution class of morphs or morphemes" (i.e. a class of tagmas filling a particular slot) may "have some meaning component in common." For example, the semantic component common to the morphemic class composed of "and", "or", "not", "nor", "but", "rather than" is "connection" or "levelling." This component, part of the "class function", is "simultaneously part of the tagmemic function as well." But most distribution classes can fill more than one slot. Usually, then, the "morphemic-class meaning" (i.e. this common semantic component belonging to a class of tagmas which may otherwise be very varied with regard to the lexical meanings of its members) is "in part a product of its distribution in one or more tagmemic slots". Tagmemic (or "structural") meaning is likewise "a product of distribution of elements in a set of functional environments". (of Pike, *op.cit.* p.227).

² But it is not, as for Bloomfield, conceived in terms of stimulus-response mechanisms. His main unit of behaviour is the "behavioureme" (Pike, *op.cit.* p.120ff). A specifically verbal unit of behaviour is an uttereme. Tagmemes are in turn components of utteremes.

³ Pike, *op.cit.* p.609.

⁴ *ibid.* p.658.

⁵ cf p.203 note 4 above.

⁶ cf. p.201 above. Here it implies that such a classification is not necessarily isomorphic in any way with classifications in the language structure.

⁷ *ibid.* p.199.

phenomena can lead to "conceptualized hypostasis",¹ which is not necessarily free of error;² this is usually the form of the information supplied by informants, and yet, since 'meaning' is so closely tied up with 'behaviour' this is what the investigating linguist has to use as the basis of his analysis of lexical 'meaning'.³ It is the necessity of going through a notion "concept" to arrive at a 'satisfactory' account of lexical meaning which, yet again, creates insuperable problems, as stated above.

Charles W. Morris (1938 and 1946)⁴ also sets out a sign theory with behaviouristic basis. Semiosis, "the process in which something functions as a sign,"⁵ has three main components:⁶ "that which acts as a sign, that which the sign refers to, and that effect on some interpreter in virtue of which the thing in question is a sign to that interpreter". These three components are called, respectively, the SIGN VEHICLE, the DESIGNATUM and the INTERPRETANT. Also included in semiosis is the INTERPRETER.

A sign is characterized as follows: "S is a sign of D for I to the degree that I takes account of D in virtue of the presence of S".⁷

¹ i.e. the awareness in a person of a particular 'meaning' (i.e. the connection between a language unit and a 'real' phenomenon as perceived - this 'awareness of meanings' is Pike's equivalent of 'concept'. cf. *ibid.* p. 157. The actual terminology used is "CONCEPTUALIZED HYPOSTASIS of a potential response elicitation".

² *ibid.* p. 160.

³ Pike, like Harris, sees 'meaning' as tied up with the whole social context as well as with particular phenomena in the world. But unlike Harris, he makes a thorough attempt to analyse it on a theoretical basis, freely admitting the shortcomings of his theory. E. Nida (in "A System for the Description of Semantic Elements", Word Vol. 7, p.1ff (1951)) defines 'meaning' in terms of "ethnolinguistic environment" (p.4). By this, he means a combination of linguistic and cultural contexts. Assessment of 'meaning' is based on "what native speakers of a language do". How this can ever yield a consistent 'meaning' for any given linguistic form is open to question. "What native speakers do" varies, at least in some respect, every time an utterance occurs.

⁴ In Signs, Language and Behaviour, (henceforth SLB) and Foundations of the Theory of Signs, (henceforth FTS) both of which are reprinted in Writings on the General Theory of Signs (Mouton, 1971). Page numbers in reference refer to this edition.

⁵ FTS, p. 19.

⁶ FTS, p.19.

⁷ *ibid.* p.19. I=Interpreter; S=Sign; D=Designatum.

Thus it would appear that a psychological process in the mind of a person (the interpreter) is essential for anything to have the nature of a sign: "something is a sign only because it is interpreted as a sign".¹ One could conclude from this that signs (including linguistic signs) cannot stand as such independently of mental processes going on during an actual act of communication. If this is so, there is no room in Morris' theory for the notion of an abstract system of signs 'existing', like Durkheim's "fait social",² apart from its individual manifestations in actual use. Morris, in fact, clearly states this: "The implication that language has an existence³ apart from utterances is avoided". Yet he still wants to make it possible to "distinguish statements about language utterances from statements about language."³ Spang-Hanssen⁴ regards Morris as having interpreted de Saussure's "langue"/"parole" distinction merely in terms of "different ways of regarding an utterance".⁴ Morris writes: "There are no sign-families⁵ without sign-vehicles;⁶ hence there is no language.

¹ *ibid*, p.20.

² of Chapter 3, p. 82 above. De Saussure's system of "langue" is regarded as a kind of "fait social", and hence has the same characteristics.

³ SLB, p.115. Morris has misunderstood de Saussure here. There is, in de Saussure's system, no implication that language ("langue") has any (empirical) existence apart from individual speech utterances. Any 'existence' that "langue" has as a structural system is purely hypothetical in nature. It is the result of a description of speech phenomena on the basis of models and notions supplied by a linguistic theory deduced from premisses independent of but appropriate to any actual instance of spoken (or written) language. Compare de Saussure's remarks on this subject recorded on p. 87, note 2 of Chapter 3 above. Most Saussurian linguists take this attitude. It was developed by L. Hjelmslev (cf Chapter 4 above), and adopted by J.W.F. Mulder and S.G.J. Hervey in their theory of language as a sign system. Mulder makes these principles very clear: "For Hjelmslev, 'language' implicitly ... is a structure, an abstract and theoretical 'construct', not to be 'discovered' by the linguist but to be 'established' by him. It is a means of 'accounting' for speech-phenomena and not to be found in the speech-phenomena themselves. Its only relation to the speech-phenomena is that it describes and explains them, unlike some other structures that may be set up, which do not. (Theory of the Linguistic Sign, p. 7)

⁴ Recent Theories on the Nature of the Language Sign, p.87.

⁵ i.e. "A set of similar sign-vehicles which for a given interpretation have the same significata" (SLB, p. 96).

⁶ i.e. "A particular physical event - such as a given sound or mark or movement - which is a sign." (SLB, p. 96).

as a system of sign-families, without the production of sign-vehicles, and it is such production which constitutes a speech act or, in general, a language utterance."¹ The remarks made by Morris so far on the subject give one the impression that language has nothing social or conventional about it at all - that it is only individual and psychological. How can signs which depend for their function as such on psychological processes in a given situation, constitute a system characterized by any constancy of interpretation? Individual speech situations, and individual interpretations of speech phenomena, are infinitely variable. Morris gives us five criteria² on the basis of which to answer these questions. These are: (1) "Language is composed of a plurality of signs". (2) "... in a language each sign has a signification common to a number of interpreters".³ (3) "The signs constituting a language must be comsigns."⁴ (4) "The signs which constitute a language are plurisituational signs⁵..." (5) "... the signs in a language must constitute a system of interconnected signs combinable in some ways and not in others". Summing this up, he says:⁶ "a language is a set of plurisituational comsigns restricted in the ways in which they may be combined".

¹ Morris' italics.

² SLB, p.112ff.

³ Morris enlarges upon this: "Over and above the signification of language signs which is common to members of the interpreter-family, there may .. be differences of signification for individual interpreters, but such differences are not then regarded as linguistic." (SLB, p.113).

⁴ i.e. "A sign which has the same signification to the organism which produces it that it has to other organisms stimulated by it." (SLB, p.111).

⁵ i.e. "... signs with a relative constancy of signification in every situation in which a sign of the sign-family in question appears". (SLB, p.113).

⁶ SLB, p. 113.

Various problems are encountered here. How can one, for example, rigorously determine what is a "signification common to a number of interpreters"? No two human interpreters will respond to a given sign in exactly the same way, even if the situational context in which the sign is uttered can be kept constant. Where does one draw an exact line between variations which are, and which are not, to be "regarded as linguistic"?¹ In order to consider this question in more detail, we can take an example given by Morris himself, and in so doing acquaint ourselves more closely with the essential notions in his sign theory. A driver² is taking a certain road into town, but is stopped by someone who informs him that there is a landslide ahead blocking the road. So the driver takes another road leading to the same town. For Morris, "in the words spoken to the driver are signs; the driver is the interpreter;³ his "disposition to respond by avoiding a landslide."⁴ is the interpretant;⁵ the landslide at that place is the denotatum;⁶ "the conditions of there being a landslide at that place"⁴ is the significatum⁷ of the spoken words.

The structure and function of Morris' 'linguistic sign' can, then, be summed up as follows:

¹cf note 3 above. (on page 208)

²SLB, p. 83.

³Defined as "Any organism for which something is a sign". (SLB, p. 93).

⁴SLB, p. 94.

⁵Defined as: "The disposition in an interpreter to respond, because of the sign, by response-sequences of some behavior-family". (SLB, p. 93).

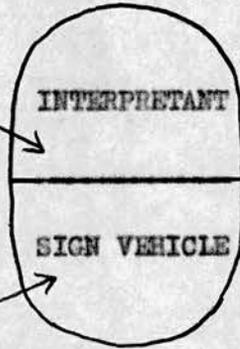
⁶Defined as: "Anything which would permit the completion of the response-sequences to which the interpreter is disposed because of a sign". (SLB, pp. 93-4).

⁷Defined as: "Those conditions which are such that whatever fulfills them is a denotatum". (SLB, p. 94).

(A) SIGN-FAMILY

Disposition produced in any hearer to avoid landslide

Class of all instances of the spoken words: "There is a landslide ahead."



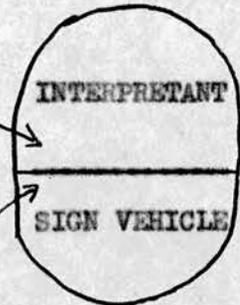
(Signification)
(Property of sign family only)

SIGNIFICATUM
(Any situation involving the presence of a landslide ahead).

(B) SINGLE SIGN

Disposition produced in a driver on this occasion to avoid landslide.

Actual spoken words: "There is a landslide ahead."



(Denotation)
(Property of single instance of a sign only)

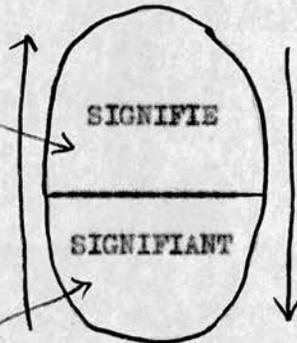
DENOTATUM
(An actual landslide ahead)

A comparison with the way in which a Saussurian sign would account for the same phenomena is interesting:

(A) LANGUE

Concept of a landslide ahead.

Acoustic image of sounds involved in the pronunciation of "There is a landslide ahead."



(Via)
(Signification)
(Relationship implicit only.)

EXTRALINGUISTIC PHENOMENA
(In this case, a situation involving a landslide ahead)

(B) PAROLE

OCCURRENCE OF SOUND CORRESPONDING TO THE ACOUSTIC IMAGE IN THE ABOVE SIGN, CALLING TO MIND THE WHOLE SIGN.

(Conveying information about)

AN ACTUAL LANDSLIDE AHEAD

For Morris, both (A) and (B) are inconceivable outside the context of actual speech situations. (A) shows the class of all occurrences of the sign "There is a landslide ahead" in relation to the class of all possible situations in which it could occur. The underlying assumption is that every time the spoken words "There is a landslide" occur, a situation involving a landslide occurs simultaneously. When this is not the case, the sign on that occasion does not denote.¹ However, it is difficult to see how this can be so, since a landslide is understood to be there when the relevant spoken words are uttered, even if in actual fact it is not there. A landslide is still 'denoted' by the words, even though it has no existence in reality. Following Morris' arguments, one could equally well say that signs in the form of written words used to describe a situation, say, in a novel, do not 'denote', since the situation to which they refer is, in fact, fictitious.

Morris gives an example.² Suppose that there are two signs, S_1 and S_2 which designate respectively the presence of food in two places. The situation in which these signs are used is so arranged that food can be in only one of these places at any one time. One might then say to the subject of the experiment: "It is good when signs S_1 and S_2 both occur to seek food in one of the two designated places, and if (and only if) food is not found there to seek food in the other place."³ The equivalent to this statement is to say that "The signs S_1 and S_2 are so related in the present situation that if one does not denote then the other denotes, but not both."³ These considerations lead to the

¹ "Since something is a sign, significatum, denotatum, interpreter, or interpretant only with respect to its occurrence in sign behaviour..." (SLB, p.95). All these aspects of the sign situation have to be present for semiosis to take place.

² SLB, p. 183.

³ Quoted directly from the text. My underlining.

conclusion that a sign, whatever its "content" in the language system, cannot have denotation, i.e. refer to something in the extralinguistic world, when the person uttering it has mistaken the situation or is lying. For example, the sign "There is a landslide ahead" would not denote anything if there were not actually a landslide blocking the road. But this does not give an accurate account of the speech situation. Any utterance of a meaningful sign conveys information about, i.e. has reference to, the situation with which it is consistently associated in the extralinguistic world irrespective of whether or not that information is correct. If "denotation" at all implies reference to the extralinguistic world, as it does in Morris' theory, it will be present if the sign is a sign at all, i.e. if it is meaningful, that is, capable of conveying information.

By regarding "langue" in abstraction from all its individual manifestations, de Saussure avoids these difficulties. A given realization of a given "image acoustique" calls to mind the whole sign, including its "signification",¹ irrespective of the situation or circumstances in which that realization takes place. "Signification", belonging to "langue", is constant; thus it accounts adequately for the fact that all realizations of a sign convey information ("true" or "false") about the extralinguistic world simply by virtue of the fact that a sign is, by definition, meaningful. To make up for the inadequacy, in this respect, of Morris' theory, notions such as "reliability of signs"² are introduced. Thus "A sign is said to be reliable to the degree that it denotes in the various instances of its

¹cf Chapter 3 p.76 ff above. "Signification", as we have seen, implies a relationship between signs and phenomena in the extralinguistic world. cf Chapter 3, p.76, note 1 above.

²cf SLB, Chapter 4 for a detailed account of this notion.

appearance."¹ To follow Morris' own example, if food was found in the agreed place every time a buzzer sounded, the sign (the buzzer signifying food) would be 100% reliable. But if the food was available only 70% of the time, the sign would be only 70% reliable. One can only conclude that linguistic signs must be highly unreliable, since they are often realized in situations where the information they convey is not entirely 'accurate'. Such 'highly unreliable' signs are hardly an adequate basis for a rigorous linguistic description. How, in any case, can one 'quantify' linguistic signs in this way in order to discover their 'degree of reliability'? One would, in order to ensure an accurate result, need to know about every situation in which a given sign has ever been used. This is impossible, and it makes Morris' notion 'reliability' a useless one since no account could ever be adequately given of any linguistic sign in terms of it.

Despite its drawbacks, de Saussure's notion "concept" at least provides a basis for a description of language as a constant² system of meaningful signs. "Concepts" are delimited from de Saussure's "amorphous mass" of thought due to the patterns imposed on it by the "valeurs" of a given language system. These patterns are completely independent of actual mental processes in a person's mind at a given time. But Morris' "interpretant" is entirely dependent on the reaction of the interpreter to a given sign-stimulus. This reaction would have to be very similar³ in every occurrence of a sign for that sign to be regarded as a 'constant' unit in a language system. Otherwise there would be as many different signs as dispositions⁴ produced in interpreters.

¹ SLB, pp. 184-5.

² Synchronically speaking.

³ How can one define "similar"?

⁴ See above, p. 22.

For example, the sign "There is a landslide ahead" could produce in the driver¹ the disposition to give up the attempt to reach the town, to return home, to drive to a different town or to drive on towards the landslide in order to see if he could offer any help to people affected by it, etc. ad infinitum. Each of these different "dispositions" would in Morris' theory have to be a different "interpretant"; therefore no consistent or systematic account of the meaningful aspect of linguistic signs can be given² in this way.

N. Chomsky rejected the behaviouristic basis of his predecessors' theories early in his career. Given, in his view, the close association of language with mental processes, it seemed reasonable to him that the structure of the former should provide a key to the understanding of the latter.

However, it was also important to Chomsky that, as far as possible, scientific rigour should be observed. Influenced to some extent by Carnap's views³ he sought at first to construct, similarly, a "system of definitions of syntactical terms which are so comprehensive as to be applicable to any language whatsoever."⁴ Like Hjelmslev, he sought to produce a general calculus, or "linguistic algebra", which could deal with "the structures of possible serial orders ... of any elements whatsoever".⁵ But he followed Carnap in a way not attempted by Hjelmslev. Discussing interpretation of languages - which is essential for communication - Carnap remarks that one nearly always explains the

¹cf p. 209, note 5 above.

²This applies even in such examples of "conditioning" as the case of Pavlov's dogs (cf Chapter 5, p. 165, note 8 above). If such a dog were offered the same type of food for so long that it grew tired of it, it would cease to salivate in anticipation at the sound of the buzzer. In fact, quite the opposite disposition (one of disinterest or even abhorrence) would then be produced in the dog by the same "sign vehicle".

³cf. Chapter 4, p. 108 above.

⁴Logical Syntax of Language, p. 167.

⁵ibid. p. 6.

"meaning" of an expression by means of a "translation",¹ either into a sentence of another language or into a "familiar synonym"¹ of the same language. He concludes: "The interpretation of a language is a translation and therefore something which can be formally represented;² the construction and examination of interpretations belong to formal syntax."³ In the case of an individual language, "... the construction of the syntax of that language means the construction of a calculus which fulfils the condition of being in agreement with the actual historical habits of speech..⁴ i.e. those of the native speakers. Carnap maintains that the "ordinary requirement"⁵ of a translation, e.g. from French to German, i.e. "that it be in accordance with sense or meaning",⁵ "... means simply that it must be in agreement with the historically known habits of French-speaking and German-speaking people."⁵ Therefore: "The construction of every translation, and thus of every so-called true-to-sense⁶ translation, also takes place within the domain of formal syntax..⁷ From such considerations, Chomsky concluded that much of what we term "meaning" in language can be accounted for purely formally, i.e. in terms of syntactic structures.⁸ But, on the

¹ *ibid.* p.228.

² His italics. *ibid.* p. 228.

³ My underlining.

⁴ *ibid.* p. 228.

⁵ *ibid.* p. 228.

⁶ His italics.

⁷ *ibid.* p. 228. His italics.

⁸ Carnap himself came to the conclusion later that not everything involved in "interpretation" can be resolved in terms of syntactical constructions. In fact, he wrote his own book on semantics (Introduction to Semantics) in 1942. Chomsky never maintained that syntactic phenomena could account adequately for the whole of 'meaning' either, but insisted in Syntactic Structures (1957) that syntax was completely independent of and a prerequisite to semantic analysis.

other hand, no questions of 'meaning' independent of syntactical considerations are at all relevant to the construction of the grammar of a language: "I think that we are forced to conclude that grammar is autonomous and independent of meaning"¹ He supports the view that "the notion "grammatical" cannot be identified with "meaningful" in any semantic sense",² with his celebrated example: "Colorless green ideas sleep furiously".³ This sentence is, according to Chomsky, grammatical but nonsensical. But why is it "nonsensical"? At a first glance, it appears to contain logical incompatibilities. How can anything be both green (implying "coloured") and colourless? How can an idea, an abstract notion with no demonstrable empirical existence, have an attribute such as "green", which normally applies only to empirically existing phenomena? How can anyone sleep (implying "rest") furiously (implying violent "motion")? But if these words are taken metaphorically (which happens very frequently in language use), no contradictions are necessarily implied. "Colourless" often has the connotation of "washed out", "pale". So "colourless green" could quite conceivably be used as a combination to mean "an insipid shade of green".⁴ "Green" is often used metaphorically to mean "raw", "inexperienced". Applied to "ideas", then, the combination "colourless green" would imply the as yet uninteresting and undeveloped ideas of a novice.⁵ Such ideas can be dormant (i.e. "sleeping") but nevertheless

¹ Syntactic Structures, p. 17 (my underlining).

² ibid. p. 15.

³ ibid. p. 15. He continues: "Such examples suggest that any search for a semantically based definition of "grammaticalness" will be futile."

⁴ It can be used LITERALLY in Physics for example, to describe a normally "green" article which is "colourless" in darkness because no light is shining on it for it to reflect.

⁵ The fact that 'homonymy' may be involved here is of no relevance, as Chomsky presents this example as a mere 'phonological form of a sentence', one of the many senses in which he uses the term 'sentence' in his writings.

on the point of coming to the surface. If they are "seething under the surface" waiting to break through, they could well be described as "sleeping furiously". More examples could be given to illustrate why it is difficult to agree with Chomsky that this sentence about "colourless ideas" must be regarded as nonsensical. One might just as well say that the sentence "Fortune smiled upon him" is nonsensical because Fortune cannot literally smile.¹

On the other hand, it is hard to disagree that Chomsky's second example "Furiously sleep ideas green colorless" is nonsensical as well as ungrammatical. But until an example can be found of a sentence which conforms to the syntactic patterns of a given language and yet is completely meaningless,² there is no justification for the view that "... the notion of grammaticalness cannot be identified with meaningfulness".³ Chomsky has no justification for making his syntactic units purely formal entities and not linguistic signs.

Later, however, Chomsky refined and developed his ideas on theory of syntax.⁴ Space does not permit me to go into the details, either of his original theory or of the later varieties, known as "standard theory" and "extended standard theory" respectively. Suffice it to say, however, that, whereas Chomsky's syntactic units were, as the above

¹In fact, one might as well relegate all metaphorical use of language to "nonsense" on similar grounds.

²Such an example is difficult to find, simply because linguistic signs, even when listed purely as members of an inventory, as in dictionary entries, still have denotation, i.e. are meaningful in themselves even if a particular combination of them makes no sense.

³Syntactic Structures, p. 106. For de Saussure signs were by definition grammatical, therefore meaningful, entities. The distinction "meaningful"/"non-meaningful" is crucial for Martinet's "double articulation" (cf Chapters 2 and 5 above). Grammatical (1st articulation) elements are signs with both form and meaning, and phonological (2nd articulation) elements have form only. For J.W.F. Mulder, too, "distinctive function in grammar" ("g" implies meaningfulness; "distinctive function in phonology" ("d") does not. cf Theory of the Linguistic Sign, p. 35.

⁴In Aspects of the Theory of Syntax (1965).

discussion has made clear, at first entirely formal, they later became components of what could be considered a kind of sign theory.¹ Chomsky sums up these developments in Language and Mind (1968).

The original units of the calculus were derived, unlike those of Hjelmslev,² from entities used in Traditional Grammar particularly the parts of speech (e.g. N.P. "Noun phrase", V.P. "Verb phrase, Adv. "Adverb" etc.). But whereas the traditional grammarians defined them semantically,³ Chomsky retained only their usual syntactic function.⁴ Nouns in English, for example, serve (talking in traditional terms) as the grammatical subject of a sentence. But in traditional formal logic, elements corresponding to (grammatical) nouns were regarded as subjects of propositions. It was Meillet⁵ who, to my knowledge, first clearly differentiated between "sentence" and "proposition" in the context of linguistic theory.

Chomsky, however, took the notions over from traditional thought without attempting to unravel this confusion. Hjelmslev⁶ shows clearly that, although there might be a close correspondence between grammatical subject and propositional subject in English, as in "John" (subject) "stole the apples" (predicate), this is not the case in all languages. Similarly English sentence structure divides up neatly into "I" (subject) "do not know" (predicate); but the Eskimo grammatical

¹cf. p.221 below for further details.

²His "expression elements" and "content elements" were modelled on the "signifiant" and "signifié" of de Saussure's sign. cf Chapter 4 above.

³cf. Chapters 1 and 2 above on the parts of speech. In the Port-Royale theory, for example, a noun signified the idea of an object, and a verb signified a "manner of thinking", particularly "l'affirmation". (cf. Grammaire Générale et Raisonnée, p. 89). It is highly likely that Chomsky was inspired in his use of these terms by Z. Harris' previous use of them in his writings, particularly with reference to 'distributional classes.'

⁴e.g. an adverb qualifies the verb, a pronoun stands for a noun, etc.

⁵cf. Chapter 3, p. 85ff above.

⁶cf. Chapter 3 p. 90 above and Prolegomena to a Theory of Language, p.51.

equivalent "naluvāra" ("I do not know" - literally: "Not knowing am I it"¹) will not fit grammatically speaking into the same mould without much juggling or distortion, although it expresses the same proposition (with the same logical structure) as the English sentence does.

It was this failure to distinguish between grammatical and propositional structures that led Chomsky to evolve the notions "deep structure" and "surface structure" and to attribute them to the Port-Royale school of linguistics.² Chomsky says: "According to the Port-Royale theory, surface structure corresponds only to sound - to the corporeal aspect of language; but when the signal is produced, with its surface structure, there takes place a corresponding mental analysis into what we may call the deep structure, a formal structure that relates directly not to the sound but to the meaning."³ He gives what for the Port-Royale school was a "standard" example, i.e. "Invisible God created the visible world". The Port-Royale theorists analysed it into "Invisible God" (subject) and "created the visible world" (predicate) and then into smaller phrases until they arrived at single words. But they also regarded a sentence such as "A wise man is honest" as being composed of more than one underlying proposition, i.e. "A man is wise" and "A man is honest". Chomsky attributes them to the deep structure: "... these propositions enter into the complex ideas that are present in the mind, though rarely articulated in the signal, when the sentence is uttered."⁴ He continues: "The deep structure is related to the surface structure

¹ i.e. Verb form + 1st person suffix + 3rd person object suffix.

² cf. Chapter 2 p. 62 above.

³ Language and Mind, p. 16 (my underlining).

⁴ Chomsky claims that "deep structure", including units such as "N.P." and "V.P." corresponding to "subject" and "predicate", is UNIVERSAL to all languages. cf. Language and Mind, p. 124ff.

by certain mental operations - in modern terminology, by grammatical transformations."¹

This is a very big claim to make. It is also a claim for which there is no demonstrable support. If 'deep structure' occurs 'in the mind' but not in actual utterances, there is no justification for saying that it is LINGUISTIC at all. It is purely a matter of PSYCHOLOGY.

There is no clear justification in the Port-Royale theory for Chomsky's introduction of the notion "deep structure". As we saw when dealing with Brekle's claims about the Port-Royale school,² linguistic signs signify, denote thought as something outside themselves. Neither concepts, nor whole propositions are, like de Saussure's "signifie", integral parts of the sign or of the language system.³ Therefore they cannot constitute "deep structure". One could say that the thought denoted by the sign "A wise man is honest" consists of two propositions, but this is not an argument for saying that these propositions therefore constitute part of the structure of the language (deep or otherwise).⁴ If the Port-Royale theory at all inspired Chomsky in the development of Transformational Grammar,⁵ the "inspiration" was due to a misunderstanding of the theory concerned.

¹ ibid. p.17.

² cf. Chapter 2, p. 63 above.

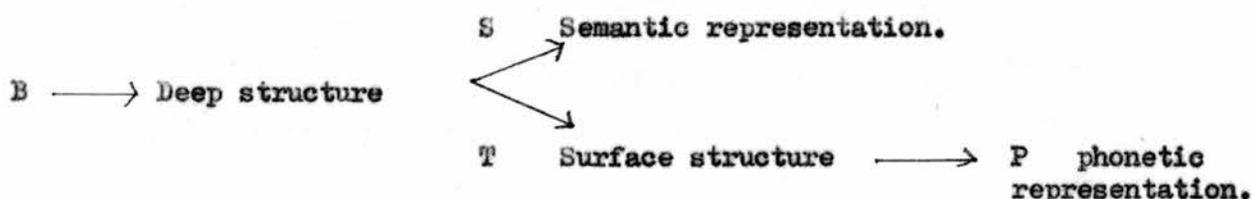
³ cf. Chapter 2, p. 63 ff above for examples and arguments. Space does not permit me to repeat them here.

⁴ Contrast what Chomsky says in Cartesian Linguistics. He quotes from du Marsais, (another exponent of "universal grammar but differing in some respects from the Port-Royale school - cf. Chapter 2, p. above): "(les mots) concourent ensemble a exciter dans l'esprit de celui qui lit, ou qui ecoute, le sens total ou la pensee que nous voulons faire naitre" (Cartesian Linguistics, p. 48). Then he comments: "To determine this thought, the mind must first discover the relations among the words of the sentence, that is, its syntax; it must then determine the meaning, given a full account of this deep structure."

⁵ This is doubtful. The lack of reference to Port-Royale in Syntactic Structures would suggest that he discovered it after evolving his main ideas.

Chomsky's confusion of grammatical and propositional structure is carried over into his present theory of "universal grammar".¹ This "grammar" is a model for the native speaker's "IDEALIZED COMPETENCE",² i.e. his "ability to associate sounds and meanings strictly in accordance with the rules of his language".³ In Chomsky's terminology, it "establishes a certain relation between sound and meaning - between phonetic and semantic representations."³ This is the way in which it may be considered as a sign theory.⁴ By means of its "syntactic component",⁵ it "generates" an infinite set of "paired phonetic and semantic representations".⁶

Structurally, it can be represented as follows:⁷



B = Base

S = mapping process of deep into surface structures carried out by the semantic component.

T = similar mapping carried out by the Transformational component.

P = mapping carried out by the phonological component.

¹ Language and Mind, p. 120ff.

² As opposed to "performance" - the process whereby the speaker puts his "competence" into practice in language use. These notions "competence" and "performance" are somewhat comparable with de Saussure's "langue" and "parole", mainly in that grammar, as a model for competence, is abstract in comparison with performance models. But 'grammar', for de Saussure, belongs to "langue", not to "parole". In contrast, "competence", for Chomsky, often appears to mean 'idealized performance', i.e. what 'performance' would be like if carried out completely in agreement with the rules of the grammar. In that case, talking about 'idealized' competence is pleonastic.

³ Language and Mind, p. 116.

⁴ cf. p. 27 above.

⁵ Language and Mind, p. 124.

⁶ ibid. p. 118.

⁷ ibid. p. 140.

Chomsky sums up:¹ "The GRAMMAR of a language is a system of rules that determines a certain pairing of sound and meaning. The SYNTACTIC COMPONENT defines a certain (infinite) class of abstract objects (D,S) where D is a DEEP STRUCTURE and S a SURFACE STRUCTURE. The deep structure contains all the information relevant to semantic interpretation; the surface² structure, all information relevant to phonetic interpretation. The semantic and phonological components are purely interpretive. The former assigns semantic interpretations to deep structures; the latter assigns phonetic interpretations to surface structures. Thus the grammar as a whole relates semantic and phonetic interpretations, the association being mediated by the rules of the syntactic component that define paired deep and surface structures."

Referring back to the diagram on p.221 , we can now see clearly how far Chomsky has come from his original postulation of a syntax composed entirely of formal items and presupposed by any treatment of meaning. The base of the syntactic component generates the deep structure; it is composed of two parts: the categorial system and the lexicon. The rest of the syntactic component consists of the transformational rules.³

In the lexicon, phonological and semantic features are dealt with; so "meaning" now comes into syntax right at the beginning instead of being a subsequent and independent study. According to Chomsky, "The

¹ Language and Mind, p. 125.

² Surface structure can affect 'meaning' to some extent as well; e.g. word order decides meaning in some cases. cf. *ibid.* p. 109. There is a difference in meaning between "Even John is tall for a pygmy" and "John is tall even for a pygmy," determined solely by the position of "even".

³ *ibid.* p. 140.

lexicon is concerned with all properties, idiosyncratic or redundant, of individual lexical items." The categorial component "determines all other aspects of deep structure."¹ Now that rules of occurrence have been dealt with in the lexicon, the "categorial component" is free to be a simple or context-free phrase-structure grammar.¹

Previously, in Syntactic Structures, limitations on which items could appear in which context were imposed by the phrase-structure grammar itself, (a "context-sensitive" grammar, in that case.² So the inclusion of the lexicon,³ i.e. of (at least some) considerations of 'meaning', in the 'base' has, in one sense, helped to 'simplify' the grammar. But, in another sense, it has not simplified matters at all, since it has now made the lexicon infinitely complex through the introduction, there, of all the 'idiosyncratic' or 'redundant' properties of entities in the grammar. This is not a question of 'simplification', but one of the transference of complexities from one section of the grammar to another.

Chomsky still sounds very unsure about the exact nature of the semantic component; but he is certain about its function: it is "the system of rules that converts a deep structure into a semantic representation that expresses the intrinsic meaning of the sentence in question."⁴ But how much "grammatical considerations" and how much "pragmatic considerations" play a part in "meaning" is not yet clear.⁵

¹ *ibid.* p. 141.

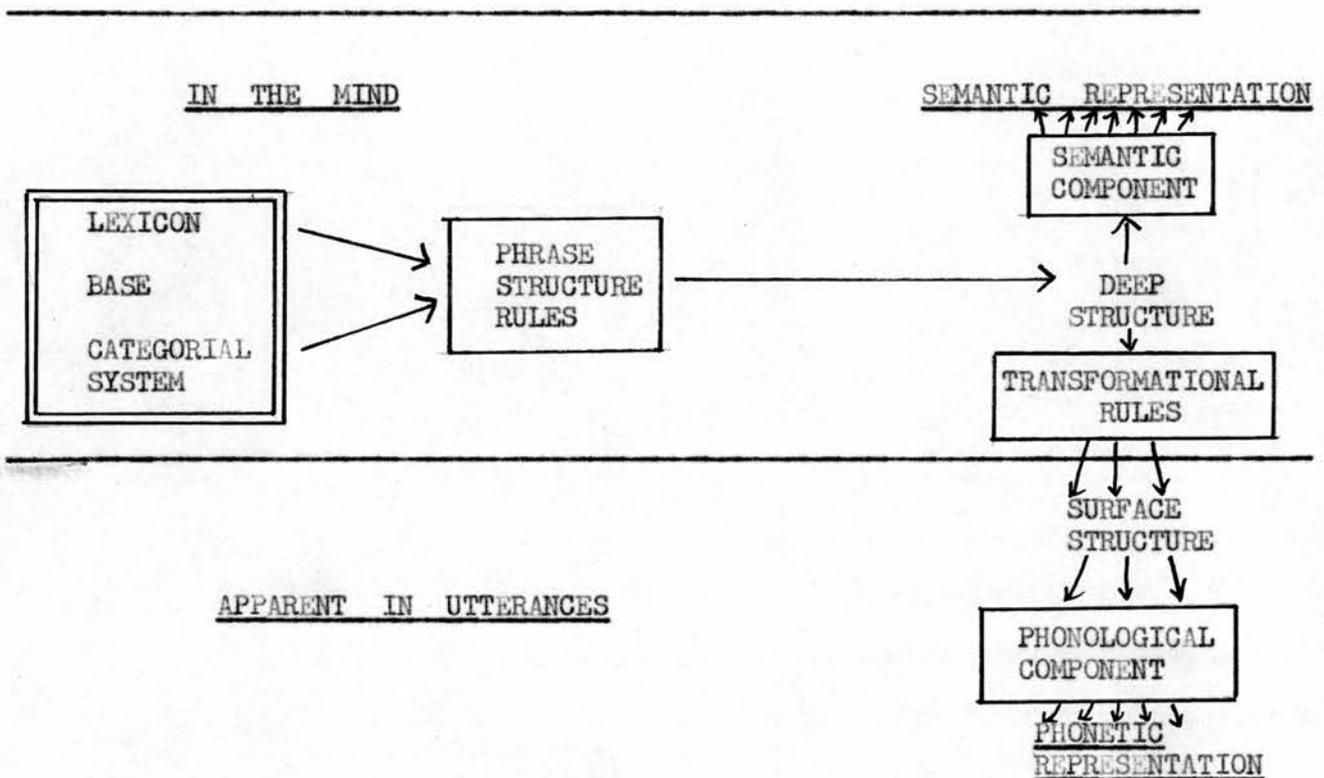
² *cf.* Syntactic Structures, p. 28.

³ About the lexicon, Chomsky says: "The Semantic features constitute a "dictionary definition". Some of these features will be ABSTRACT; there may be INTRINSIC CONNECTIONS among the features ("field structure"). In addition, the lexical entry contains syntactic features which determine the positions in which the entry may appear.

⁴ *ibid.* p. 136. "Deep structures" are, for Chomsky, likely to be "real mental structures". (*ibid.* p. 107).

⁵ *ibid.* p. 111.

Various transformationalists have tried to answer these questions basing their attempts on Chomsky's basic pattern for a grammar, which could be represented as follows:



- = Sets of rules.
- = Language inventory - entities abstracted on basis of intuition of native speaker (lexicon) and taken from traditional grammar (categories).
- ³ NO UNDERLINING = Components of sign on higher level of abstraction. - closely connected with mental processes.
- ⁴ UNDERLINING = Components of sign available for realization Actual realizations occur in "performance".
- = Direction of operation of rules.

1. cf. diagram on p. 221
2. My own summary from his exposition of his theory in Language and Mind.
3. The speaker is likely to be completely unconscious of these stages in the semiotic functioning of the sign.
4. These are the elements of which the speaker will actually be conscious in his mind.

One could, on the basis of a 'grammar' such as this, abstract 'elements' which would then be elements both of 'expression' (i.e. 'apparent in utterances') and of 'content' (i.e. 'in the mind'). Such elements could even be termed, in some sense, 'linguistic signs'. But this was not what Chomsky intended when he formulated his theories. It would therefore be wrong to attribute to him a notion which, apparently, was not important or fundamental in his thinking, i.e. the notion 'linguistic sign'.

The 'semantic component'¹ caused the most difficulty to transformationalists. Various followers of Chomsky's approach have tried to work out the adequate theory of this component, and of its relationship with 'deep structure'. These attempts, such as that of Katz and Fodor,² have involved the idea of a set of semantic 'universals'. Chomsky himself provided most of the inspiration for such an approach to semantics. 'Universal phonetics',³ 'universal syntax',⁴ and 'universal semantics'⁵ are fundamental to his thinking.

His approach is, however, to be contrasted with that of linguists such as Hjelmslev,⁶ who clearly demonstrates how each language imposes

¹Chomsky discusses the 'semantic component' in depth in Studies on Semantics in Generative Grammar (1972), which contains three papers written by him, mostly in 1970. The one which concerns us the most is "Deep Structure, Surface Structure and Semantic Interpretation". See, too, Language and Mind, p.157, where Chomsky writes of his strong suspicion that there "exist deep-seated universal principles of semantic interpretation". Transformationalists such as Katz, Fodor, Lakoff, McCawley, to mention but a few names, have tried to develop an adequate theory of the 'semantic component'. Space does not permit me to give a full account here of their views, but further details can be found in the works written by them which are listed in the Bibliography.

²cf. J.J. Katz and J.A. Fodor, "Structure of a Semantic Theory" in Language Vol. 39 (1963).

³Language and Mind, p. 121ff.

⁴ibid. p. 124ff.

⁵ibid. p. 123ff. The sum of 'universal' phonetics, syntax and semantics is, for Chomsky, 'UNIVERSAL GRAMMAR' - a term 'borrowed from the theorists of Port-Royale (See Chapter 2 above).

⁶cf. Prolegomena to a Theory of Language, p. 52ff.

its own particular pattern on 'reality', and that the ways in which different languages 'divide up' the phenomena in the extralinguistic world are extremely variable. He gives the following diagram, showing the ways in which English and Welsh divide up the colour spectrum, as an example:

| | | | |
|---------|-------|--------|-------|
| | | | |
| | | GWYRDD | |
| | GREEN | | |
| ENGLISH | BLUE | GLAS | WELSH |
| | GREY | | |
| | BROWN | LLWDD | |

In the light of considerations such as these, it would be very difficult indeed to establish such 'semantic universals' on the basis of a theory which is, in any sense, 'appropriate'¹ to the data for which it is supposed to account.

With regard to Chomsky's faith in the idea of an a priori, structured system of conceptual 'universals', J. Lyons² aptly comments: "..... the belief that there are few, if any, "universal, language-independent constraints upon semantic features (i.e. semantic components)" is probably most widely held among those linguists who have had some experience of the problems of trying to compare the semantic structure of different languages in a systematic fashion: many have tried, and

¹"'Appropriateness' to the data to be accounted for is one of Hjelmslev's requirements for an adequate linguistic theory.

²"Componential Analysis and Universal Semantics" in Theory of Meaning (Edited by A. and K. Lehrer), pp. 202-203.

failed, to find a set of universal components". He continues: ".... although Chomsky's own work contains a number of interesting, and probably correct, observations about certain classes of lexical items (e.g. "the color words of any language must subdivide the color spectrum into continuous segments"), such observations do not go very far towards substantiating the view that there is "some sort of fixed, universal vocabulary (of semantic components) in terms of which (possible concepts) are characterised". He considers it to be theoretically possible that there might be certain "language invariant but language linked components of a conceptual system that is part of the cognitive structure of the human mind";¹ but, in his view, and in my own: "Such empirical evidence as there is available at the present time would tend to refute, rather than confirm, this hypothesis".²

¹•ibid. p. 203. He is here quoting a statement by Katz.

²•ibid. p. 203.

CHAPTER 7IS AN ENTIRELY SATISFACTORY NOTION "SIGN"POSSIBLE IN LINGUISTICS?

Some of the more recent developments in linguistics have been attempts to account for the relationship between 'form' and 'meaning' in terms of a whole complex hierarchy of theoretical entities linked by equally complex sets of relational rules. Such entities are in no way isomorphic with 'content', 'expression' and the relationship of mutual implication between them as postulated in Saussurian sign theory.

H.A. Gleason Jr.¹ regards the act of speech as consisting of three parts: ENCODING, RECODING and PROJECTION. Encoding takes place when a "sememic network" is built "to correspond with what are abstracted as the significant features of ... experience".² Projection is the "transduction" of this sememic network into sound. Recoding occurs in between the two other processes. "Recoding is completely internal - of the three, it alone is purely linguistic".³ Gleason continues: "Encoding produces a structure - a network or matrix as the case may be. Projection produces a non-linguistic correlate of a structure. Recoding adds one structure to another".⁴ So, in an utterance,⁵ "several structures occur superimposed one on the other."⁶

¹"The Organization of Language: A Stratificational View" in Report of the Fifteenth Annual (First International) Round Table Meeting on Linguistics and Language Studies, p. 82.

²ibid. p. 82.

³ibid. p. 82.

⁴ibid. p. 84.

⁵i.e. "a sample of language use". See diagram on p.229 below.

⁶ibid. p. 84.

This approach to language is based on Stratificational Grammar,¹ which similarly regards language as a correlate of structures on different levels rather than a basically twofold entity, articulated into meaningful and non-meaningful units, and having a hierarchy of levels within each of the two "articulations".²

Gleason represents his superimposed structures thus:³

A LANGUAGE - A CODE OR SYSTEM

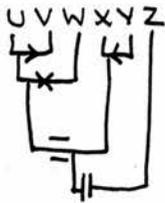
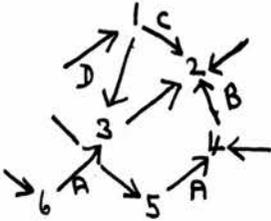
| SUBCODE | | SUBCODE | | SUBCODE | | SUBCODE |
|--|-----------------------------|--|------------------------|--|---------------------|---------------------------------------|
| Phonemics | | Morphemics | | Lexemics | | Sememics |
| INVENTORY | | INVENTORY | | INVENTORY | | INVENTORY |
| Phonons Phonemes Junctures etc. | RECODING RULES - | Morphons Morphemes Junctions etc. | RECODING RULES - | Lexons Lexemes Construc- tions etc. | RECODING RULES - | Semons Sememes Valences etc. |
| | Morpho- phonic Rules. | | Lexomor- phic Rules | | Semolexic Rules | |
| TACTICS | | TACTICS | | TACTICS | | TACTICS |
| Phono- tactics | | Morpho- tactics | | Lexo- tactics | | Semo- tactics |

¹cf. S.M. Lamb: Stratificational Grammar (published in 1966 but known to Gleason previously).

²cf. A. Martinet: "La Double Articulation Linguistique" in Recherches Structurales, Travaux du Cercle Linguistique de Copenhague, Vol. 5 (1949). Martinet's approach enables us to analyse language into signs (meaningful units) and phonemes (purely distinctive units). J.W.F. Mulder (Sets and Relations in Phonology (1968) established the hierarchy of levels within each "articulation" more rigorously than Martinet, especially the distinction between "morphology" and "syntax" within the "first articulation". For details, see below.

³Gleason, op. cit. p. 83.

AN UTTERANCE - A STRUCTURE OF STRUCTURES¹

| STRUCTURE | STRUCTURE | STRUCTURE | STRUCTURE |
|--|--|---|---|
| Matrix | String | Tree | Network |
| a a b b a a c d c c d c e f e e g g h i h h i i j k l j k k m n m n n n | $\alpha\beta\gamma + \delta\epsilon - \zeta\eta + \iota\kappa\lambda\pi$ |  |  |
| TIME | | | |

N.B. The diagrams are entirely arbitrary.

THE TWO TRANSDUCTION PROCESSES

- (1) $\text{Speech} \xleftarrow{\text{Projection}} \text{Matrix} \xleftarrow{\text{Recoding}} \text{String} \xleftarrow{\text{Recoding}} \text{Tree} \xleftarrow{\text{Recoding}} \text{Network} \xleftarrow{\text{Encoding}} \text{Experience}$
- (2) $\text{Speech} \xrightarrow{\text{Encoding}} \text{Matrix} \xrightarrow{\text{Recoding}} \text{String} \xrightarrow{\text{Recoding}} \text{Tree} \xrightarrow{\text{Recoding}} \text{Network} \xrightarrow{\text{Projection}} \text{Experience}$

Gleason does not go into detail about the "second transduction process", but his diagram indicates that the term "encoding" applies to the production either of a 'sememic network' or of a 'phonological matrix'; similarly, the term "projection" applies to a 'transduction' either into 'sound' or into 'experience'.

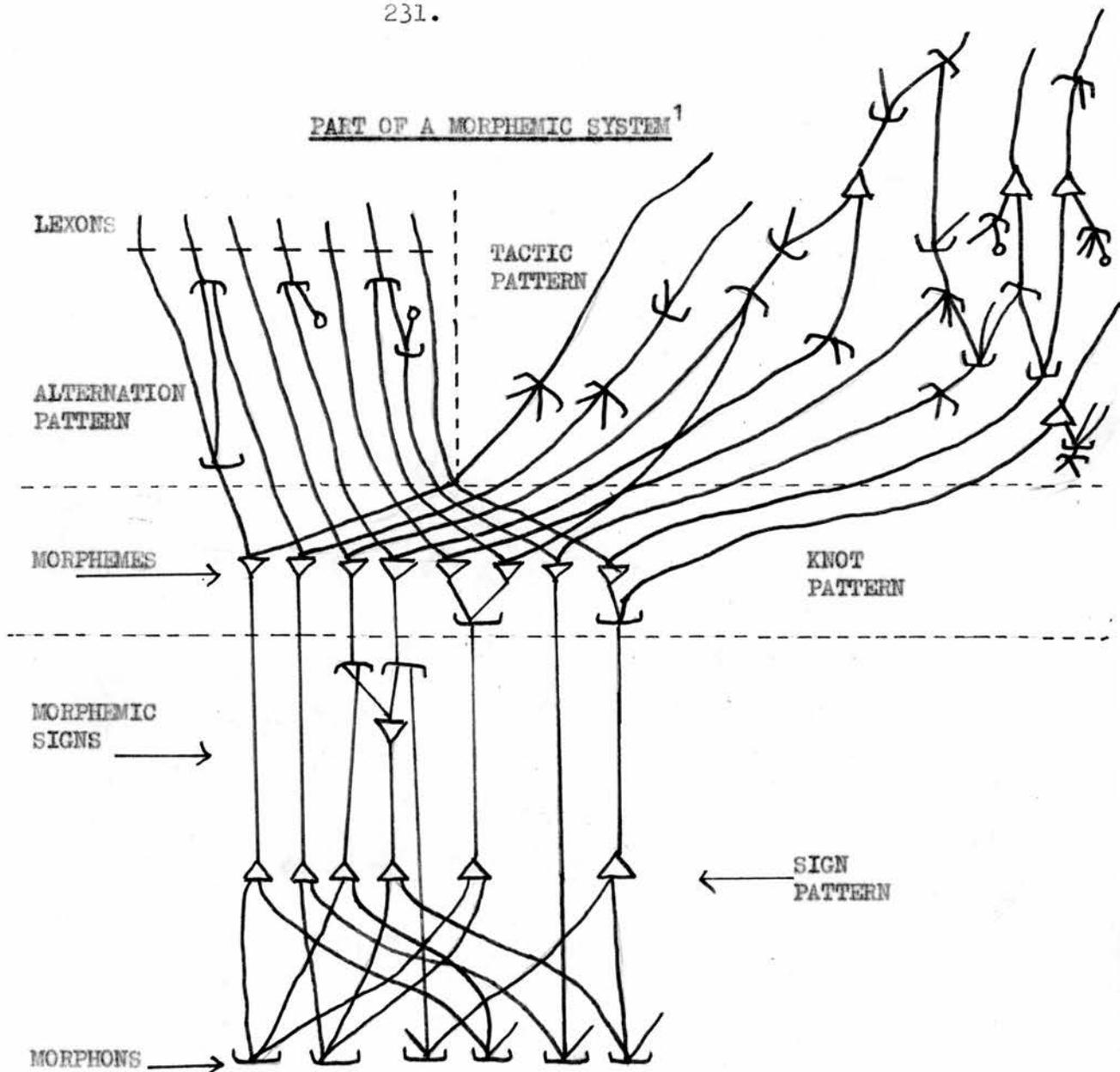
Lamb's own "correlation of structures"² allows for a maximum of six levels ("strata"), although not every language has the full complement.³ Various patterns of relationships are involved within and between the "strata". Lamb illustrates these with regard to the "morphemic" stratum in the following diagram:

¹ ibid. p. 83.

² cf. p. 229 above.

³ cf. Outline of Stratificational Grammar, p. 1.

PART OF A MORPHEMIC SYSTEM¹



- | | | | |
|--|---|--|--------------------------------------|
| | <p>= "ordered" impulses (e.g. a must precede b)</p> | | <p>= "unordered" impulses.</p> |
| | <p>or</p> | | <p>= "both/and" relationships;</p> |
| | <p>or</p> | | <p>= "downward impulses"</p> |
| | <p>= "zero realization"</p> | | <p>= boundaries between patterns</p> |

The "alternation pattern" serves as a link between a given stratum (in this case, "morphemic") and the stratum above it (in this case, "lexemic").

¹ibid. p. 16.
²For further details see Lamb. op. cit.

The "tactic pattern" indicates all the possible combinations of the entities in one particular stratum (in this case, of "morphemes"). Lamb writes:¹ "This process" (i.e. "tactic analysis") "leads the analyst to distribution classes and constructions which describe arrangements in the simplest possible terms". The "sign pattern" indicates all the possible combinations of components of entities in a particular stratum (in this case, the combination patterns of "morphons" into "morphemes"). Lamb writes:² Each of the lines at the middle of the Xemic³ sign pattern⁴ is an Xemic sign.⁵ Each of the lines (or, equivalently, each of the upward ORS) at the bottom of the Xemic sign pattern is an Xon.⁵ Thus an X₂on is at the bottom of the X₂emic system and at the top of the X₁emic system (specifically, at the top of its alternation pattern). The alternation pattern, knot pattern, and sign pattern of the Xemic system may be called the REALIZATIONAL PORTION of that system. The Xemic stratum⁵ consists of the Xemes and the Xotactics. Since the "-ons" of the sign pattern of a given stratum also occur at the top of the alternation pattern of the next lower stratum, the "sign pattern" provides a link between a particular stratum and the stratum below it. The "knot pattern", as its name suggests, 'ties together' the "alternation", "sign" and "tactic" patterns of a particular stratum. Lamb writes:⁶ Thus an "eme" has a function in the tactics, a connection to the next higher stratum through the alternation pattern, and a connection to the next lower stratum

¹ ibid. p. 5.

² ibid. p. 19. My underlining.

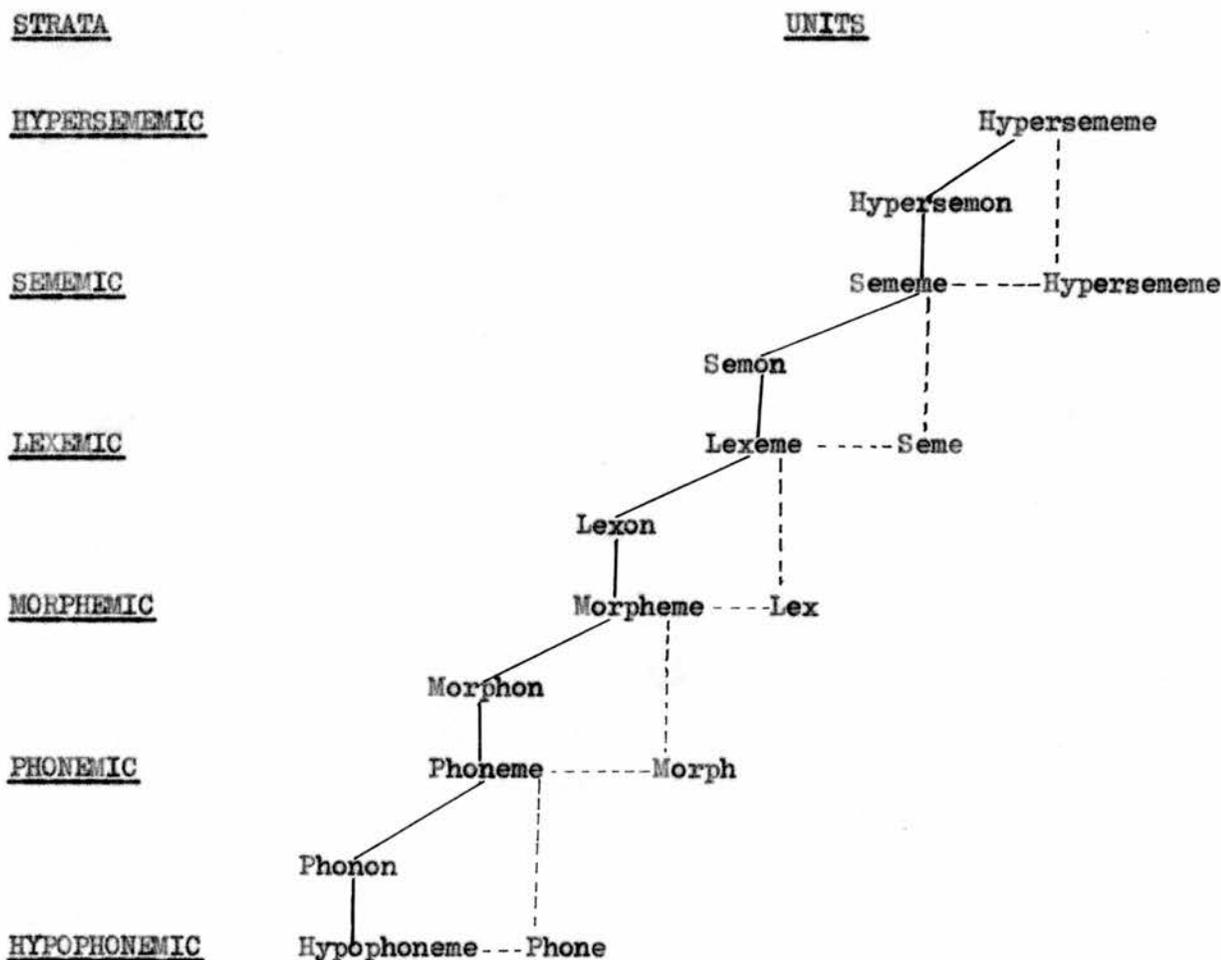
³ "X" stands for any of Lamb's six strata (morphemic, lexemic, etc.).

⁴ i.e. those between the "upward ANDS and downward ANDS").

⁵ Lamb uses capitals here.

⁶ ibid. p. 16. My underlining.

through the sign pattern." There is no sign pattern in the "hypophonemic" system, and no alternation pattern in the "hypersememic" system. Lamb suggests¹ that this is where the boundaries occur between "linguistic structure and structure of another type"² which cannot be accounted for in terms of the relationships set up in his theory. Lamb's "hierarchy of levels" is represented as follows:³



I have labelled and explained only those notions in this structure which are relevant to the above discussion.

¹ibid. p. 19.

²ibid. p. 19.

³ibid. p. 20.

Solid lines represent relationships directly present in a linguistic structure. "Sign patterns" (plus the upward ORS of knot patterns¹) are represented by the lines slanting upwards to the right. It is clear from the above discussion and from the diagram showing the various "patternings,"² that "sign" for Lamb is something very different from the entity envisaged by de Saussure and his followers. "Sign patterns," leading to relationships which Lamb calls "signs",³ occur at every stratum in a language except the hypophonemic⁴ one, irrespective of whether or not 'meaning' is involved in the units concerned. Gleason⁵ does not use the term "sign" at all.

Lamb writes:⁶ "One of the reasons for the complexity of linguistic structure, i.e. for the fact that it comprises several stratal systems rather than just one or two, is that sounds and meanings are, by their natures, patterned separately, from each other; they each have their own structural relationships."⁷ Semiological systems must relate to "events, phenomena, experiences, relationships and the like",⁸ which are often "multidimensional"; phonological systems must be adapted to the articulatory and auditory organs and "conform to the fact that speech takes place in time, which is linear."⁸ Therefore, Lamb concludes, "... a close correspondence between semiological and phonological systems would be impossible."⁸

¹ cf. diagram on p.231 above.

² cf. diagram on p.231 above (Lamb op. cit. p. 16).

³ cf. p.232 above and Lamb, op. cit. p. 19.

⁴ There is, however, such an entity as a "hypophonemic sign" cf. *ibid.* p.57.

⁵ cf. the diagrams on pp.229-30 above and Gleason, op. cit. p. 83.

⁶ Lamb, op. cit. p. 2 .

⁷ My underlining.

⁸ *ibid.* p. 2. My underlining.

Lamb's 'Xemic'¹ 'sign patterns' "account for higher level elements being composed of lower level elements".² Lamb's "signs"³ are also termed 'Xemic'. The fact that both "signs" and "sign patterns" can occur at various different levels⁴ in the hierarchy of "strata" irrespective of what sort of units, meaningful or otherwise, are involved, leads us to the clear conclusion, not only that Lamb's "sign" has nothing to do with the Saussurian notion "sign", but also that his approach to linguistic analysis does not involve a sign theory, as such, at all. In Mulder's view, the notions "morpheme", "morphemic sign", "lexeme" and "lexemic sign" appear at first sight to be roughly comparable with de Saussure's notion, but "in Stratificational Grammar, 'meaning' is not really fully there until the sememic stratum is reached".⁵ The notion "sign pattern", has, similarly, nothing to do with the Saussurian notion "sign". "It⁶ simply accounts (in a rather ill-conceived way) for the units in question as being composed of lower level elements, elements which themselves, in an inexplicable manner, by the alternation pattern, are elevated to the same level of abstraction as the 'sign' in question", e.g. "phonemes" are converted in this way to "morphons".⁷

¹By "Xemic", Lamb means 'belonging to any one of a number of different strata'. He uses the terms "Xemic", "Xonic", as a kind of convenient shorthand when he does not want to give a full list of all the strata to which an entity applies. "X" with reference to signs covers all six strata, but "X" with reference to sign patterns applies to only five, since the hypophonemic stratum has no sign pattern.

²Quoted from a set of lecture notes written by J.W.F. Mulder for use in class.

³cf. p.232 above.

⁴This is, of course, why Lamb applies the term "Xemic" to them. cf. p.232 note 3 above.

⁵See note 2 above.

⁶See note 2 above.

⁷Mulder regards these as roughly comparable with the "equally ill conceived" "morphophonemes" of Bloomfieldians and Transformationalists. For a discussion on the comparative merits of the Bloomfieldian and Transformationalist notions "morphophoneme", cf. K.L. Pike - Language in Relation to a Unified Theory of the Structure of Human Behaviour, pp. 351-354.

To the outsider, as Mulder comments, these 'conversions' appear to be no more than a mere change of name; but for the Stratificationalists, this conversion process is "a real metamorphosis, effected by a couple of lines and figures on a piece of paper".

Stratificational Grammar is comparable, in some ways, with Chomsky's 'Transformational Grammar; in both cases, the correlation between 'form' and 'meaning' cannot be shown in less than a model for a whole grammar. But Gleason criticizes Transformational Grammar in the following way:¹ "A stratificational grammar can provide a workable basis for understanding and formalizing the processes of BOTH transductions through language."² A transformational-generative grammar has insuperable difficulty with one of the two".³

Lamb claims⁴ that, since language structure is "an integrated whole with close interrelationships among neighbouring subsystems", a linguist cannot "be sure about the correctness of his solution for one subsystem of the language until the analysis of the neighbouring subsystems has been done". So the whole analysis procedure consists of going backwards and forwards between higher and lower strata. The linguist has the freedom to proceed in either direction. Transformational Grammar can only proceed⁵ from "deep structure" via "surface structure" towards "phonetic representation".

But the chief disadvantage with both Transformational and Stratificational Grammar, whichever way one proceeds, is that, above the

¹Gleason, op. cit. pp. 90-91.

²cf. diagram on p.230 above.

³i.e. with the transduction from 'sound' to 'experience', since, for Chomsky, the 'phonological component', transforming 'surface structure' into 'phonetic representation', operates after the transformational rules changing 'deep structure' into 'surface structure' and the 'semantic component' changing 'deep structure' into 'semantic representation'. cf. Chapter 6, p.224 above.

⁴ibid. p. 6.

⁵cf. Chapter 6, pp. 221 and 224 above; also p. 236, note 3 above.

level of formal representation, the setting up of structures (especially 'semiological') not directly related to phenomena actually appearing in the speech data can only be a matter of guesswork, i.e. of trial and error in a very primitive form.

We have no way of 'knowing' the 'structure' of thought or perception; therefore, without being omniscient, we cannot know whether either Chomsky's "underlying propositions",¹ or Gleason's "network", "tree" structures² and "semolexic realization rules"³ or Lamb's "sememic" patterns⁴ (of all types) have any real connection with the data or not. Lamb⁵ maintains that the only way in which a linguist can arrive at the relationships underlying linguistic data is by observing the manifestations of linguistic structure, i.e. "samples of speech". But the "semiological" (for Lamb, "sememic" and/or "hypersememic") levels are not in themselves manifested in speech. This is why it is impossible to account for them in any way except through the postulation of some kind of direct correspondence between units of 'form' and units of 'meaning',⁶ such as the relationship of mutual implication between the two halves of de Saussure's linguistic sign. If such a relationship is indissoluble, synchronically speaking, as de Saussure claimed,⁷ a unit of "expression" will always call to mind its associated unit of "content", and the two will be inseparable

¹cf. Chapter 6, p.219 above.

²Gleason, op. cit. p. 83.

³ibid. p. 86.

⁴Lamb, op. cit. p. 31.

⁵ibid. p. 6.

⁶However, they may be accounted for; see the semantic theory of S.G.J. Hervey, discussed below, for a way of accounting for 'denotational' meaning on the basis of the relationships between signs in a language.

⁷See above, p. 73

in the 'structure'¹ of a language. This being so, it is possible to delimit the content of a sign, like its expression, on the basis of the relationship of the whole sign with the other signs in the same linguistic system.²

"Signifiant" and "signifié" mutually imply each other, but the relationship between form and function is arbitrary.³ There is no reason, other than social convention, why a particular form should be linked with a particular function. That is to say, social convention is the only reason why a particular set of phonological features should be linked with a particular set of semantic features, and with a particular "distinctive function in grammar",⁴ in a given language.

1. "Structure" is between commas because the actual structure of a language cannot be said to empirically exist. Speech data is 'empirical' data which must be accounted for in terms of a linguistic system. Any such system constructed for that purpose can only be hypothetical in nature. Short of being omniscient, we can never know whether or not a system we have constructed to represent the 'structure' of a given language is in fact its actual structure. Therefore it is impossible to talk, like, for example many Bloomfieldian thinkers, of "discovering" the structure of a language. It is in no way empirically there to be 'discovered'. It is theoretically possible that a number of different systems could be constructed, each giving an adequate and consistent account of a given set of speech data. As J.W.F. Mulder writes (Theory of the Linguistic Sign, p. 7): "..ONE MAY NOT CONCLUDE FROM THE APPLICABILITY OF A STRUCTURE TO THE PHENOMENA THAT THIS IS THE STRUCTURE OF THE PHENOMENA THEMSELVES." However, a 'real', i.e. empirical, connection with the speech data should be insisted on at all levels, lest the whole process becomes completely arbitrary. If a linguistic theory fails to give a consistent and adequate account of the empirical speech data, it does not serve the purpose for which it was created. cf. Sets and Relations in Phonology, p. 6, where Mulder sets this requirement out in more detail.

2. i.e. negatively, as de Saussure did. cf. Chapter 3, p. 78 above. De Saussure envisaged (whole) signs as imposing their own pattern of relationships on the otherwise amorphous mass of sound and thought. cf. Chapter 3, p. 82 note 8 above.

3. cf. Chapter 3, p. 78 above.

4. A term used by J.W.F. Mulder partly covering de Saussure's term "valeur", i.e. the distinctive identity of a given (whole) sign, determined in terms of its oppositions with all the other signs in the same linguistic system. cf. Chapter 3 above. Mulder's criteria for establishing 'distinctive function' are, however, more sophisticated than those of de Saussure, and more easily applicable in practice in a linguistic description. cf. p. 266. below.

One does not need to abandon the one-to-one mutual implication relationship between 'units' of 'form' and 'units' of 'meaning' as they occur in the linguistic sign in favour of a more complex 'general structure', just because the 'systems' thus united are, as Lamb rightly claims,¹ very different in nature.

P. Sgall and his colleagues at Charles University, Prague, maintained that neither the approach of Chomsky nor that of Lamb is incompatible with Saussurian sign theory: "the relation between content and expression (in Hjelmslev's terminology) is articulated into several relations between neighbouring strata or levels. This is connected with the general shape of the system, where a level corresponding in some way to the sense of sentences is specified by a generative component (with recursive properties), whereas the representations of sentences on the other levels are gained by some kind of transducer."² For them, "Any natural language is a system of signs, that is, a semantic system."³ A sign is "an element of a certain set of pairs."² The sign is thus "a binary relation the semantic relation or the relation of sign". As the "set of notions" and that of "sound images" are to be considered "disjoint",⁴ the sign relationship is, for them, as for Karcevski,⁵

¹ Lamb, op. cit. p. 2 and p. 234 above.

² A Functional Approach to Syntax, p. 31.

³ *ibid.* p. 4.

⁴ To explain "disjoint", he says: "... the notion of sound-image is not a sound-image in itself and vice versa". But this does not alter the fact that a "sound image" is a type of psychological notion, like a concept. A "sound image" could therefore be described as "a type of concept"; so they are not completely disjunct in the sense in which Sgall describes them.

⁵ cf. Chapter 6, p.1ff above.

"asymmetric",¹ Sgall and company write: "... we have to take into consideration the notion of asymmetrical dualism of Karcevski ... that is, of synonymy (paraphrase, etc.) and homonymy (polysemy, ambiguity). In the general case there are several units of E^2 that correspond to a given unit of C - under the sign relation and operations - and several units of C which correspond to a given unit of E. So we have a many-to-many relation, and the mappings are general ones".³

With regard to Karcevski's theory,⁴ the "instability" of the equilibrium between expression and content elements has already been discussed.⁵ If elements are in a state of continuous instability there can be no indissoluble union between the expression and the content of a sign; and it is this indissolubility of the relationship between expression and content (mutual implication) which makes it possible to approach "semantic features", which, not being empirically observable,⁶ are inaccessible except through the vehicle of the whole sign.⁷ Expression and content together impose a pattern on the 'amorphous masses' of sound and thought according to de Saussure; they do not, each disjunct from the other, impose equally disjunct patterns on the two 'amorphous masses'.

¹ Sgall et.al., op.cit. p.4.

² i.e. "expression" and "content". Sgall uses the abbreviated versions "E" and "C" respectively for these notions.

³ ibid. p. 5.

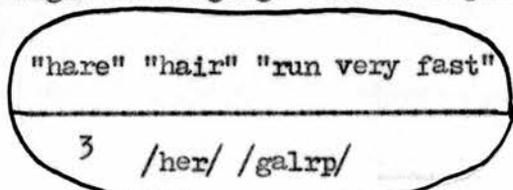
⁴ cf. Chapter 6, p.171 above.

⁵ cf. Chapter 6, p.174 above.

⁶ Compare discussion on p. 237 above.

⁷ As de Saussure maintained, "signification" ('meaning', including semantic features) is best regarded as dependent on "valeur" (the distinctive identity of a sign as opposed to all the other signs in the same linguistic system). cf. Chapter 3, p.76 above.

So, in following Karcevski here, Sgall and company have excluded from consideration the one essential aspect of sign theory which makes possible the isolation of discrete units of form and meaning, the 'terms' in the relationships involved in language considered as a system of signs.¹ If "many-to-many" relationships are postulated,² delimitation of signs in language becomes impossible. For example,



would constitute the same sign. There would be as many additional elements of content as there are additional 'meanings' and "paraphrases"⁴ of each of the expression elements, for example "Thread-like appendage present on .. the human skin"⁵ in relation to /her/; and there would be as many additional expression elements as there are 'synonyms'⁶ of each of the content elements, e.g. /sPrint/.⁷

So it appears that Sgall's theory permits the establishment of 'signs' as discrete entities no more than those of Lamb and Chomsky, on which it is, in fact, based: ".. the system proposed here - in common

¹ Sgall and company do regard language as a system of signs - op.cit.p.4.

² As Sgall and company do; cf. above, p.238.

³ The phonological notation used here is that of J.W.F. Mulder, cf. Sets and Relations in Phonology, p.202ff.

⁴ To use the same terminology as Sgall and company - cf. op.cit.p.5.

⁵ Taken from N. Roper: Livingstone's Dictionary for Nurses, p.229

⁶ Neither Karcevski nor Sgall and company give exact criteria for establishing 'synonyms'. NB it is Sgall and company who propose the "many-to-many" relationship, not Karcevski. For Karcevski, the two parallel series of homonyms and synonyms are 'forces' acting upon the sign, holding a particular expression and content (the "Signe adequat" - cf. diagram on p.174 of Chapter 6 above) together momentarily. The 'homonyms' are "valeurs transposées du même signe", whilst the 'synonyms' are clearly "valeurs analogues, mais exprimées par des signes différents" cf. Chapter 6, p. 174 above.

⁷ cf. note 3 above. "P" represents an archiphoneme - cf. Mulder, op.cit. p. 203ff.

with Lamb's system - belongs to that of the two "major avenues" of generative research ... combining several devices equivalent to context-free grammars in a sequence, generating by the first component a certain representation for every sentence of the language described."¹

The hierarchy of 'levels' proposed by Sgall and company is as follows:²

| LEVEL | UNITS |
|-------------------|---|
| Tectogrammatical | proposition ← C — semanteme |
| Phenogrammatical | $\begin{array}{c} \text{R} \\ \\ \text{syntagmeme} \leftarrow \text{C} - \text{tagmeme} \\ \\ \text{R} \end{array}$ |
| Morphemic | $\begin{array}{c} \text{formeme} \leftarrow \text{C} - \text{seme} - \text{C} \rightarrow \text{morpheme} \\ \\ \text{R} \end{array}$ |
| (Morpho-)phonemic | $\begin{array}{c} \text{morph} \leftarrow \text{C} - \text{morpho-} \\ \text{phoneme} \\ \\ \text{R} \end{array}$ |
| Phonetical | $\begin{array}{c} \text{sound} \leftarrow \text{C} - \text{distinctive} \\ \text{feature} \end{array}$ |

NB the arrows point to the complex (as opposed to the atomic) unit on each level.

"C" relationships are those "between elementary units that constitute complex units",³ i.e. on the same level. "R" relationships are those between the different "levels". The "transductive components" of the grammar account for the "R" relationships. Each of them "translates the representation of a sentence from one level to the next lower one".⁴

¹ A Functional Approach to Syntax, p.3. Judging from the terminology, it would appear that elements of "Tagmemics" have also been incorporated in this theory. cf. Chapter 6 above.

² *ibid.* p. 26. The "tectogrammatical" level corresponds roughly to Gleason's "semiological" level, and the "phenogrammatical" level to Gleason's "lexical" level (Lamb's "hypersememic"/"sememic" and "lexemic" levels).

³ *ibid.* p. 27.

⁴ *ibid.* p. 40.

The main mode of operation of these rules is to change the order of the elements ("symbols") on a particular level "so that it corresponds to the order of the type "regens post rectum";¹ then, if necessary, any symbol can be changed "in accordance with symbols depending on it".² Finally, symbols can be changed by "transducers" "so as to yield the actual word order".³ Thus it appears that the "transductive component" works on a principle very similar to that of Chomsky's "transformational rules", which can change the order of symbols, delete, or insert, according to what is convenient for any given stage of the language description procedure.⁴

The "complex unit" on the "tectogrammatical" level is the proposition. The authors describe it as a "well-formed formula of a calculus" and "...a representation of a sentence on the tectogrammatical level".⁵ It is capable of being "realized" by a whole set of (synonymic)

-
1. i.e. "where every symbol stands to the right of all the symbols depending on it". *ibid.* p. 40
 2. Presumably, this means that a symbol plus its dependent symbols can be changed in a body together.
 3. *ibid.* p. 40
 4. The main difference appears to be that Chomsky's Transformational rules apply after "deep structure" has been ascertained by Phrase Structure rules and other 'bare' rules, and operate for the most part in a position intermediate between 'deep' and 'surface' structure. The surface structure then passes through the phonological component to arrive at phonetic representation. But in the present system (that of Sgall and company), transformational-type rules, alias the "transductive component", strictly alternate, in a chain of operations, with 'phrase structure' components. Compare the quotation from Sgall, *op.cit.* p.3, mentioned at the top of this page. Compare the diagram representing Chomsky's system on p. 224 of Chapter 6.
 5. *ibid.* p.26. This is very reminiscent of Chomsky, who places the proposition (S) at the head of his "phrase structure" tree diagrams and then transposes its basic 'structure' - NP + VP (or slight variations thereof), corresponding to the propositional "subject" and "predicate") by a series of "phrase structure" rewrite rules and transformational rules into different types of sentence structure. The underlying assumption is that there is some essential connection between the structure of a proposition and that of a grammatical sentence. The former can be articulated into the latter, as if grammatical units were in some way components of units of propositional 'structure'. This is not demonstrable, and should not be assumed a priori. Hjelmslev gives examples of grammatical sentences (e.g. in Eskimo) which are hard to fit into a "subject-predicate" mould without much juggling and distortion. cf. Chapter 6, p.219 above.

sentences. A "semanteme", is, then, an (atomic) part of a proposition. No further provision has been made for the study of 'meaning'. Later in this work, the authors say that their attention "has been focussed not on lexical semantics, but on questions concerning the meaning of a sentence, as composed of its parts, that is, on the semantic characteristics of morphological units and syntactic considerations".¹ They acknowledge three 'levels' of 'meaning', "extensional" (denotational, referential), "intension" (designation) and "the meaning as it is coined" by the properties of language".² Only the last type of 'meaning'³ "can be described by purely linguistic methods".⁴ This, would, however, mean that the function of denotation, the means by which language performs its main function, communication about the extra-linguistic world, is incapable of being fully accounted for in terms of linguistic theory.

However, with their rejection of de Saussure's doctrine of the indissolubility of the one-to-one relationship between the "signifiant" and "signifie" of the linguistic sign,⁵ the authors have lost the possibility of accounting, by purely linguistic means, for the functions of the sign, including clear delimitation of content elements, and denotation.⁵ The same objections raised against the systems of Chomsky, Gleason and Lamb apply here; the "sign theory" proposed by the authors has turned itself into a model for a whole grammar. The

¹ Sgall et al., op.cit. p. 68.

² ibid. p. 68.

³ Presumably this refers to 'meaning' as inherent in the relationships between terms in a proposition. The authors mention particularly here the "linearity" of the text and "functional sentence perspective".

⁴ ibid. p. 68.

⁵ cf. the discussion on pp. 8-10 above.

relationship between 'form' and 'meaning' is determinable only in terms of the whole hierarchy of levels in this grammar; discrete 'meaningful' units comparable in any way to the Saussurian 'sign' can be established only through a rather artificial process of abstraction from the whole system.

Communication, as the primary function of language, is, on the other hand, one of the central considerations of the sign theory of J.W.F. Mulder. Recognizing that language is not the only system involving signs and symbols, and formulated for the express purpose of communication, he seeks to relate the study of language to that of general semiotics.¹ With S.G.J. Hervey, he maintains: "... signs are not limited to language, but are found in all semiotic systems containing elements (of whatever complexity) whose meanings are wholly conventional."² Why is the criterion "wholly conventional" necessary? Almost any phenomenon in the world can convey information about something other than itself. But phenomena differ in the way in which they do this. Sometimes the information is inferred from an entirely natural cause-and-effect sequence; such sequences are due entirely to properties inherent in empirical 'reality'. In other cases, however, the relationship between a phenomenon and the information it conveys is arbitrary. As soon as this relationship becomes non-natural, it is wholly conventional, since

¹In so doing, he fulfils the desire of F. de Saussure (Cours de Linguistique Générale, p.33), who felt sure that linguistics should form part of a more general 'science of signs'. However, the non-mentalistic approach of Mulder and Hervey makes it impossible for them to share de Saussure's view that such a "semiology" is to be classed as a branch of "psychologie sociale". (cf. Chapter 3, p.33 above). If a sign system is to have any constancy as such, i.e. if its signs are to bear any 'permanent' meaning within the system, the latter must be self-sufficient. It must be able to function as such independently of the infinite variations involved in the psychological reactions of its users. If its functioning were explicable basically in terms of processes in the mind, we might as well regard it as incapable of rigorous description, since it is impossible to observe the functioning of such processes.

²"Index and Signum" in Semiotica, Vol.4 (1971) p. 326.

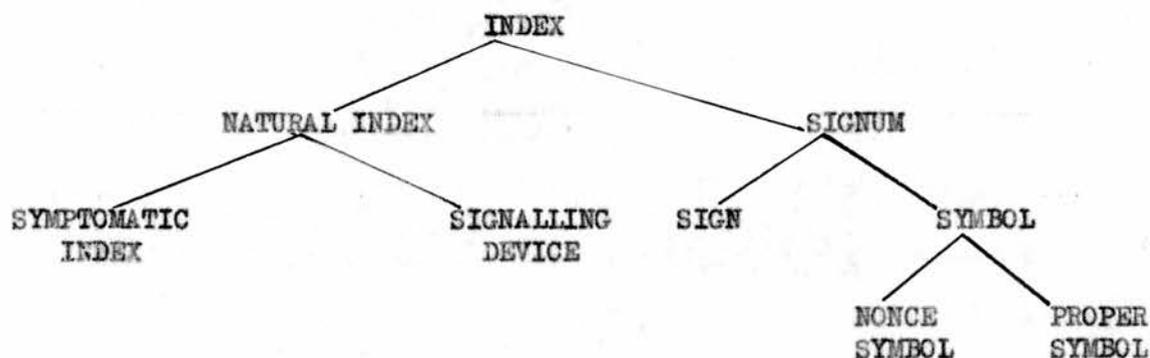
the phenomena concerned are, in such a case, wholly dependent on conventions for the conveying of their information; i.e. they are incapable of conveying the appropriate message without them. Mulder and Hervey illustrate this point¹ using the example of the call of a langur when a tiger is present. There is a sense in which the relationship between the langur's call and the presence of the tiger may appear to be 'natural'; all animal warning cries e.g. that of a blackbird, could be said to be, at least to some extent, a matter of instinct. But there is no inexorable law that a langur should call every time a tiger appears. The role, if any, played by instinct in the situation involving the langur and the tiger is, like that played by the presence of the said tiger, one of motivation. As the authors write: "The call itself ... is not CAUSED by the presence of the tiger (nor is its particular form determined by the latter) any more than going to bed is caused by feeling tired. It is MOTIVATED by the presence of the tiger just as going to bed may be motivated by feeling tired".² But this 'motivation' gives us no grounds for postulating, in any sense, a 'natural' relationship between the call and the tiger: "... there is no reason to suppose a natural relation at all, unless we wish to say that, by calling at a tiger, the langur is blindly obeying the laws of nature. If the latter were the case, a langur that failed to call at a tiger would constitute a suspension of the laws of nature".²

The function of the linguistic sign, i.e. the conveying of information is identical with that of any other type of index. Therefore Mulder and Hervey consider it to be a subspecies of this much wider group of information-bearing entities, i.e. INDICES. The authors give the term

¹. *ibid.* p. 331.

². *ibid.* p. 331.

"index" a very broad definition: "An entity "a"¹ is an index if and only if it conveys some information (that "b")¹ outside of itself."² So this term can be used of any phenomenon that conveys information. Specifications have to be made within this general field. Mulder and Hervey hold that: "... SIGN is a subspecies of SIGNUM, and SIGNA themselves belong, together with indices that fall outside semiotic systems, to a yet wider group of INDICES".³ The complete classification of information-bearing phenomena is as follows:⁴



Symptomatic indices are often haphazard in their occurrence. Man cannot control exactly when they should occur, but when they manifest themselves, he is able, due to previous observation of their cause-and-effect sequences, to infer information from them. Such is the case with 'works of nature'. For example, it often happens⁵ that heavy clouds, due to properties inherent in their physical make-up, are followed by rain, or that lightening, for similar reasons, is followed by thunder.⁶ Having witnessed such sequences time after time, one comes to expect them to

¹ Mulder and Hervey use italics here.

² *ibid.* p. 327.

³ *ibid.* p. 326.

⁴ *ibid.* p. 326.

⁵ cf. "Index and Signum", p. 328.

⁶ Thunder can never be followed by lightening, however, because light travels faster through the air than sound.

happen; e.g. heavy clouds begin to convey the information that it is likely to rain, irrespective of whether or not rain actually occurs in any given instance. Whenever they convey that information, i.e. are taken as symptomatic of imminent rainfall, they are, by virtue of their function, indices.

"Signalling devices" could be described as man's 'harnessing' of the laws of nature for his own purposes. A kettle will whistle when water is boiling if the appropriate device is fitted. It can act in no other way. Compressed steam will always emit a whistling noise if allowed to emerge through a small aperture. No conventions are involved in the relation between 'form' and 'information' in either 'symptomatic indices' or 'signalling devices', although in the case of the latter the 'form' itself may be conventional. In both cases, we are dealing with an entirely natural "cause-and-effect" sequence. They are termed "natural indices" for that very reason. The actual relationship between index and "denotation"¹ contains no element of convention.

The term "signum", in contrast, covers any "index"/"denotation" relationship in which conventions are involved. The degree of motivation in any given case is irrelevant. All signs, not least linguistic signs, are 'motivated' to some extent, in their use, e.g. by cultural considerations, personal preferences, associations with past experience of the user, etc. De Saussure gives examples of what he calls "partly motivated" signs, such as "dix-neuf", which he regarded as being in some

¹"Denotation" is the 'information value' of an index. cf. Theory of the Linguistic Sign, by the same authors, p. 15.

way 'counter examples' to his doctrine of "l'arbitraire du signe".¹ But such signs are as totally dependent on convention for the conveying of their information as signs like "dog", which de Saussure would regard as 'completely unmotivated'. Onomatopoeic examples, such as "cuckoo" meaning a type of bird, are also completely dependent on convention; the form they take could quite conceivably have been different. Whilst there is no inexorable law of nature which decrees that the cuckoo should be represented by a sign having the form /kuku/ or that the quantity 'nineteen' should be represented by a sign having the form /disnɔf/, as in French, rather than /naintRin/² or vice versa these examples, and any similar ones, can and should be regarded as completely conventional; they are all completely dependent on conventions for the information they convey.

Mulder's definition of a "semiotic system" as a "system of conventions for communication"³ applies entirely to sets of SIGNA. When devices carry any type of conventional meaning, e.g. a factory hooter indicating that it is time to start work, they are signa. The status of a phenomenon as a "natural index" or as a "signum" depends

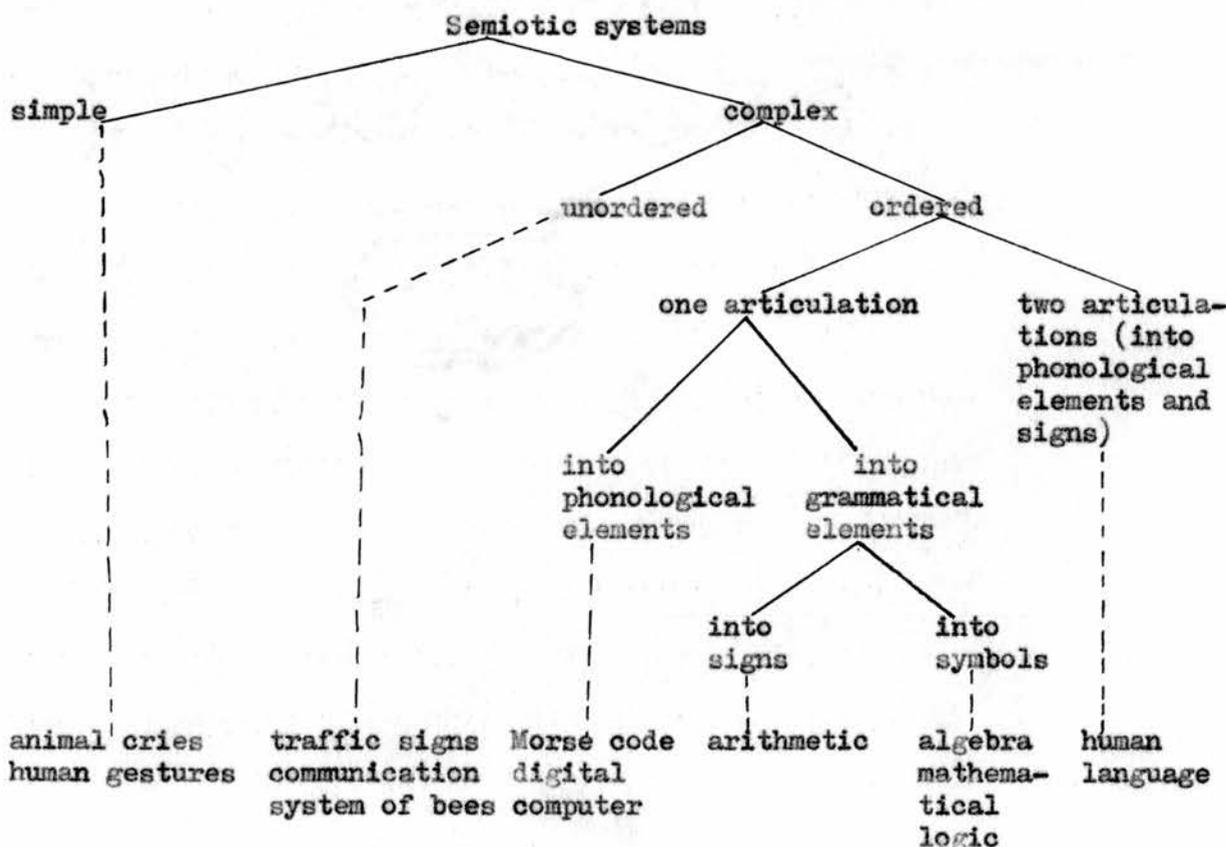
¹cf. Chapter 3, p. 78 above. De Saussure regarded "dix-neuf" as 'partly motivated' because it is 'composed' of "completely unmotivated" signs brought together for some reason, such as a link in their 'meanings', as is the case here. "Dix" and "neuf" are, for de Saussure "unmotivated" signs meaning "ten" and "nine" respectively. "Dix-neuf" means "nineteen" (i.e. 10 + 9).

²I am using the system of phonological notation evolved by J.W.F. Mulder for English. cf. Sets and Relations in Phonology, p. 202ff. For French I merely make a guess, though some of the notations are taken over straight from publications by A. Martinet.

³Sets and Relations in Phonology, p. 10. Mulder's clear-cut distinction between 'natural' and 'conventional' leaves us in no doubt as to which communication systems are semiotic systems and which are not. One simply asks the question: 'Is the relator between the indices and the information they convey conventional or not? If the answer is "yes", the system is dependent on convention for the information it conveys, therefore "semiotic"; if the answer is "no", there is no dependence on convention at all for the conveying of information. There are no intermediary stages, or 'degrees' of dependence on convention.

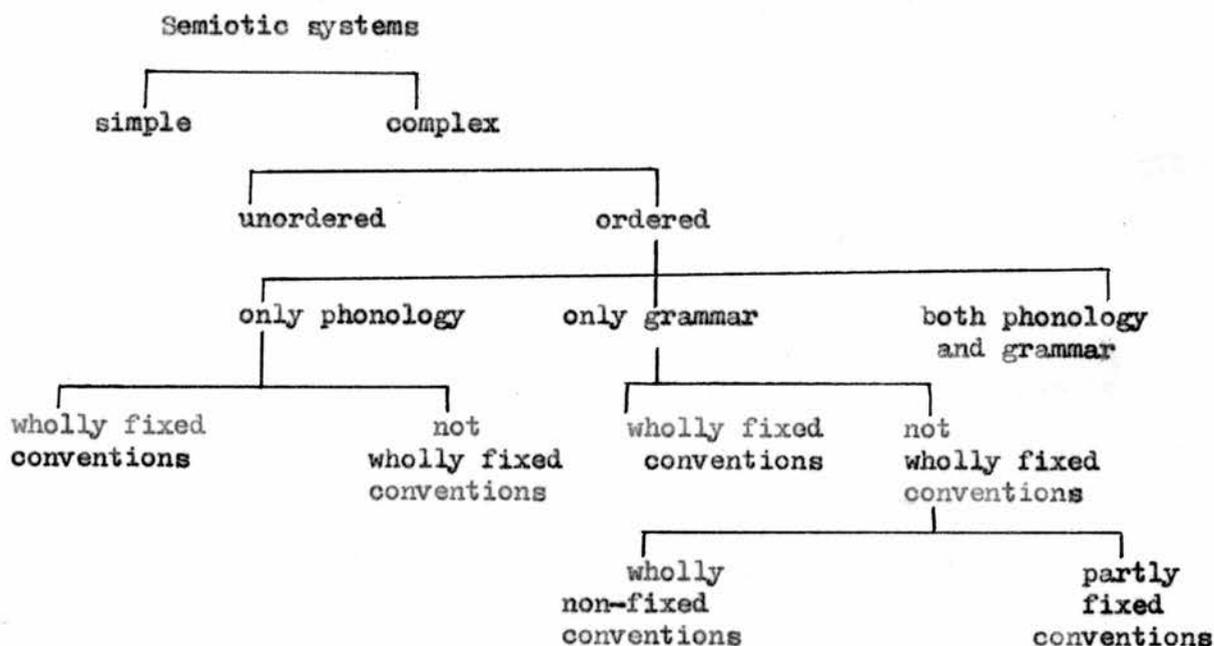
entirely on its relationship with the information it conveys, not on whether or not the actual phenomenon, as such, makes use of the 'laws of nature'. Thus, whereas the whistle of a boiling kettle in our example is a natural index (kettles fitted with whistling devices cannot do anything other than whistle when water is boiling), semiotic systems involving whistles, e.g. high pitched, sounded once, for "come here"; low pitched, sounded once, for "keep quiet"; low pitched whistle, repeated twice, for "hurry", etc., are systems of signa. When information such as "danger" is conveyed by a whistle, the relator (R) between the whistle and its information is CONVENTIONAL; the whistle is a SIGNUM, irrespective of any natural laws it might follow in actually producing the noise when it is blown. Presence or absence of convention in the RELATOR between an index and its information is the sole criterion for deciding whether that index is a 'natural index' or a 'signum'.

Mulder classifies "semiotic systems" in the following way:¹



¹"Index and Signum", p.325. This scheme is reproduced from Sets and Relations in Phonology, p. 14.

The distinction made by Mulder and, later, Mulder and Hervey between "sign" and "symbol" has repercussions on their conception of language as a system of signs. They illustrate this in an addition ¹ to the original diagram² showing the classification of semiotic systems :



By comparing the two diagrams, we see that signs, by definition, have wholly fixed conventional meanings. Symbols, on the other hand, are variables. Like "x" ("the unknown quantity") in algebra, they are governed to some extent by the conventions in the system to which they belong, but what they denote (their actual information value)³ is variable. Depending on the operation in hand at a given time, they can be defined so that they convey any of a wide range of different messages. "Signa"⁴ in arithmetic are, however, signs; in the number writing system,

1. Theory of the Linguistic Sign, p.21 cf. also "Index and Signum", p. 333 & 335.

2. cf. p. 250 above.

3. cf. Theory of the Linguistic Sign, p. 15

4. cf. p. 250 above.

"2" can only denote the quantity "two"; but algebraic "signs" are symbols; "x" (or any other symbol, such as "a" "z" etc.) can denote "two", "six", "eighty-four" or any other given quantity. The conventions of algebra simply demand that such a symbol must denote a quantity. Symbols, according to the above diagram, can be either "partly fixed" or "wholly non-fixed". Algebraic symbols partly depend on the conventions of algebra for their value.¹ Mulder and Hervey call such "partly fixed" symbols "proper symbols".²

PROPER NAMES in language fall into the same category. Conventions demand that we should use, say, "George" to denote a male and "Susan" to denote a female; but apart from that, a separate definition must be made every time such names are applied to individual persons. For example, "Susan" can denote, say, the girl next door, an elderly aunt in Birmingham, a particular female child, or even a particular female animal, such as a cat or dog. If the parents of Susan, the girl next

¹The exact conventions governing the use of "a" "b" "c" and that of "x" "y" "z" differ in algebra, as the authors point out (*ibid.* p. 17). This does not affect the definition of all such algebraical symbols as proper symbols. They are still all variables, only partly governed by convention.

²"Wholly non-fixed symbols are called "nonce symbols". These are "symbols whose denotation depends TOTALLY on occasional conventions". Examples given by the authors are "whilk", "which, if we wish to do so, we can define as a 'white elk with a missing eye'." But it could just as easily have been defined as anything else, and used in constructions like "a whilk or so ago". Nonce symbols arise in language whenever some individual "coins" a term on a particular occasion for his own particular purposes; such a term is not a member of the inventory of signs of the language concerned, even though its phonological form may completely resemble that of an established sign (or of a proper symbol). For example, an acquaintance of mine has been called "le petit chocolat" because of a liking for chocolate biscuits, and a kettle belonging to an old lady known to me bears the name "Peter". cf. Theory of the Linguistic Sign, pp. 17-18 for the authors' account of such phenomena. All the above quotations come from those pages.

door, had christened her "Mary" instead, the symbol "Susan" would not denote that particular person at all. In giving a child a name, say, "Linda" or "Sheila", "John" or "Peter", (depending on the sex of the child concerned), parents are giving the symbol involved a particular definition for a particular operation, i.e. that of denoting their offspring.

If Susan, the same girl as mentioned above, decided to change her name from "Susan" to "Mary" by deed poll, she would cease to be denoted by the symbol "Susan" and begin to be denoted by "Mary". But to use a sign, e.g. "cat", in a similar way to denote, say, a horse, would be to offend against the conventions of the English language, since the denotational meaning of signs is wholly fixed in terms of them. Proper symbols being partly fixed as regards denotation by such conventions, one would offend equally much against them by calling Susan "George", but not by calling her "Mary".

Given a person called "Susan", the name "Susan" would denote that person, whether she were addressed in, say, German, Czech, Swahili or in any known language. Variations in pronunciation might occur, but these, together with all such non-distinctive variations belong to "speech", not to "language".¹ Since, therefore, "the identity of an index, natural or conventional, sign or symbol, proper symbol or nonce-symbol, depends on its distinctive function in respect of the other elements in the system, and consequently on the system it belongs

¹cf. Sets and Relations in Phonology, p.17ff. Mulder and Hervey uphold, in principle, the Saussurian distinction between "langue" and "parole" and its consequences, but reject the idea that "langue", in the Saussurian sense, is the object of the description: "For the non-inductivist pure linguist, there is, I think, no other choice than to regard language (as far as he is concerned) not as the object to be described but as part of the description". (p.18). cf. Chapter 3, p. above.

to itself",¹ proper names² fall outside any particular language qua system of signs. They form a system of their own. On the syntagmatic level, we can, however, ignore this, as such symbols are used in the same way as signs, i.e. they enter into syntactic relations, commute with signs, etc.³ Proper names caused earlier thinkers much difficulty. Before the birth of what we know as "structural" linguistics, linguists tended to distinguish between them and signs with a 'general' signification, such as "common nouns", on the grounds that proper names always have an individual signification.⁴ But "common nouns", too, usually signify an individual item⁵ when actually used in speech. Also, part of the information conveyed by a proper name such as "John" is that its bearer is male. If "general ideas" such as "male" and "female" are signified by proper names, one is not justified in saying that they denote only particulars; they convey general information as well.⁶

The essential difference between a proper name and a "general" sign such as a "common noun" is, as Mulder and Hervey point out,⁷ the

¹ Theory of the Linguistic Sign, p. 18.

² e.g. of people; but not such names as "Everest", which have a wholly fixed denotation. "Everest" denotes a particular mountain, and cannot be redefined ad infinitum in the same way as "Mary".

³ The same is true for quotations, e.g. "Peter said that Mary said 'merveilleux'" is a perfectly good English sentence.

⁴ e.g. Wallis, Blundeville (cf. Chapter 2 above, p. 57 and p. 50 respectively).

⁵ Such an 'item' may, of course, be itself a number of items, as in the case of nouns in the plural.

⁶ This is illustrated in a case when a person reads the name of an individual, say, Mary Smith, in a newspaper. If the reader is not acquainted with Mary, the name will convey no information to him about the person designated. Perhaps he knows several people of that name, but still does not know whether "Mary Smith" denotes any of those people, or someone completely different. He does not, in either situation, know the precise "definition" of the name for this particular operation. He will, however, know by the name that it is a woman, not a man, who is the subject of the newspaper report.

⁷ cf. the above discussion.

need to "define" a proper name for each separate operation; proper names are only partly fixed by convention, and therefore cannot be an integral part of any particular system of wholly conventional signs. J. Harris¹ pointed this out long before the development of modern linguistic science, but Mulder and Hervey are, to my knowledge, the first to express such a view since that time.

What immediately strikes one about the above diagrams is that language is differentiated from all other types of "semiotic system" by its property of the DOUBLE ARTICULATION. A. Martinet first invented this term; it was taken over by Mulder and adapted for the purposes of his own theory, which is formulated deductively, on an axiomatic basis. Martinet and Mulder differ as to what exactly they mean by the term "double articulation". Martinet writes: "La première articulation du langage est celle selon laquelle tout fait d'expérience à transmettre, tout besoin qu'on desire faire connaître à autrui, s'analyse en une suite d'unités douées chacune d'une forme vocale et d'un sens."² He continues: "Mais la forme vocale est, elle, analysable en une succession d'unités dont chacune contribue à distinguer "tête" par exemple d'autres unités comme "bête", "tante" ou "terre". C'est ce qu'on désignera comme la deuxième articulation du langage".³ All first articulation entities are, for Martinet as for Mulder, by definition meaningful linguistic units, i.e. signs (symbols, too, for Mulder; Martinet lacks a precise distinction between 'sign' and 'symbol').

¹ Hermes (1751). cf. Chapter 2, p. 6155

² Elements de Linguistique Generale, p. 17.

³ ibid. p. 19.

Martinet, influenced by H. Frei,¹ calls minimal signs² "MONÈMES".³ About monèmes, he writes: "Comme tout signe, le monème est une unité à deux faces, une face signifiée, son sens ou sa valeur,⁴ et une face signifiante qui la manifeste sous forme phonique et qui est composée d'unités de deuxième articulation."⁵ Ces dernières sont nommées des phonèmes."⁶

In Martinet's opinion, this "second articulation" is a sort of continuation from the first.⁷ Language is 'articulated', first into signs and then further into 'phonemes'. He writes:⁸ "Une langue est un instrument de communication selon lequel l'expérience humaine s'analyse en unités douées d'un contenu sémantique et d'une expression phonique; cette expression phonique s'articule, à son tour en unités distinctives et successives, les phonèmes". Phonemes, second articulation units, are, for him, the components of which the "signifiant" of a sign is made up: the "signifiants" of signs are "composés de phonèmes, unités à face unique, sur lesquels le sens du mot n'a pas de prise".⁹ But how can phonemes, by

¹ cf. Chapter 3, p. 94, above.

² i.e. a sign which "ne saurait être analysé en une succession de signes" (Elements de Linguistique Générale, p.20.)

³ A term also used by Mulder.

⁴ Sometimes Martinet appears to maintain a clear distinction between de Saussure's "valeur" and "signification" (cf. Chapter 5, p. 150 above, especially note 7.); sometimes, however, as here, he appears to treat them as if there were no distinction ("son sens ou son valeur").

⁵ Mulder diverges somewhat from Martinet on this point. See below. Expressions of signs, for Mulder, do not consist (are not 'composed') simply of 'phonemes'.

⁶ *ibid.* p. 20.

⁷ He calls the second articulation "une articulation supplémentaire" - "Arbitraire Linguistique et Double Articulation" in La Linguistique Synchronique, p.27.

⁸ Elements de Linguistique Générale, p.25.

⁹ "Arbitraire Linguistique et Double Articulation", p.28.

definition not meaningful,¹ become, simply by combining to form larger units, MEANINGFUL forms? As Martinet himself writes: "... la deuxième articulation a l'avantage de rendre la forme du signifiant indépendante de la valeur du signifié correspondant ...".² Mulder comments: "That the combination /her/ can stand for a meaningful 'hair' has nothing to do with the elements and their combination. It can also stand for a meaningful 'hare' and also for just a combination of phonological elements, nothing more."³ Hence there is a difference between a phonological form as such and an "allomorph"⁴ of the expression of a sign. The set of phonological forms corresponding to a sign may, qua class of phonological forms, contain a given phonological form, but that phonological form is, itself, not even an allomorph, not to mention a class of allomorphs, i.e. an expression of a sign.

Mulder's version of the notion "double articulation" is expressed, initially, in the second axiom on which his theory rests: "Semiotic systems⁵ may contain complex elements which can be articulated into elements which have both form and meaning or elements which have only form".⁶ Language, following on from this, is then definable as a "semiotic system with both articulations".⁷ Martinet, too, regarded the 'double articulation' as the defining characteristic for language. He writes:⁸ "... s'il est évident que toutes les langues qu'étudie en

1. i.e. "à face unique" - see above.

2. Éléments de Linguistique Générale, p.22. The underlining indicates Martinet's own emphasis.

3. Sets and Relations in Phonology, p.36. My underlining.

4. ibid. p.36. For "allomorph", see below and Theory of the Linguistic Sign, p.32ff.

5. i.e. "any system of conventions for communication". See above, and Sets and Relations in Phonology, p.10.

6. ibid. p.10.

7. ibid. p.11.

8. "Arbitraire Linguistique et Double Articulation", p.27.

fait le linguiste s'articulent bien à deux reprises, pourquoi hésiter à réserver le terme de langue à des objets qui présentent ce caractèreistique? Regrette-t-on d'exclure ainsi de la linguistique les systèmes de communication qui articulent bien les messages en unités successives, mais ne soumettent pas ces unités elles-mêmes à une articulation supplémentaire?" This characteristic of language was prefigured in the pioneering semiological investigations of E. Buyssens (1943),¹ but it was Martinet who first specified it as an adequate defining criterion for distinguishing language from all other semiotic systems.

Both Mulder and L. Prieto² saw difficulties with Martinet's "double articulation" as formulated by him (simply articulation "en unités successives".)³ Prieto saw a "double articulation" in the Paris system of telephone numbers.⁴ The system of British numbers runs on similar principles. For example 01 445 2094 consists of an 'articulation' (in Martinet's sense) into three consecutive signs: "01" 'signifies' London; "445" 'signifies' the region "Hillside"; and "2094" 'signifies' a particular telephone in that region. These three signs are, in turn, articulated into a series of purely distinctive entities, which have no relation to the 'meaning' of numbers in arithmetic.

So, provided that one, like Prieto, accepts telephone numbers as semiotic systems, it appears that a non-linguistic system exists with a double articulation into signs and into the equivalent of "phonemes".⁵

¹ cf. Chapter 3, p.96. above, especially note 3., and Buyssens' list of the 'characteristics' of language.

² Messages et Signaux (1966).

³ See p.256, note 5. above.

⁴ Prieto, op.cit. p.162ff.

⁵ Mulder, however, still would not accept this as a system with a double articulation, since there are no "ordering relations" between the 'first articulation' entities. See below.

However, one cannot make use of the telephone system as such to convey information, in the same way as one can use language or the Morse Code. It is a classificatory, rather than a semiotic system by Mulder's definition. However, Prieto tries to overcome the difficulties in his approach by defining languages as "codes a premiere articulation pleine, mais, du fait des signes "d'intonation", dont les signifiants ne sont pas analysable en figures", ce sont des codes a seconde articulation partielle."¹ But Martinet² has already capably shown that intonation consists of a continuum involving so many infinite variations that discrete entities cannot be set up without considerable distortion of the data available.

Martinet's version of the 'double articulation' as he conceived it is not intended to distinguish language from codes such as the 'deaf and dumb' alphabet. In fact, he suggests³ that such codes can and should be regarded as 'varieties' of language, and explains at length how the hand movements in the deaf and dumb alphabet can be regarded as 'phonemes' in language, realized visibly instead of audibly. Yet the fact remains that the 'deaf and dumb' alphabet is no more a natural language than, say, semaphore or the Morse Code. The 'signs' in all three of these codes denote letters of the alphabet; information other than such letters needs to be conveyed through some other code, such as a language,⁴ used in conjunction with them. When, say, the Morse Code is being used to convey messages about a situation at sea, the order in which its signs occur is determined, not by any rules within the code itself, but by the spelling conventions of the natural

¹ Prieto, op.cit. p.163.

² Elements de Linguistique Generale, p.26, paragraph 1:16. "Caractere non discret de l'intonation".

³ At the end of his article "Arbitraire Linguistique et Double Articulation."

⁴ It does not matter at all what language or semiotic system it happens to be.

language, or other semiotic system, used with the code on that particular occasion.

This dependence of the Morse Code on other semiotic systems for any 'ordering' of its signs (as opposed to its dots and dashes) provides, for Mulder, a means of distinguishing it from natural languages. Mulder's 'ordered' semiotic systems (as opposed to 'unordered' ones such as traffic signs) can be 'ordered' into phonological elements only, into grammatical elements only, or both into phonological elements and into grammatical elements.¹ Language is 'ordered' both into 'phonemes' (meaningless in themselves) and into (meaningful) signs (i.e. has a 'double articulation'), whereas Morse is 'ordered' only into 'phonological' elements, meaningless in themselves, i.e. into dots and dashes. Morse has rules of its own for combining its dots and dashes, and putting them into 'ordering relations', e.g. ".-" and "-." distinguish signs with different 'meanings'; but it has no rules of its own for doing the same with its signs. In other words, it is a semiotic system with one 'articulation' only (a 'phonological' one). As stated above, any 'ordering' to be found among signs in Morse has nothing to do with the code at all; it belongs to the conventions of whatever language, or other semiotic system is being used in conjunction with it; the 'ordering' will be different according to whether the users of the Code are communicating in French, Russian, Esperanto, any other language, or some other kind of semiotic system.²

Mulder writes: "One should not be misled by the fact that the

¹cf. diagram in Sets and Relations in Phonology, p.14, reproduced on p. 250. above.

²The Morse Code could be used, for example, to work out problems in algebra.

order of these 'sentences'¹ is also relevant to the message to be conveyed - in thinking that the Morse Code has a double articulation. The only messages which can be conveyed by the Morse Code itself are letters of the alphabet, etc. Everything else is conveyed by other semiotic systems, such as the spelling conventions of a particular language² So Mulder's requirement that some kind of 'ordering relations' should be present if one is to talk in terms of an 'articulation' classifies codes such as Morse, in the category of semiotic systems with one articulation only (in these cases, into units having only form).

Until some other semiotic system can be demonstrated to have a 'double articulation' in Mulder's sense of the term, Mulder can be said to have achieved Martinet's aim of evolving a rigorous defining criterion which indeed sets language apart from all other systems of communication.

It is to be noted that, by Mulder's definition, written languages which make use of an alphabet are semiotic systems in their own right, and have the status of 'languages'. But written Chinese, for instance is not a language, as it has only one, 'articulation'.

A language, then, in opposition to systems such as the Morse Code, 'orders' both its signs and its phonological elements ('phonemes')

¹ i.e. the signs in Morse, which, according to Mulder's definition, are "not themselves part of an articulated sequence". *ibid.* p.13.

² *ibid.* p.15.

according to its own rules. "Ordering relations"¹ are contracted by units in different "positions" along the "syntagmatic" ('horizontal') axis. "Position", however, for Mulder, means something rather different from Martinet's notion "position", which merely means 'sequential order'. Mulder defines "positions" as "the points on the syntagmatic axis at which paradigms can be established".²

Syntagmatic 'ordering relations' can be contracted by elements of both articulations.³ Similarly, units of both articulations can be

¹ i.e. clearly defined logical relationships, such as "subordination", and "superordination", contracted along the syntagmatic axis. cf. Theory of the Linguistic Sign, p.23. If an element is subordinate with regard to another element, it is peripheral in relationship to it; the superordinate unit is, then, nuclear with regard to its subordinates. It goes beyond the scope of this work to go into this subject in any more detail. The complete independence of 'ordering relations' from considerations of 'sequential order' is apparent especially in what are known as 'synthetic' languages, such as Latin, where subject, object, verb, qualifiers etc. can occur in pretty well any order in a syntagm without changing their logical relations to each other; these relations are still independent of sequential order in English, an 'analytical' language in traditional terminology, although in this case additional conventions determine the order in which the different parts of a syntagm may be realized in speech, e.g. 'subject', 'verb', 'object' in straightforward statements.

² Sets and Relations in Phonology, p.71ff.

³ e.g., since phonemes (in the second articulation) are syntagmatically 'ordered', a change in the meaning of the unit in which they occur may arise if one interchanges them with regard to 'position'. Thus, for example, the phonemes /a/, /r/, /m/ constitute the phonological forms /arm/, /ram/, /mar/; each of these forms, according to which 'position' is occupied by which phoneme, distinguishes a unit (the sign in which it is contained) with a different meaning. /a/ is in each case "nuclear"; /r/ and /m/ in /ram/ and /mar/ respectively, occupy "implosive" positions; /r/ and /m/ in /mar/ and /ram/ respectively occupy "explosive" positions; in both cases, they are 'peripheral' with regard to /a/; in /arm/, /r/ and /m/ both occupy "explosive" positions, but /m/ is more 'peripheral' with regard to /a/ than /r/ is. The whole situation regarding 'ordering relations' is far more complex than this. Mulder, in fact, recognizes eight possible 'positions' in an English distributional unit. cf. Sets and Relations in Phonology, pp.26-8 for general principles. An example of 'ordering relations' in the first articulation occurs in the sentence "John hit Paul". "John" and "Paul" are related to each other only via the 'verb' "hit". Otherwise they have no direct relation to each other at all. So "hit" can be said to be the "nucleus" of the syntagm "John hit Paul"; as such, it is superordinate to both "John" and "Paul". The 'ordering relations' in this very simple syntagm can be represented, then, in the following way: "John → hit ← Paul". Again, the situation as regards ordering relations in syntax is far more complicated than this, and it is beyond the scope of this work to go into them. cf. Sets and Relations in Phonology, p.p.82ff for some further details. Mulder's forthcoming work Axiomatic Syntax will contain a full exposition of the notion 'ordering relations' with regard to syntax.

members of paradigms,¹ or, in other words, items in a class of mutually substitutable entities in a "position". When such units are substituted for each other, a change of meaning occurs.

Thus, in his notion of the intersection, in a "position", of a 'horizontal' (syntagmatic) and a 'vertical' (paradigmatic) axis, Mulder is adding a dimension not recognized in hierarchies such as those set up by Lamb, Gleason and Sgall - a dimension which, in fact, provides a basis for a simpler,² yet at least as adequate description. Mulder's two-dimensional hierarchy distinguishes between what one could call "levels of abstraction" and "levels of complexity" - two levels which are mixed in the setting up of the strata in Stratificational Grammar. Mulder represents his own 'hierarchy' in the following scheme:³

¹ Monemes are the atomic grammatical units, paradigmatically speaking, whilst words are atomic, syntagmatically speaking, i.e. 'words' are the real atomic first articulation units, since monemes, as such, do not contract syntagmatic ('ordering') relations. Similarly, in phonology, distinctive features are atomic, paradigmatically speaking, and phonemes are atomic, syntagmatically speaking, i.e. phonemes are the real atomic "second articulation" units, since distinctive features, as such, do not contract syntagmatic ('ordering') relations. of "Linguistic Sign, Word and Grammateme" in La Linguistique Vol. 1 (1971) p.98. Monemes, in grammar, are comparable with distinctive features in phonology.

² Mulder's criteria for evaluating linguistic theories are consistency, adequacy and simplicity. cf Sets and Relations in Phonology, p.20.

³ Taken from a set of lecture notes for use in class.

| | | | | |
|-----------|---------------------------------|-------------------------|------------------------|--------------------------------------|
| SEMANTICS | denotation: | of monemes | of grammemes and words | of syntagms |
| GRAMMAR | signs (expression and content): | monemes | grammemes or words | syntagms |
| | allomorphs: | of monemes | of grammemes or words | of syntagms |
| PHONOLOGY | phonological forms: | distinctive features | phonemes | instances of distributional units |
| | allophones: | of distinctive features | of phonemes | of instances of distributional units |
| PHONETICS | phonetic forms: | phonetic features | phonetic segments | sequences of phonetic segments |

Another dimension is added if one wants to go to the sentence level, but that does not concern us here. It is enough to say that, for both Mulder and Hervey, sentences, too, are SIGNS, and therefore have denotation.

Second articulation units, viewed paradigmatically, are viewed in terms of class-membership and class composition, and in terms of an analysis into distinctive features. Syntagmatically, they are viewed in terms of contrastive function and the distributional patterns of phonemes in a 'distributional unit'.¹ Once these aspects of 'form'

¹See p. 262, note 3, above.

have been accounted for in a phonological description of a language, further, repeated reference to the 'internal structure', in terms of phonemes, of a 'phonological form' is redundant in grammar, where one is concerned, not with phonological forms per se, but with phonological forms in their capacity of having a particular distinctive function, i.e. with allomorphs of signs,¹ and with classes of phonological forms in their capacity of having a particular distinctive function, i.e. with expressions of signs.¹ Mulder differs here from Martinet.²

Grammatical units (signs) are viewed syntagmatically, in terms of their external construction, i.e. as actual or potential constituents in syntax, and paradigmatically in terms of distinctive function and of their internal construction. Relationships in grammar (e.g. 'syntactical') are contracted by whole signs, not by allomorphs of signs, let alone by their phonological forms.

Certain doctrines central to de Saussure have been retained or adapted by Mulder and Hervey. Among these are "l'arbitraire du signe",³ the indissolubility, synchronically speaking, of the (mutual implication) relationship between 'expression' and 'content'⁴ and de Saussure's notion "valeur".⁵ "Distinctive function" does not mean the same for Mulder and Hervey as "valeur" does for de Saussure, but the two notions cover each other to some extent. For Mulder and Hervey, the distinctive "function" of the sign in grammar is determined on the basis of the (paradigmatic) set of signs with which it commutes, i.e. those signs to which it is opposed in equivalent contexts.⁶ Speaking in very general terms, the 'identity' ("valeur") of a sign is, as for de Saussure, determined by the total of its relationship with all

¹ See below.

² Martinet considers expressions of signs to be composed of phonemes. See p. 256 above.

³ cf. Chapter 3, p. 78 and p. 86 above.

⁴ cf. Chapter 3, p. 73 above.

⁵ cf. Chapter 3, p. 79 above.

⁶ Theory of the Linguistic Sign, p. 29.

the other signs in the linguistic system, i.e. the sign is **NEGATIVELY** defined and delimited. Owing to Mulder's development of the notions "position", "paradigmatic" and "syntagmatic",¹ however, the whole notions "valeur" and "distinctive opposition" have been made much more precise. Oppositions take place between entities mutually substitutable and affecting the meaning of the unit in which they occur. It is impracticable to attempt to delimit and determine signs in terms of each other with reference to the system as a whole, since it consists of an uncountable number of signs. Commutation as a means of establishing phonemes in terms of their distinctive oppositions is relatively simple to carry out, since the phonological system of a language consists of a finite number of around thirty phonemes at the most. Without rigorous criteria, it is more difficult in grammar to establish whether or not one is dealing with a case of true commutation. For example, can one establish a sign "bird" with distinctive function in English on the grounds of the following two examples?

(1) "That black horse is injured".

(2) "That blackbird is injured".

A change of meaning in the whole construction is involved when the form /brrd/ is substituted for the form /hors/ if all the other elements are kept constant. So it would appear that such a 'commutation' is sufficient to delimit and establish a sign "bird" in terms of its distinctive opposition with "horse" in this context."²

¹ See above.

² De Saussure gives us no further criteria for establishing signs on the basis of their distinctive oppositions. This is not necessarily an error on his part. He simply had not fully developed his theory when he died.

But, remembering that for Mulder a syntagm is a chain of "positions"¹ along which signs contract various patterns of ordering relations, we can ask: (1) whether the pattern of ordering relations contracted (the syntactic 'structure') of both syntagms is the same:² (2) whether "bird" and "horse" both occupy a single 'position' in the chain exclusively of all the other elements. In the case of (1), we can, keeping everything else constant, substitute "white", "poor", etc. for "black" and "cow", "sheep", "bird", etc. for horse to obtain sentences such as :

(3) "That | black | cow | is | injured".

(4) "That | poor | horse | is | injured".

But we can also substitute the whole combination "blackbird" for "horse", to obtain sentences such as :

(5) "That | white | blackbird | is | injured".

(6) "That | poor | blackbird | is | injured".

"Black" is a member of the substitution class involving "white", "poor", but not of that involving "cow", "sheep", "bird". In the sentence "The poor black horse is injured", there is no way of demonstrating that "black" is not in exactly the same relationship with "horse" as "poor".³

¹ cf. p. 262 above.

² Mulder has various means of approaching this problem, in terms of methodology. Space does not permit me to deal with this aspect of his work in any detail.

³ Since, on the other hand, it can be demonstrated that "black" is not in the same relationship with "horse" as it is with "bird" in "blackbird", a relationship of co-ordination between "poor" and "black" is the hypothesis that best fits the data. As long as this cannot be refuted, there is no need to actually demonstrate it. All the results of linguistic research are similarly hypothetical in nature; we would need to be omniscient to know absolutely whether or not our findings are "the truth". If they are at all scientifically valid, they will be potentially refutable in the light of new evidence, etc. Compare Sets and Relations in Phonology, pp. 5 - 6.

The number of adjectives one can have between "that" and "horse" is unlimited. But none of them will commute with "horse" as "black" (plus "bird") does in examples (5) and (6). One cannot have "That poor black is injured". More detail could be entered into, but enough has been said to show that the structure of syntagms (1) and (2) is different. In (1) "black" and "horse" occupy two different "positions" in the syntagm. In (2) "black" and "bird" occupy only one.¹ So the commutation set up in examples (1) and (2) is not valid. One can talk of a "black blackbird"² but not of a "black black-horse". On the other hand, a sign "bird" could be established on the basis of:

(8) "There | is | a | bird | at | the | window".

(9) "There | is | a | horse | at | the | window".

Here, the contexts are "equivalent".³ No structural differences can be demonstrated between these two syntagms.

Incidentally, the fact that one can talk of a "white blackbird" indicates⁴ in itself that "black" in "blackbird" cannot be synchronically identified with the sign "black" (denoting a black colour). Therefore, since we cannot attribute the normal meaning of the sign "black" to "black" in "blackbird",⁵ and since signs are not mere forms, we cannot identify two signs in "blackbird"; i.e. "blackbird" is a simple sign, not further analysable.⁶

¹ Compare p.262 above.

² i.e. as opposed to a brown (female) one or a 'white' one (another species of blackbird).

³ cf. p.265 above.

⁴ Since otherwise the proposition underlying "This is a white blackbird" would be contradictory, whereas it is, in fact, contingent.

⁵ i.e. it does not clearly denote anything else in the extralinguistic world.

⁶ i.e. it is a PSEUDO-COMPOSITE. Other such examples are: "ragged robin" (a flower name), "tallboy" (a chest of drawers). J.W.F. Mulder has dealt with the subject of "pseudo-composites" in detail in his (forthcoming) article "Pseudo-composites and Pseudo - Words - Sufficient and Necessary Criteria for Morphological Analysis" - La Linguistique 1973, 2.

THE INTERNAL STRUCTURE OF THE SIGN

The authors sum up their version of the notions "expression" and "content" as follows:¹ "... a sign is the CONJUNCTION of an EXPRESSION and a CONTENT, and .. a particular 'expression' and a particular 'content' mutually imply each other. Each of them implies a specific sign, and vice versa. Therefore, in a mathematical sense, the notions 'sign', 'expression' and 'content' are equivalent.² They represent three ways of looking at the same thing. Using the term 'sign' implies looking at the 'sign' in its totality, using 'expression' implies looking at the 'sign' from a formal angle, and using the term 'content' implies looking at the 'sign' from the side of meaning. Expression and content are each other's converse, nothing more,²". Since 'sign', 'expression' and 'content' are "equivalent", "... everything we say about one of the three can be equally said about any of the three". Mulder writes: "Accepting Martinet's double articulation pattern, but Hjelmslev's ideas of the absolute abstractness of linguistic concepts, i.e. of so-called 'entities' in language, I may then define a SIGN as a symmetrical relation"³ He states elsewhere: "It may seem strange to some readers that linguistic units they have always thought of as being ENTITIES of some kind, are presented as relations, that is, as something completely abstract."⁴ But he goes on to demonstrate how "... any classification of entities implies reducing them to relations, to pairs, usually ordered pairs."⁵ He illustrates this: "The class of all linguists would not be such a class if it just contained you, me and others, but it is such a class because it contains you as a linguist, me as a linguist, and others

¹ Theory of the Linguistic Sign, p.27.

² My underlining.

³ Sets and Relations in Phonology, p.37.

⁴ "From Sound to Denotation" in Folia Linguistica Vol.6 (1972), p.84.

⁵ ibid. p.85.

as linguists, that is, it is $\{i\} R 1$, and a linguist is $i_1 R 1$, where "i" stands for 'individual' and "1" for linguistics; "R" can be read here as 'being involved in'.

Applying these principles to the linguistic sign, Mulder and Hervey write as follows: "If we assume that, say, the different forms of the plural in English belong to one and the same sign,¹ then we must accept that the so-called 'phonological' form of a sign is actually a CLASS of phonological forms".² But to be contained in the expression of a sign, a phonological form must stand in a relationship (R) with that sign's distinctive function.³ As in the case of members of the class of all linguists, phonological forms, per se, are not members of a sign's expression class; the latter comprises only phonological forms in their capacity of having distinctive function in grammar, i.e. of standing in a relationship with a sign's distinctive function so that, when they occur in relation to other such units, they represent the sign to which they belong. The authors state: "Members "p" of a set $\{p\}$ which constitutes the domain of $\{p\} R s$ stand in a relation to "s", which simply means that they are GRAMMATICALLY differential. As such, i.e. as a "p", however, they are just phonological forms or features, i.e. they are only PHONOLOGICALLY differential".⁴

An expression of a sign can thus be formulated: $\{p\} R s$, and the corresponding content is its converse, i.e. $s \check{R} \{p\}$. This gives rise to a whole chain of definitions, which can be formulated as follows:

¹A perfectly reasonable assumption. The other alternative is to regard them as a separate synonymic signs. But the fact that these forms occur in complementary distribution, e.g. /s/ after voiceless consonants, /z/ after vowels, etc., would seem to indicate that there must be some closer connection between them.

²Theory of the Linguistic Sign, pp.28-9. My underlining.

³See above.

⁴Theory of the Linguistic Sign, p.34. My underlining.

| | |
|-------------------|---|
| <u>ALLOMORPHS</u> | $p^1 R s \cup p^2 R s \cup p^3 R s \cup \dots \cup p^n R s.$ (i.e. individual members of the class $\{p\} R s$). |
| <u>PHONEME</u> | $\{f\} R d.$ (i.e. a class of <u>phonetic forms</u> " $\{f\}$ " <u>in its capacity of having a distinctive function</u> (" d " in phonology). ¹ |
| <u>ALLOPHONES</u> | $f^1 R d \cup f^2 R d \cup f^3 R d \cup \dots \cup f^n R d.$ (i.e. individual members of the class $\{f\} R d$.) |

\cup = the relationship "and/or" - the set-theoretical sign for "Union". Where there is an overlap between the phonological forms contained in the expressions of two signs, those signs are said to have phonological forms in common, i.e. HOMOMORPHS. An example is English "plural" and "genitive", which both have the forms /s/, /z/, /iz/ in common. "Plural", however, has other phonological forms, such as /en/, and so the classes of phonological forms corresponding to these two signs respectively are only partially overlapping. Homonyms, such as /her/ ("hair") and /her/ ("hare") have all their phonological features in common, i.e. all their phonological forms are in a relation of homomorphy across the sets.²

Similarly, when there is an overlap between the phonetic forms³ corresponding to two phonemes, those phonemes are said to have homophones.⁴

Definitions relevant to the above formulae are as follows:

(A) SIGN - "The conjunction of a particular 'expression' and a

¹"f" stands for "phonetic form" - a primitive term taken from phonetics, thus providing a link between the abstract relationships encountered on the level of "langue" and the realm of physical sound, that is of realization of signs in speech; "d" stands for "distinctive function in phonology". The difference between "d" and "s" is that "d" is phonologically differential, whereas "s" is grammatically differential.

²The most common homonyms are signs with an expression class of only one member.

³As in the case of phonological forms in expression classes of signs, phonetic forms do not belong to phonemes simply per se, but in their capacity to manifest the distinctive function of the phoneme to which they belong.

⁴These details are summarized from Chapter 3 of Theory of the Linguistic Sign.

particular 'content',¹ i.e. the conjunction of "a specific CLASS of phonological forms { p } IN ITS CAPACITY OF having a specific function "s" in the grammatical system in question"² and "the function "s" of { p } ".

- (B) ALLOMORPH - "A specific phonological form "p" IN ITS CAPACITY of having that specific function "s"."¹
- (C) PHONEME - "A specific CLASS of phonetic forms { f } IN ITS CAPACITY OF having a specific function "d" in the phonological system in question".¹
- (D) ALLOPHONE - "A specific phonetic form "f" IN ITS CAPACITY OF having such a specific function "d"."¹

The most salient point about this particular sign theory is that it is completely non-mentalistic without resorting to "behaviourism" or pretending that 'meaning' is not relevant to linguistic theory.

Mulder and Hervey have eradicated all forms of dependence on psychology from their approach to linguistics³, and have shown, particularly that Saussurian principles of sign theory can stand without such notions as "image acoustique" or "CONCEPT". They have represented signs, and their components, as pure logical values without feeling the need, as Hjelmslev did, to abandon de Saussure's formulation of a strict one-to-one relationship between expression and content elements.⁴ By safeguarding de Saussure's essential and central doctrines, such as "l'arbitraire du signe", they have achieved what de Saussure himself might have begun to accomplish but for his early death. "Langue" as a system of distinctive oppositions between signs

¹ Theory of the Linguistic Sign, p.35.

² ibid. p.35 (footnote).

³ Unlike Chomsky, who has gone to the other extreme and made linguistics a subbranch of psychology.

⁴ cf. Chapter 4 above.

delimited entirely in terms of each other can stand without additional psychological or sociological 'props'.¹ The "functional principle",² formulated by Mulder as a result of his first axiom, together with his second axiom concerning the composition of semiotic systems,³ have been the sole basis necessary in order to maintain this basic Saussurian view of language.

The idea of the expression of the sign as a class of forms in relation to distinctive function constitutes one of the most significant advances made by Mulder and Hervey. Firstly, it enables them to account for "overlap" between the phonological features contained in the forms of signs without abandoning the one-to-one relationship which alone makes clear delimitation of signs, and establishing of 'sign identity' possible. Without this indissoluble relationship, as the authors point out,⁴ i.e. if identity of signs were established on the grounds either of form alone or of meaning alone, severe problems result. In the first case (form alone) all homonymic signs would be identical signs, and there would be as many signs as there are phonological forms, e.g. multitudes of signs "plural" in German; in the second case (meaning alone) all synonyms

¹ Compare Chapter 3, p.83 above.

² i.e. "Nothing can be functional unless it is - in equivalent contexts - opposed to, i.e. distinctive, in respect to, something else, or to the absence of any member of the same class. Non-functional elements are not regarded as part of the system", - based on the axiom: "All elements in semiotic sets are functional" - Sets and Relations in Phonology, p.10

³ cf. p.257 above.

⁴ Theory of the Linguistic Sign, p.26

would be identical signs.¹ Relating phonological forms in classes to particular distinctive functions² ensures that the corresponding number of discrete entities are set up without confusion. One simply needs to ask: "Is a distinctive opposition (i.e. between whole signs) involved?" Thus, as mentioned above,³ the signs "bird" and "horse" can be set up as discrete entities on the grounds of their distinctive opposition in 'equivalent' contexts such as:

"There is a — at the window." "Fellow" and "bloke" can be set up as separate signs on the same grounds; like "bird" and "horse", they are members of the class of mutually substitutable signs⁴ which can occur in the "position"⁵ marked by "—" in the above syntagm. Although, as synonyms, being denotationally identical,⁶ they have, by virtue of their mutual substitutability as members of the same paradigm in equivalent contexts, different distinctive functions. For Mulder

1. The same type of problem occurs in semantic theories which allow for polysemy (Compare Chapter 3, pp.91-2 - Bally, Burger). If a one-to-many relationship is allowed between expression and content, there is no criterion for establishing homonymy and synonymy. "Hair" and "hare" would be simply one sign with at least two distinct 'meanings', and "fellow" and "bloke" would be alternative 'expressions' for the same 'content' instead of individual signs in their own right, despite the fact that the English language gives us no evidence to support any particularly close connection between them. Contrast the case of the verb "to go", where definite rules can be laid down to illustrate the distribution of its various forms in relation to each other, e.g. "went" (past tense) etc. S. Ullman claims (The Principles of Semantics, p. 76 ff) that de Saussure would have developed his theory so as to include polysemy had he not died before doing so, but if he had done so he would have been involved in the difficulties mentioned above. But so deep seems his belief in the indissolubility of the one-to-one "signifiant"/signifié" relationship that it is highly doubtful that he would have followed the line of development suggested by Ullman.

2. Since every sign in the whole system only 'exists' by virtue of its distinctive oppositions with other signs in the same system, every sign will have its own particular "distinctive function"; no two signs can possibly therefore be identical as to distinctive function; two signs may, however, be identical as to semantic features (if they are synonyms).

3. cf. p. 268 above.

4. i.e. members of the same 'paradigm'.

5. for Mulder's definition of "position" see above and Sets and Relations in Phonology, p.71. "Position" for Mulder does not mean "sequential order".

6. This can only be established by semantic criteria.

and Hervey, "function" and "denotation" do not stand in the same dependency relationship as "valeur" and "signification" in de Saussure's theory.¹

If, on the other hand, candidates for the status of "sign" do not mutually substitute for each other in equivalent contexts and are denotationally identical, they do not enter into a relationship of distinctive opposition, and are therefore conditioned variants of the same sign, e.g. the forms /ai/ and /mRi/. These forms, allomorphs of the sign "first person", occur, as is normal for 'allomorphs' of the same sign, in COMPLEMENTARY DISTRIBUTION. Occasionally, 'free variance' occurs between forms which are normally in complementary distribution, as in the construction: "It is I" and "It is me".

The idea of the 'expression' as containing a class of forms also solves problems concerning the "signs zero".² Under the Saussurian definition of 'sign',³ a 'sign' with no 'expression' is inconceivable. Yet de Saussure's followers realized very early that distinctive oppositions 'exist' which are not always expressed in terms of explicit phonological forms. Under Mulder's theory, what de Saussure's followers called "signes zero" are always allomorphs (conditioned variants with regard to form) of signs which also have other allomorphs realizable in terms of speech sounds.⁴ So no case can arise of a 'sign' having only 'zero' in its 'expression'.

Martinet had long been aware that phonological forms in the

¹ cf. Chapter 3, p.76

² cf. Chapter 3, p.94ff above

³ cf. Chapter 3, p.73 above.

⁴ e.g. "sheep" (plural) as opposed to "sheep" (singular). "Zero" in this case is simply one of the allomorphs of the sign "plural" in English, which has other variants realizable in terms of speech sound, e.g. /s/.

expressions of signs do not need to be linear.¹ But the 'freedom' inherent in this discovery led him into difficulties with regard to his notion "amalgam";² thus, according to him, the signs "a" and "le" in French become "amalgamated" with regard to their expressions in certain contexts. The result of this "amalgamation" is the phonological form /o/ ("au", as in "il va au marche"). However, the 'contents' of "a" and "le" are not amalgamated. The phonological form /o/ is, for Martinet, the 'expression'³ of two distinct 'contents', which could be represented as "to" and "the". He therefore maintains that the two signs "a" and "le" in French, have acquired "un signifiant unique inanalysable".⁴ But by saying this he is destroying the Saussurian entity "sign", in which expression and content, mutually implying each other, remain at all times in a strict one-to-one relationship. If the expressions of these two signs 'amalgamate', but the contents remain distinct, we have obtained a two-to-one relationship between expression and content.

Mulder also recognizes that phonological forms contained in the expressions of signs do not need to be linear. He writes: "Grammatical

¹He gives an example "la grande montagne blanche" - cf Chapter 3, p.92 above for details and discussion. The fact that grammatical entities can have a non-linear form could cause complex problems in syntactic description. So J.W.F. Mulder evolved his linguistic theory in such a way that questions of non-linearity in phonological forms contained in the expressions of signs can be adequately accounted for in morphology; once this has been done, one can be free to ignore such phenomena for the purposes of syntactical description. The phonological form of a sign, on the grammatical level, is a "simultaneous bundle of distinctive features" whether it is linear or not. Since this is so, it will make no difference to 'ordering relations' whether we continue to treat it as discontinuous, as / ..a....d....môtañ....s/ or talk about the 'words' "la", "grande", "montagne" and "blanche". Mulder writes: "A 'grammateme' can stand as much in a position - which in my terminology merely means that it is a term in a syntagmatic relation - as a 'word' can, simply because 'grammatemes' and 'words' are not different things on the sign-level". ("Linguistic Sign, Word and Grammateme" (in La Linguistique 1971(p.99). When dealing with syntax, it is easier to use 'words' as units than to use 'grammatemes'.

²Elements de Linguistique Generale, p.98.

³NB, for Martinet, 'phonological form' is the same as 'expression', but Mulder makes a sharp distinction between them, and also between 'expression' and 'allomorph'. (See above, and Sets and Relations in Phonology, p.36.)

⁴Martinet, op.cit., p.98.

entities do not necessarily have a linear or even a phonematically storable form".¹ He continues: "To be compared with 'phonemes',² are in grammar what I call 'grammatemes'. They are the minimum items that can stand in positions, i.e. that can contract ordering relations. That their phonological form may be 'non-phonematic' as in the two components of 'au', both of which are grammatemes, and even all over the place, as in the case of an allomorph of 'montagne', which is /... a ... d mōtāñ š/ in 'la grande montagne blanche' is of no importance. SYNTACTIC RELATIONS ARE RELATIONS BETWEEN 'SIGNS', NOT BETWEEN ALLOMORPHS OF SIGNS.³ An allomorph may REPRESENT³ the sign of which it is a member, but it should as a concept not be confused with the sign itself."⁴

The difficulties encountered by Martinet with his idea of 'amalgams' are avoided by Mulder through his notion 'allomorph'. For Mulder, 'amalgamation' is merely a matter of 'realization'. The two signs concerned have some (but not all) phonological features in common. The sign "le" in French has a set of allomorphs representable⁵ as: /la/, /lə/, /le/, /lez/, /o/, /oz/, and the sign "a" in French has a set of allomorphs representable⁵ as: /a/, /o/, /oz/. The forms /o/ and /oz/ are common to both signs. In a syntagm such as "Il va au

¹"Linguistic Sign, Word and Grammateme", p. 98.

²i.e. in their role as atomic syntagmatic units in phonology.

³Mulder uses italics.

⁴ibid. p.98.

⁵The phonological notation here is a matter of guesswork, as Mulder has not yet devised a system for the representation of phonemes in French. (I have used his system with regard to English everywhere in this chapter where it is relevant to do so). The allophones represented here correspond to "la", "le", "les", "les" (before vowels), "au"/"aux", "aux" (before vowels) and "à", "au"/"aux", "aux" (before vowels) respectively.

marche", the sign "a" is represented by its allomorph /o/, and so is the sign "le". These two allomorphs of different signs, i.e. the form /o/ in its capacity of having the distinctive function of "a" and the form /o/ in its capacity of having the distinctive function of "le", are 'realized' by the same phonological form, which represents both simultaneously. In syntactic description,¹ one can use, for the purpose of graphical notation, any one of the allomorphs of a sign which happens to be convenient, or, indeed, any one of its conventional spelling forms. One can do this because syntactic relations are conceived as being contracted by signs, not by single allomorphs of signs. Any single allomorph represents the sign of which it is a member,² and conventional spelling forms represent 'allomorphs' rather than 'signs'. Mulder writes: "The fact that the entities we are dealing with in syntax are signs, not allomorphs of signs, implies that we may ignore, in fact MUST ignore, their exact phonological form in any instance. For instance, there is nothing against representing in a syntactic description the phrase having the phonological form /o garso/ in French as "a le garçon",³ which is - in my opinion - an obvious advantage, especially as it permits us without difficulty to perform an immediate constituent analysis, first into "a" and "le garçon",³ and then the latter into "le" and "garçon".³ These are only a few examples of the usefulness of this, perhaps in itself difficult, type of sign-theory".⁴

1. Also, when reference is made to the inventory of signs of a language.

2. - since they are all varying forms related to the same distinctive function.

3. Mulder uses italics here.

4. "From Sound to Denotation" - Folia Linguistica 6, 1972, pp.91-92. NB for Mulder, "immediate constituent analysis" is something different from what goes under the same name in Bloomfieldian linguistics. Full details of Mulder's type of analysis and the criteria on which it is based will be given in his forthcoming work Axiomatic Syntax.

Mulder's notion "sign", on the grammatical level, enables the linguist, especially by carefully distinguishing the notions "phonological form" (of "allomorphs") and "expression", to solve many such otherwise difficult problems in a simple and consistent manner. On the semantic level, however, we are concerned with different aspects of the linguistic sign, and different relationships. Until now, we have been dealing with "distinctive function", the identity of the sign (as a paradigmeme) as determined by its distinctive oppositions with other signs in the same language system. But in semantics we are dealing with the relationship between the sign and the phenomena in the extralinguistic world to which it applies. This sort of study is useful to grammar in some respects, as we have seen previously,¹ but nevertheless independent of it: "The notions of semantics .. are applicable to the elements defined as linguistic signs, and therefore to the very signs belonging to grammar. Consequently, the scope of semantics and of grammar are partially coextensive in the object of their study, while the two disciplines remain logically distinct."² In grammar, one establishes 'signs' by asking whether or not their commutation in equivalent contexts causes a change in meaning. But in semantics, one asks: what do the signs, previously established in grammar on the basis of their "distinctive function", actually mean?

Various attempts have been made to answer that question, ever since M. Breal first focussed the attention of linguists seriously on "semantic" problems just before the time of de Saussure.³ De Saussure's influence led many to try to account for meaning in psychological terms,

¹ i.e. for the establishment of denotational identity in the case of synonyms or allomorphs. cf p.27 above.

² Functional Semantics - A Linguistic Theory with Application to Pekingese. (Oxford D.Phil. Thesis by S.G.J. Hervey), p.14.

³ Essai de Sémantique, 1897, written partly in protest against the overemphasis on form typical of Comparative Linguistics and its strictly diachronic approach to 'laws of sound change' etc.

involving such notions as "concept", or "mental association";¹ Bloomfield tried to explain it in terms of behaviourist psychology, but saw the inadequacy of his own efforts so clearly that he came eventually to declare that it was beyond the ability of the linguist to account for it satisfactorily.² Tooby, Greimas, Prieto and Mounin have tried to isolate "semantic features" by 'commutation' on an analogy with commutational analysis as used by Troubetzkoy to isolate distinctive features and phonemes on the phonological level.³ The insuperable difficulties inherent in such an approach have already been pointed out.⁴ Transformationalists have tried to account for 'meaning' in terms of 'deep structure', but satisfactory results of such an analysis are not apparent.⁵

The one approach rejected almost out of hand by structuralists is traditional, referential approach: sign a signifies object b or the idea of object b. This oversimplified approach was rightly regarded as fallacious. There would, strictly speaking, have to be as many signs in a language as there are objects and/or ideas to be denoted. Yet, in order for language to function as a communication system, it must be able to convey information about extralinguistic phenomena, and hence contract some form of relationship with extralinguistic reality. Such considerations lead Mulder and Hervey to write: "... we consider the relation of linguistic sign to information value as a relation between a linguistic element and an extra-linguistic entity."⁶ The problems inherent in traditional referential theory have to be overcome if it is possible to represent

¹ e.g. Gardiner, Ogden & Richards.

² cf. Chapter 6, p.192

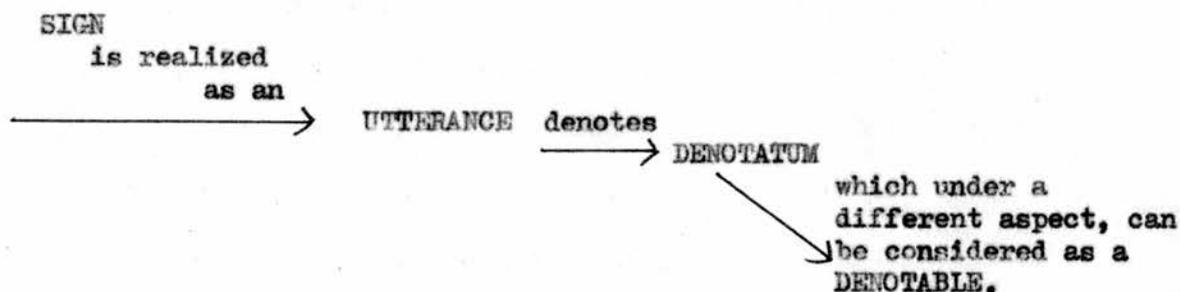
³ For Prieto, see Principes de Noologie (1964) and for Mounin see Clefs pour la Semantique (1972).

⁴ cf. Chapter 4 above.

⁵ cf. Chapter 6 above, p.192.

'meaning' in terms of 'denotation', and one of these, the factor which made it necessary for Hervey to develop a sign theory of his own, was seen first by Boethius in the middle ages.¹ Mulder and Hervey write: "If we were to say that the sign 'table' denotes a single DENOTATUM² (i.e. one empirical entity) we should doubtless be wrong, for the whole purpose of having a sign "table" in a language, it seems to us, is to be able to talk about any given table in the universe. From which it would appear that the sign "table" denotes, not a single TABLE, but a CLASS OF TABLES. This is manifestly not so,³ but rather it is the case that, every time the sign TABLE is USED (i.e. realized) it denotes a SINGLE DENOTATUM."⁴

This paradox is resolved by Mulder and Hervey⁵ in "distinguishing between the sign "table" and realizations of the sign "table". He introduces the notion "utterance" as an (abstract) MODEL for a single realization."⁶ The relationship between the sign and the extralinguistic world is then represented thus:⁷



¹ i.e. the 'problem of universals', which led to the medieval distinction "signification"/"supposition" - in rough terms, general referential meaning of the sign as opposed to its substitution for a particular item of reality in a given sentence. Cf Chapter 1, p.37 above.

² *ibid* p.38.

³ For instance, if it were so, the class of tables would be a synonym of "table". We should then be able to say: "The class of tables is flat topped" - which is absurd.

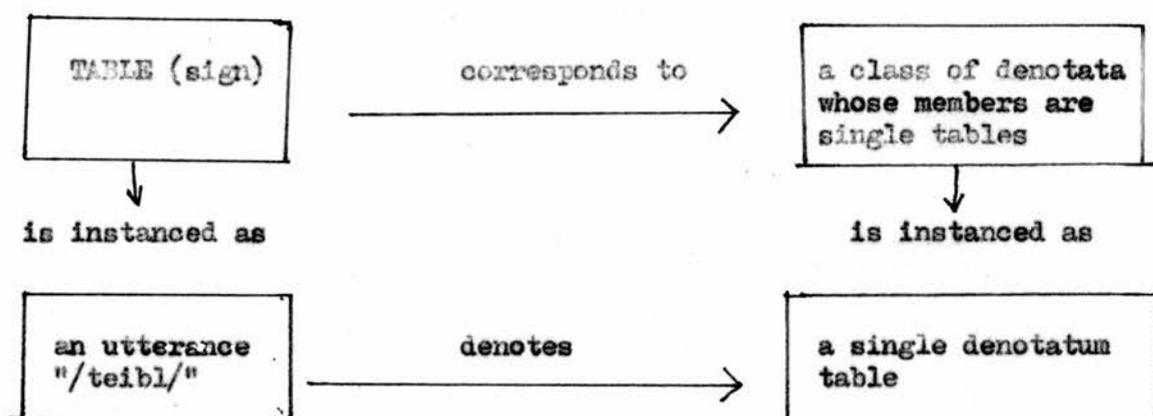
⁴ "Denotatum" is the item (extralinguistic) actually being denoted by a sign. *ibid*. p.37.

⁵ This semantic part of the theory is actually mainly Hervey's. It is first worked out in his Oxford D.Phil.thesis, Functional Semantics A Linguistic Theory with Application to Pekingese.

⁶ *ibid*. p.39.

⁷ *ibid*. p.38.

The number of single realizations of a sign being potentially infinite, the class of **UTTERANCES** of a given sign, **MODELS FOR SINGLE REALIZATIONS**, will also be potentially infinite. The sign, then, can be regarded as being a class of equivalent utterances.¹ Each single utterance can be regarded as denoting a single denotatum. "... then the equivalence - class of utterances that is the sign, will correspond to a whole class of the individual denotata of its member utterances".² The following set of relationships results:³



Utterances have (a) a **FORMAL** component ("**FORM**") "to account for the phonetic features occurring in the concrete realization for which it is a model",⁴ and (b) a **REFERENTIAL** component ("**REFERENT**") "to account for the information conveyed by the concrete realization for which it is a model."⁵ To sum up, an utterance is "a **ONE-TO-ONE RELATION BETWEEN A FORM AND A REFERENT**, accounting for the fact that no two concrete realizations that ARE empirically different may ever be assumed to have (and probably never do have) exactly the same phonetic features and to

¹ of *ibid.* p.39. "Equivalent" is used in the sense that "each utterance 'represents', as it were, the whole sign."

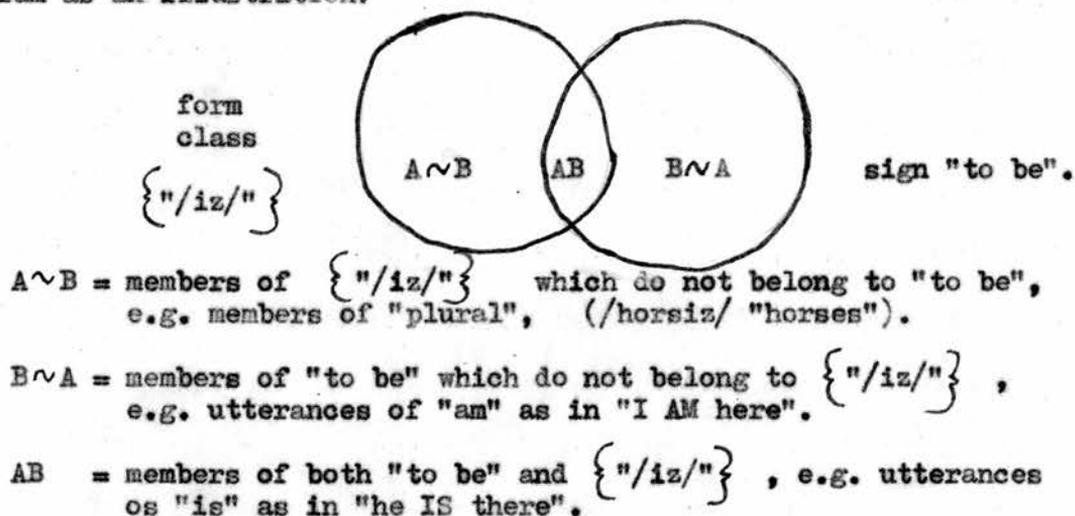
² *ibid.* p.39.

³ *ibid.* p.39.

⁴ *ibid.* p.40.

⁵ *ibid.* p.40.

convey exactly the same information."¹ Utterances can be grouped together on criteria other than equivalence with regard to a sign. For example, a particular set of phonological features can be specified, and a class formed comprising all utterances which have the features specified (a "form-class").² 'Form-classes' can then be related to signs in terms of set theory. Mulder and Hervey give the following diagram as an illustration:³



As they say,⁴ we have thus arrived at a different definition of "morph" and "allomorph", i.e. "the intersection of a form-class with a sign".⁵ The authors proceed⁶ to demonstrate that Hervey's notion "allomorph" is equivalent to that of Mulder⁷ "by virtue of having the same relation (of member to class) to SIGN".⁸ They similarly demonstrate the equivalence of Hervey's notion "sign" as a whole to that of Mulder.⁹ The difference between the two notions arises simply from the fact

¹ ibid. pp.40-1.

² ibid. p.44.

³ ibid. p.45.

⁴ Again, this part of the theory is mainly the work of Hervey.

⁵ This makes an allomorph, like the sign, also a CLASS OF UTTERANCES.

⁶ ibid. p.46.

⁷ cf. p.272 above.

⁸ ibid. p.46.

⁹ ibid. p.47.

that the notion "utterance" is redundant in grammar. As previously stated,¹ we first ask the question: "Is there a difference in meaning?" The answer gives us a way of establishing distinctive oppositions for the purpose of delimiting signs in grammar. This is an easier question to answer than: "What is the meaning?" On the semantic level, when we start asking that question, we need the notion "utterance" "in order to give access to denotation".² The difference of approach on the two levels is one of the reasons why "axiomatic functionalists" do not feel the need, like Harris, for example, to exclude considerations of 'meaning' from morphological or syntactic analysis. In order to set entities up on the grammatical level, it is only necessary to demonstrate that they are meaningful signs, i.e. that they have denotation, not to demonstrate what their meaning is. There are no entities on the grammatical level which are "exceptions" to this criterion. Many linguists are unwilling to accept entities such as "and", "or", etc. as being meaningful. But in order to demonstrate that they have denotation, one only has to commute a pair of sentences like "John and Peter will come to dinner today" and "John or Peter will come to dinner today". If one then asks a harrassed housewife trying to cater for an exact number of guests at dinner whether or not it makes any difference to her which of those sentences is realized in her presence, one finds out emphatically that the features of denotational meaning possessed by "and" and by "or" differ considerably!³

¹ cf. p. 279_{above}.

² *ibid.* p.46.

³ Confusion arises if linguists or philosophers fail to see that the 'conjunction' (or rather 'andness') denoted is not a 'conjunction' between terms (i.e. linguistic entities) but between the denotata of these terms. This confusion has led people to assign to such words as 'and', etc., merely a grammatical meaning.

On the level of semantics, Hervey has developed criteria for ascertaining the denotational meaning and¹ semantic features of signs. Space does not permit me to go into detail about them. Sign identity, and various relationships between signs, can be precisely ascertained via the notion "denotation class". When a class of denotata² corresponds with a set of utterances co-extensive with a sign,³ that sign can be said to GOVERN that denotation class. Hervey continues:⁴ ".. governing this denotation class is .. the semantic property⁵ of the sign in question. The members of denotation classes are denotata,⁵ and denotata can be considered on another level as DENOTABLES,⁶ to which outside criteria may be applied. Therefore we can set up semantic relations between signs by asking ourselves whether one and the same denotable may ever be a denotatum belonging to the denotation classes of all those signs ...".⁷ Thus, for example, when there is 'complete overlap'⁸ between the denotation classes of, say, signs x and y, they are SYNONYMS.⁹

A far more important relationship, theoretically speaking, is that of "hyperonym"/"hyponym".¹⁰ "When the denotation class of the sign x properly includes the denotation class of the sign y, we say

1. All the infinite shades of meaning acquired by a sign in use in speech, and all the personal associations of speakers, i.e. what the authors call "connotational" meaning, is assigned, like all the infinite gradations of phonetic sound in pronunciation, to "parole" ("speech"). They do not lend themselves to treatment in an exact science, and so it is necessary, in order to deal in any way "consistently" with 'meaning', to isolate those ("denotational") aspects of it which do.

2. cf. p.282 above.

3. ibid. p.49

4. ibid. p.49

5. My underlining.

6. cf. p.281 above.

7. ibid. p.49

8. cf. ibid. pp.49-50.

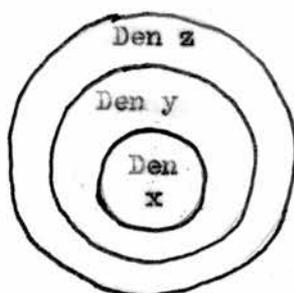
9. ibid. p. 50 The same test can also be applied to classes of utterances which are candidates for ALLOMORPHS, to establish "semantic identity". cf. p. 275 above.

10. Hervey was inspired in his use of these terms by J. Lyons (Structural Semantics) who also sought to base the semantic features of his linguistic entities on such relationships within the linguistic system.

that the sign *x* is a HYPERONYM of the sign *y*, and that the sign *y*, in turn, is a HYPONYM of the sign *x*."¹ These notions are useful for setting up semantic features for signs. Earlier, linguists such as Togeby, Greimas and Prieto had tried to set up such features on the basis of commutation. But, since such commutation takes place between an infinite number of entities,² the commutational possibilities are so one can never arrive at a precise set of features for any given sign, in view of the infinite number of features thus isolated.

Hervey avoids this difficulty by looking for "direct hyperonyms",³ i.e. "a hyperonym *z* of the sign *x*, such that, in the language in question, there is no sign *y* which is both a hyponym of the sign *z* and a hyperonym of the sign *x*." The diagram below represents three denotation classes of signs in hyperonym/hyponym relationships:

4



The denotation class of sign *x* is properly included in that of sign *y*, which is in turn included in that of sign *z*. Since the denotation class of sign *x* is properly included in that of sign *y*, and since 'inclusion' is a transitive relation, it would be redundant, given the hyperonym/hyponym relationship of *z* and *y*, to say that the denotation class of sign *x* is included also in that of sign *z*. The same applies to any further hyperonyms of *z* which might exist, and to

¹ *ibid.* p.49.

² *cf.* Chapter 4 above - criticism of Togeby's ideas on semantics.

³ *ibid.* p.51.

⁴ *ibid.* p.51.

any further hyperonyms of hyperonyms ad infinitum. Thus, if we establish the semantic properties of a sign by ascertaining with which signs in the system it is in a relationship of direct hyponymy, any further features it may possess will follow automatically, in terms of hyperonyms of hyperonyms. A whole hierarchy of 'semantic features' could be in fact constructed in this way, if desired, but this would be redundant. No two signs could have the same complete set of direct hyperonyms without implying the same hierarchy of hyperonyms of hyperonyms. Synonyms in fact do this.¹ So by counting only the signs with the smallest denotation classes which also properly include that of the sign in question, we can evolve a set of 'semantic properties' which are sufficient to distinguish it from all other non-synonymic signs.

This constitutes a great advance over other researchers' work who have been trying to establish semantic features on the basis of commutation. It is the first successful attempt, to my knowledge, at limiting the number of semantic features obtainable.² Like Mulder, Hervey has steered clear of psychological processes in his definition of terms. No-one will deny that actual mental processes take place during acts of communication, but the nature of these is of no relevance to the linguistic system, which, being determined solely in terms of the relationships of which it consists, is self-sufficient. Therefore no investigating linguist need take them into account when producing a

¹For example, the signs "stallion" and "adult male horse" have, as far as one can ascertain in the light of the data available, the same set of direct hyperonyms: the signs "adult horse", "male horse", and "male adult equine". Therefore any further features implied by them will be the same. They are, as far as we can establish, SYNONYMS in English. (Though strictly speaking this is not true, as also 'gelding' is an adult male horse, and nevertheless not synonymous with 'stallion'. I shall, however, with Mulder and Hervey, ignore this for the sake of argument).

²i.e. in an adequate and theoretically consistent way.

linguistic description. In contrast to other previous attempts to evolve a rigorous non-mentalistic linguistic theory,¹ particularly in American linguistics,² that of Mulder and Hervey appears to have opened the way towards the achievement of that aim. Much more research, development and application of their theories to varying types of language needs to be done; it is possible that many of their findings, in the detail rather than in the basic principles of their theories, may later be refuted in the light of fresh evidence; but this does not alter the nature and extent of their achievements. One of the most basic principles upon which their work - right from the beginning - is, has been and will be founded remains despite criticism and objections, THE LINGUISTIC SIGN, in the Saussurian sense of this notion.

¹ e.g. that of Bloomfield and his behaviourist followers. cf. Chapter 6 above, p.186ff.

² In contrast, Chomsky has gone to the other extreme with his claim that linguistics is a subfield of psychology. of Chapter 6.

BIBLIOGRAPHY

- H. Aarsleff - "Leibnitz on Locke on Language"
American Philosophical Quarterly,
Vol. 1. (1964)
- "Cartesian Linguistics : history or
fantasy?".
Language Sciences, No. 17 (1971)
Indiana University,
Research Centre for the Language Sciences,
Bloomington, Indiana.
- W.P. Alston - Philosophy of Language
Foundations of Philosophy Series.
Prentice Hall. 1964.
- Aristotle - Organon - translated by G.F. Owen,
Vol. 1. Bohn's Classical Library, London.
- Rhetoric and Poetic - translated by
T. Buckley.
George Bell & Sons, London. 1878.
- A. Arnauld - The Art of Thinking - translated by J.
Dickoff & P. James.
The Library of Liberal Arts, New York.
1964. (Originally published in 1662
as La Logique ou l'Art de Penser).
- A. Artymovyc - "On the Potentiality of Language"
In: A Prague School Reader in
Linguistics - Ed. by J. Vachek.
Indiana Press, Bloomington, 1966.
Originally published in Czech in Slovo
a Slovensnost, Vol. 1. (1935)
- St. Augustine - Earlier Writings - translated by J.S.
Burleigh.
S.C.M. Library of Christian Classics.
Vol. VI - 1953.
- Lord Bacon - Works ed. B. Montagu. Vol. II
London 1825.

- C. Bally - Linguistique Générale et Linguistique Française.
Librairie Ernest Leroux.
Paris, 1932.
- "Qu'est-ce qu'un signe?" In
A Geneva School Reader in Linguistics.
Indiana Press, Bloomington. 1969.
- K. Barwick - Remmius Palaemon und die Römische Ars Grammatica.
Leipzig. 1922.
- C.E. Bazell - "The Choice of Criteria in Structural Linguistics"
Word, 10. (1954)
- "Three Misconceptions of Grammaticalness"
In: Report of the 15th Annual (1st International) Round Table Meeting on Linguistics and Language Studies.
Ed. C.I.J.M. Stuart.
Monograph Series on Languages and Linguistics, No. 17.
Georgetown University Press. 1964.
- "On the Problem of the Morpheme"
In: Readings in Linguistics. Vol. II.
Ed. by E.H. Hamp et al.,
Chicago University Press, 1966.
Originally published in
Archivum Linguisticum Vol. I (1949)
- "The Correspondence Fallacy in Structural Linguistics"
In: Readings in Linguistics. Vol. II
Ed. by E.H. Hamp, et al.,
Chicago University Press, 1966.
Originally published in
Studies by members of the English Department, Istanbul University, 3.(1952)
- "The Sememe"
In: Readings in Linguistics Vol. II.
Ed. by E.H. Hamp et al.,
University of Chicago Press, 1966.
Originally published in Litera (Istanbul) Vol. I. (1954)

- J. Beattie - The Theory of Language (1788)
English Linguistics 1500-1800 No.88.
The Scholar Press. 1968.
- M. Beauzee - Grammaire Générale.
Paris. 1767.
- E. Benveniste - "La Nature du Signe Linguistique".
Acta Linguistica. Vol.I. (1939)
- "F. de Saussure après un demi-siècle."
Cahiers Ferdinand de Saussure. Vol.20
(1963).
- Problèmes de Linguistique Générale
Bibliothèque des Sciences Humaines.
Gallimard, Paris. 1966.
- G. Berkeley - The Principles of Human Knowledge
Ed. by T.E. Jessop.
London & Hull. 1937.
- L. Bloomfield - "A Set of Postulates for the Science of
Language"
Language. Vol.2. (1926).
- Language
London, 1935.
(First published in U.S.A. 1933).
- "Ferdinand de Saussure, Cours de
Linguistique Générale, 2nd Edition.
Paris, 1922. A Review"
The Modern Language Journal.
- T. Blundeville - The Art of Logike (1599)
English Linguistics, 1500-1800 No.23
The Scholar Press. 1967.
- F. Boas - General Anthropology
(Section on Language)
Boston, 1938.

- I.M. Bochenski - Petri Hispani Summulae Logicales.
(Marietti 1947)
- Ancient Formal Logic.
Studies in logic and the foundations of
mathematics - North Holland - 1951.
- P. Boehner - Mediaeval Logic - an Outline of its
Development from 1250-1400
Manchester University Press. 1952.
- W. Borgeaud - "De la Nature du Signe"
W. Brocker Acta Linguistica III (1942)
J. Lohmann
- E.E. Brandon - R. Estienne et le Dictionnaire Francais
au seizième siecle.
Geneva 1967.
- M. Breal - Essai de Sémantique
Paris. 1897.
- H.E. Brekle - "Semiotik und linguistische Semantik
in Port-Royale".
Indogermanische Forschungen, Vol.69
1964-5.
- R.L. Brown - W. von Humboldt's Conception of
Linguistic Relativity.
Janua Linguarum Series Minor. No.65
Mouton, The Hague, 1967.
- T.G. Browne - Hermes Unmasked (1795)
English Linguistics 1500-1800 No.201
The Scholar Press. 1969.
- Le Pere Buffier - First Truths -(translated from the
French).
London. 1780. (First published in
French 1724).
- K. Buhler - "Die Axiomatik der Sprachwissenschaften"
Kantstudien, Vol.38 (1933)

- A. Burger - "Significations et Valeur du Suffixe Verbal Francais "e" ".
Cahiers Ferdinand de Saussure. Vol.18 (1961).
- "Essai d'Analyse d'un Systeme de Valeurs".
Cahiers Ferdinand de Saussure. Vol.19 (1962).
- C.L. Bursill-Hall - Speculative Grammars of the Middle Ages.
Approaches to Semiotics, No.11.
Mouton, The Hague, 1971.
- E. Buyssens - "La Nature du Signe Linguistique"
Acta Linguistica. Vol.2. (1940-1) p.83ff
- "Les six Linguistiques de F. de Saussure".
Revue des Langues Vivantes. 1942, Nos. I and II.
- "Mise au Point de quelques Notions Fondamentales de la Phonologie."
Cahiers Ferdinand de Saussure. Vol.8.(1949)
- "Dogme ou libre examen?"
Cahiers Ferdinand de Saussure, Vol.10 (1952).
- La Communication et l'Articulation Linguistique.
Universite Libre de Bruxelles.
- Travaux de la Faculte de Philosophie et de Lettres. Vol.XXXI 1967.
- R. Carnap - Logical Syntax of Language.
London. 1937.
- Introduction to Semantics and Formalisation of Logic.
Harvard University Press, Cambridge, Massachusetts. 1959.
- E. Cassirer - The Philosophy of Symbolic Forms. Vol.I. (Language)*
Translated by Ralph Mannheim.
Yale University Press. 1953.

- W.J. Chase - The ARS MINOR of Donatus.
University of Wisconsin Studies in the
social sciences and history. No. 2. 1926.
- N. Chomsky - Syntactic Structures
Janua Linguarum, Series Minor, No. 4
Mouton, The Hague, 1971.
(First published 1954).
- Aspects of the Theory of Syntax
The M.I.T. Press, Cambridge,
Massachusetts, 1965.
- Cartesian Linguistics.
Harper & Low, London and New York, 1966.
- "De Quelques Constants de la Theorie
Linguistique".
Collection Diogene, Numero Speciale
51, p. 14ff.
Gallimard, Paris, 1966.
- "Some Observations on the Problems of
Semantic Analysis in Natural Languages".
In : Sign: Language: Culture
Ed. by A.J. Greimas et al.
Janua Linguarum, Series Maior, No. 1.
Mouton, The Hague, 1970.
- Language and Mind
Harcourt Brace, Jovanovitch Inc.,
New York, 1972.
- Studies on Semantics in Generative
Grammar;
Janua Linguarum, Series Minor, No. 107
Mouton, The Hague, 1972.
- E.B. Abbe de Condillac - Oeuvres Philosophiques, ed. C.G. le Roy
Vol. 1.
Corpus General des Philosophes Francais;
Auteurs Modernes, Vol. 33 Paris 1947.
- W.A. Cook - Introduction to Tagmemic Analysis
Transatlantic Series in Linguistics.
Holt, Rinehart & Winston, Inc., New
York, 1969.

- H. Dahlmann - Varro und die Hellenistische Sprachtheorie.
Berlin, 1964.
- J. Derrida - "Sémiologie et Grammatologie"
In: Essays in Semiotics.
Ed. by J. Kristeva, J. Rey-
Debove,
D.J. Umber.
Mouton, The Hague, 1971.
- R. Descartes - Oeuvres. Vol. I.
Chefs - d'Oeuvres Philosophiques
Paris, 1940
- F.P. Dinneen - An Introduction to General
Linguistics.
Holt, Rinehart & Winston Inc.
New York, 1967.
- E. Durkheim - Les Règles de la Méthode
Sociologique.
Presses Universitaires de
France.
Paris. 1947. (2nd Edition)
- N. Ege - "Le Signe Linguistique est
Arbitraire".
In: Recherches Structurales
du Cercle Linguistique de
Copenhague,
Vol. 5.
Copenhagen. 1949.
- R. Engler - "Théorie et Critique d'un
Principe
Saussurien: L'Arbitraire du
Signe."
Cahiers Ferdinand de Saussure.
Vol. 19,
(1962)
- "Compléments a l'Arbitraire"
Cahiers Ferdinand de Saussure,
Vol. 21
(1964)
- E.A. Esper - Mentalism and Objectivism in
Linguistics
Foundations of Linguistics
Series No. 1.
Elsevier, New York, 1968.
- H. Estienne - La Précellence du Langage
Francois
ed. E. Huguet.
Paris 1896.

- J.R. Firth - "Modes of Meaning".
In: Papers in Linguistics
Oxford University Press, 1957.
- E. Fisscher-Jorgensen - "Review of N.S. Troubetzkoy -
Grundzüge der Phonologie".
Bulletin du Cercle Linguistique de
Copenhagen, Vol. VI. (1940).
- M. Fowler - "Review of K. Togeby - Structure
Immanente de la Langue Francaise"
Language. Vol. 29 (1953)
- K. Freeman - The Pre-Socratic Philosophers
Blackwell, Oxford. 1946.
- Ancilla to the Pre-Socratic Philosophers
Blackwell, Oxford. 1948.
- H. Frei - "Qu'est-ce qu'un Dictionnaire de
Phrases?"
Cahiers Ferdinand de Saussure. Vol. 1.
(1941)
- "Ramification des Signes dans la Mémoire"
Cahiers Ferdinand de Saussure. Vol. 2.
(1942)
- "Saussure contre Saussure?"
Cahiers Ferdinand de Saussure Vol. 9.
(1950)
- "Langue, Parole et Différenciation"
In: A Geneva School Reader in
Linguistics.
Indiana Press, Bloomington. 1969.
- A.H. Gardiner - The Theory of Speech and Language
Oxford (Clarendon Press) 1932.

- H.A. Gleason, Jr. - "The Organization of Language - a Stratificational View".
In: Report of the 15th Annual (1st International) Round Table Meeting on Linguistics and Language Studies.
Ed. C.I.J.M. Stuart.
Monograph Series on Languages and Linguistics No.17.
Georgetown University Press, 1964.
- R. Godel - "Homonymie et Identité".
Cahiers Ferdinand de Saussure Vol.7.
(1948).
- "La Question des Signes Zéro".
Cahiers Ferdinand de Saussure Vol.11.
(1953).
- "De la Théorie du Signe aux Termes du Système".
Cahiers Ferdinand de Saussure Vol.22.
(1966).
- (Ed.) A Geneva School Reader in Linguistics.
Indiana Press, Bloomington, 1969.
- Les Sources Manuscrites du Cours de Linguistique Générale.
Droz. Geneve. 1969. (2nd Edition).
- A.J. Greimas - "Sémiotique, Sémiotique et Sémiologie".
In: Sign:Language:Culture.
Ed. A.J. Greimas et al.
Janua Linguarum Series Maior No.1
Mouton, The Hague, 1970.
- K. Gunderson - "Descartes, La Mettrie, Language and Machines".
Philosophy Vol.39. (1964).
- W. Haas - "On Defining Linguistic Units."
Transactions of the Philological Society (1954).
- "Linguistic Structures".
Word Vol.16 (1960).

- G. Harnois - Les Théories du Langage en France de 1660 - 1821.
Paris.
- R. Harre - The Principles of Scientific Thinking
Macmillan, London, 1970.
- J. Harris - Hermes, or a Philosophical Enquiry concerning Universal Grammar.
London, 1757.
- Z.S. Harris - "Morpheme Alternants in Linguistic Analysis".
Language, Vol.18 (1942)
- Methods in Structural Linguistics.
University of Chicago Press, 1951.
- D. Hartley - Observations on Man, his Duty and his Expectations. Vol. 1.
London, 1749.
- J.G. Herder - "Über die Verschiedenheit der menschlichen Sprache."
In: Mensch und Geschichte: sein Werk im Grundriss. ed. W.A. Koch.
Stuttgart. 1957.
- S.G.J. Hervey - Functional Semantics. A Linguistic Theory with application to Pekingese.
Oxford. D. Phil. thesis. 1970.
- "Notions in the Manipulation of Non-denotational Speech".
La Linguistique, 1971.
- L. Hjelmslev - "La Méthode Immanente en Linguistique".
(Report of a Paper given to the Cercle Linguistique de Copenhague).
Bulletin du Cercle Linguistique de Copenhague, Vol.II (1935)
- "Rapports entre Forme et Substance Linguistique."
(Report of papers presented to the Cercle Linguistique de Copenhague).
Bulletin du Cercle Linguistique de Copenhague. Vol.IV. (1937)

- L. Hjelmslev - "Langue et Parole"
Cahiers Ferdinand de Saussure Vol. II.
(1942)
- "Structural Analysis of Language".
Studia Linguistica. Vol.I. (1947)
- "La Stratification du Langage".
Word. Vol.X. (1954)
- Prolegomena to a Theory of Language.
Revised Edition. Translated by F.J.
Whitfield.
Madison, 1963 (First published
Copenhagen, 1943)
- Language.
University of Wisconsin Press.
Madison.
Milwaukee and London. 1970.
(First published (in Danish) 1963)
- T. Hobbes - Leviathan, ed. M. Oakeshott.
Blackwell, Oxford. 1946.
- C.F. Hockett - A Course in Modern Linguistics (8th
edition).
New York. 1965.
- The Holy Bible
(Revised Standard Version). Translated
1611 and revised 1952.
London. (Collins) 1952.
- R. Jakobson - "Die Arbeit der sogenannten Prager
Schule."
Bulletin du Cercle Linguistique de
Copenhagen, Vol.III
Copenhagen. 1936.
- "Linguistic Glosses to Goldstein's
'Wortbegriff' ".
In: The Selected Writings of Roman
Jakobson, Vol.II (Word and Language)
Mouton, The Hague. 1971.
Originally published in
Journal of Individual Psychology. Vol.15
(1959).
- "Zeichen und System der Sprache"
In: The Selected Writings of Roman
Jakobson, Vol.II. (Word and Language)
Mouton, The Hague, 1971. (cont'd. over)

R. Jakobson (cont'd.)

Originally published in
Schriften zur Phonetik Sprachwissen-
schaft und Kommunikationsforschung.
Berlin, 1962.
(from a lecture given in 1959).

- "Boas' view of Grammatical Meaning"
(translated into French by N. Ruwet as
"La Notion de Signification
Grammaticale selon Boas")
In: Essais de Linguistique Générale.
Editions de Minuit, Paris, 1963.
- "Visual and Auditory Signs"
In: The Selected Writings of Roman
Jakobson, Vol.II (Word and Language)
Mouton, The Hague, 1971.
Originally published in
Phonetika XI (1964)
- "A la Recherche de l'Essence de Langage"
Collection Diogène, Numero Speciale 51.
Editions Gallimard, Paris, 1966.
- "Signe Zero"
In: Readings in Linguistics" Vol.II
Ed. E.H. Hamp, et al.
University of Chicago Press, 1966.
Originally published in
Mélanges de Linguistique offerts a
Ch. Bally 1939.
- "The Relation between Auditory and
Visual Signs".
In: The Selected Writings of Roman
Jakobson, Vol.II (Word and Language)
Mouton, The Hague, 1971.
Originally published in
Proceedings of A.F.C.R.L. Symposium for
the Perception of Speech and Visual
Form (1967).
- "Language in Relation to other
Communication Systems"
In: The Selected Writings of Roman
Jakobson, Vol.II (Word and Language)
Mouton, The Hague, 1971.
Originally published in
Reports of the International Symposium
'Language in Society and in Technique'
(1968).

- O. Jespersen - Comte Rendu du Cours de Linguistique Générale
In: Linguistica: Selected Papers in English, French and German by O. Jespersen.
Copenhagen & London (Allen & Unwin) 1933.
- "Energetik der Sprache".
In: Linguistica: Selected Papers in English, French and German by O. Jespersen.
Copenhagen & London (Allen & Unwin) 1933.
- Language, its Nature, Development and Origin
Allen & Unwin.
London, 1964 (First published 1922)
- S. Johansen - "Glossematics and Logistics".
Acta Linguistica VI (1950-1)
- A.B. Johnson - A Treatise on Language - ed. D. Rynin.
New York 1968 (Originally published 1836)
- S. Karcevsky - "Du dualisme asymétrique du Signe Linguistique"
In: Mélanges Linguistiques dédiés au Premier Congrès des Philologues Slaves.
Travaux du Cercle Linguistique de Prague, No.1.
- J.J. Katz and J.A. Fodor - "Structure of a Semantic Theory"
Language 39 (1963)
- J.M. Korinek - "Laut und Wortbedeutung"
In: A Prague School Reader in Linguistics
Ed. by J. Vachek, originally published in Travaux du Cercle Linguistique de Prague, No.8. (1939).
- L. Kukenheim - Esquisse Historique de la Linguistique Française et de ses Rapports avec la Linguistique Générale.
Leiden. 1962.

- J. Kurylowicz - "Dérivation Lexicale et Dérivation Syntaxique"
In: Readings in Linguistics III
Ed. E.H. Hamp et al.
University of Chicago Press, 1966.
Originally published in
Bulletin de la Société de Linguistique de Paris Vol 37 (1936)
- "Linguistique et Théorie du Signe"
In: Readings in Linguistics II
Ed. by E.H. Hamp et al.
University of Chicago Press, 1966.
Originally published in Journal de Psychologie Vol.42 (1949) p.121ff
- "La position linguistique du nom propre"
In: Readings in Linguistics II
Ed. by E.H. Hamp et al.
University of Chicago Press, 1966.
Originally published in
Esquisses Linguistiques (1960) p.182ff
- R.G. Lakoff - Deep and Surface Grammar
Reproduction by the Indiana University Linguistics Club, 1968.
- Is Deep Structure Necessary?
Reproduction by the Indiana University Linguistics Club, 1968.
- "The Arbitrary Basis of Transformational Grammar."
Language Vol.48 No.1. (1972) p.76ff
- M. Lamb - Outline of Stratificational Grammar
Georgetown University Press, 1966.
- B. Lamy - L'Art de Parler.
Amsterdam 1699 (First published - 1676)
- C. Lancelot & A. Arnauld - Grammaire Générale et Raisonnée
The Scholar Press. 1967. (First published 1660)
- D.T. Langendoen - The London School of Linguistics Research Monograph No.46
M.I.T. Press, Cambridge, Massachusetts, 1968.

- G. Leibnitz - Nouveaux Essais sur l'Entendement Humain.
In:
Leibnitz: Oeuvres Philosophiques
ed. P. Janet. Vol.1.
Paris 1900.
- L. Lersch - Die Sprachphilosophie der Alten. Parts I
and II.
Bonn. 1838.
- Ch.-L. Livet - La Grammaire Française et les
Grammairiens du seizième Siècle.
Paris 1859.
- J. Locke - Essay concerning Human Understanding,
Vol. II. ed. A.C. Fraser.
Oxford. Clarendon Press. 1894.
- R.E. Longacre - Grammar Discovery Procedures.
Janua Linguarum, Series Minor No.XXXIII
Mouton, The Hague, 1964.
- J. Lyons - Structural Semantics and Analysis of
part of the Vocabulary of Plato.
Publications of the Philological Society,
No.20. Blackwell, Oxford. 1969.
- Chomsky
Fontana Modern Masters
Fontana, 1970.
- "Componential Analysis and Semantic
Universals".
In: Theory of Meaning
Ed. by A. and K. Lehrer,
Prentice Hall, 1970.
- B. Malinowski - "The Problem of Meaning in Primitive
Languages".
In: Ogden and Richards: The Meaning of
Meaning.
London 1938.
- M.de Marsais - Logique et Principes de Grammaire.
Paris. 1769.

- A. Martinet - "La Double Articulation Linguistique"
In: Recherches Structurales, Travaux
du Cercle Linguistique de Copenhague,
Vol. 5. (1949).
- "Arbitraire Linguistique et Double
Articulation."
Cahiers Ferdinand de Saussure, Vol. 15
(1957) p. 105ff.
- Éléments de Linguistique Générale (6th
edition)
Collection Armand Colin No. 349
Paris, 1966.
Originally published 1960.
- "Elements of a Functional Syntax"
Word, Vol. 16 (1960) p. 1ff.
- A Functional View of Language
Clarendon Press, Oxford, 1962.
- La Linguistique Synchronique
Series: Le Linguiste No. 1.
Presses Universitaires de France,
Paris, 1968.
First published 1965.
- "Qu'est ce la morphologie?"
Cahiers Ferdinand de Saussure Vol. 26,
(1969)
- V. Mathesius - "On some problems of the Systematic
Analysis of Grammar".
A Prague School Reader in Linguistics
Indiana Press, Bloomfield, 1966.
Ed. by J. Vachek.
Originally published in
Études dédiées au quatrième congrès de
Linguistes.
Travaux du Cercle Linguistique de
Copenhague No. 6. (1936)
- T.D. de Mauro - Ludwig Wittgenstein - his place in the
development of semantics.
Foundations of Language, Supplementary
Series, Vol. 3.
Dordrecht, Holland, 1967.

- D. McCawley - "The Role of Semantics in a Grammar"
In: Universals of Language
Ed. by E. Bach and R.T. Harms.
Holt, Rinehart and Winston, 1968.
- A. Meillet - Linguistique Historique et Linguistique
Generale.
Vols. I & II
Paris, 1936
- P. Miolau - Le Signe Linguistique
Klincksieck, Paris, 1970.
- K. Moller - Contribution to the Discussion
concerning "Langue" and "Parole".
Recherches Structurales.
Travaux du Cercle Linguistique de
Copenhagen. Vol. 5.
- C. Morris - Writings on the general theory of signs.
Approaches to Semiotics, No.16
Mouton, The Hague, 1971.
- G. Mounin - Histoire de la Linguistique des
Origines au 20 me Siecle.
Series: Le Linguiste.
Presses Universitaires de France, 1967.
- Clefs pour la Linguistique
Editions Seghers, Paris, 1968.
- Clefs pour la Semantique
Editions Seghers, Paris, 1972.
- J.W.F. Mulder - Sets and Relations in Phonology
Clarendon Press, Oxford, 1968.
- "On the Art of Definition, the Double
Articulation of Language and some of the
Consequences".
Forum for Modern Language Studies, Vol.5,
No. 2. (1969).
- "Linguistic Sign, Word and Grammateme"
La Linguistique, 1971.
- "From Sound to Denotation"
Folia Linguistica Vol. 6. (1972)

- J.W.F. Mulder and S.G.J. Hervey - "Index and Signum"
Semiotica Vol. 4. (1971)
- Theory of the Linguistic Sign
Janua Linguarum, Series Minor. No. 136
The Hague, Mouton, 1972.
- M. Müller - Lectures on the Science of Language
(delivered at the Royal Institution of Great Britain).
London. 1861.
- G. Murray - Greek Studies
Clarendon Press, Oxford, 1946.
- P. Naert - "Arbitraire et Nécessaire en Linguistique"
Studia Linguistica, Vol. 1. (1947)
- A. Nehring - "The Problem of the Linguistic Sign"
Acta Linguistica, Vol.VI (1950-1)
- E. Nida - "A System for the Description of Semantic Elements"
Word, Vol. 7. (1951)
- C.K. Ogden & I.A. Richards - The Meaning of Meaning
London, 1938.
- W.J. Ong - Ramus, Method and the Decay of Dialogue
Harvard University Press, 1958.
- H. Pedersen - The Discovery of Language - Linguistic Science in the Nineteenth Century.
Translated by J.W. Spargo.
Indiana University Press, Bloomington, 1962.
- E. Pichon - "Sur le Signe Linguistique"
Acta Linguistica Vol. 2. (1940-1)
- K.L. Pike - Language in Relation to a Unified Theory of the Structure of Human Behaviour
Janua Linguarum, Series Maior No. XXIV
Mouton, The Hague, 1967.

- J. Pinborg - Die Entwicklung der Sprachtheorie im Mittelalter.
Beträge zur Geschichte der Philosophie und Theologie des Mittelalters
Band XLII Heft 2. 1967.
- Plato - Dialogues - translated by B. Jowett,
Vols. I, IV.
Oxford University Press. 1892.
- J. Priestly - Theory of Language and Universal Grammar
(1762).
English Linguistics 1500 - 1800 No. 235.
The Scholar Press. 1970.
- L. Prieto - Principes de Noologie
Janua Linguarum, Series Minor, No. 35.
Mouton, The Hague, 1964.
- Messages et Signaux
Séries 'Le Linguiste' No. 2.
Presses Universitaires de France,
Paris, 1966.
- Quintilian - Institutes of Oratory - translated by
J. S. Watson. Vols. I, II.
London, 1893.
- A. Rey - "Valeur et Limites d'une Sémantique
Lexicale"
In: Essays in Semiotics.
Ed. by J. Kristeva, J. Rey-Debove,
D. J. Unber,
Mouton, The Hague, 1971.
- R. H. Robins - Ancient and Mediaeval Grammatical Theory
in Europe.
G. Bell & Sons.
London, 1951.
- L. Romeo and
G.E. Tiberio - "Historiography of Linguistics and Rome's
Scholarship"
Language Sciences No. 17 (1971)
Indiana University Research Centre for
the Language Sciences, Bloomington.

- J. J. Rousseau - Oeuvres Complètes Vol.III (Ecrits Politiques).
Ed. B. Gagnebin, M. Raymond.
Bibliothèque de la Pléiade.
Gallimard. 1964.
- B. Russell - The History of Western Philosophy
Allen & Unwin. 1961.
- E. Sapir - Language
New York, 1921.
- S.K. Saumjan - "Semiotics and the Theory of Generative Grammars"
In: Sign: Language: Culture
Ed. by A.J. Greimas et al.
Janua Linguarum Series Maior, No.1.
Mouton, The Hague, 1970;
- Principles of Structural Linguistics
(Translated from Russian)
Janua Linguarum Series Maior, No.45.
Mouton, The Hague, 1971.
- F. de Saussure - Mémoire sur le système primitif des Voyelles dans les Langues Indo-europeennes.
Hildesheim, 1968. (First published Leipzig 1879.)
- Cours de Linguistique Générale
Publié par C. Bally, A. Sechehaye,
A. Riedlinger.
Paris. 1949. (2nd Edition).
- Cours de Linguistique Générale. Edition Critique.
Ed. R. Engler.
Wiesbaden. 1967.
- J.C. Scaliger - Poetices - libri septem.
Ed. Quarta.
Apud Petrum Santandreanum.
1557.

- M.A. Sechehaye - "Les Problèmes de la Langue à la Lumière d'une Théorie Nouvelle."
Revue Philosophique. Vol.84. (1917)
- "Les Classes des Mots et l'Imagination."
Cahiers Ferdinand de Saussure Vol.1. (1941)
- "Y a-t-il lieu de compléter et d'élargir la Notion de l'Expressivité par le Signifié?"
Paper given for the "Cercle Genevoise".
1940. Recorded in Cahiers Ferdinand de Saussure. Vol.1. (1941)
- "La Pensée et la Langue: ou Comment concevoir le Rapport Organique de l'Individuel et du Social dans le Langage."
Cahiers Ferdinand de Saussure Vol.4. (1944) pp.26-52.
- "Les Trois Linguistiques Saussuriennes".
In: A Geneva School Reader in Linguistics
Indiana Press, Bloomington, 1969.
- M.A. Sechehaye - "Pour l'Arbitraire du Signe"
G. Bally A Geneva School Reader in Linguistics.
H. Frei Indiana Press, Bloomington, 1969.
- P. Sgall, L. Nebesky - A Functional Approach to Syntax in
A. Goralčíková Generative Description of Language
and E. Hajičová Elsevier, New York. 1969.
- B. Siertsema - A Study in Glossematics
A Critical Survey of its Fundamental Principles.
The Hague. 1965. (2nd Edition)
- F. Slotty - "Wortart und Wortsinn"
Mélanges Linguistiques dédiés au premier
Congrès des Philologues Slaves.
Travaux du Cercle Linguistique de Prague,
Vol.1. (1929)
- H.S. Sørensen - "An Analysis of Linguistic Signs occurring in Suppositio Materialis or the Meaning of Quotation Marks and their Phonetic Equivalent."
Lingua. Vol.X. (1961)

- H.S. Sorensen - "Meaning and Reference"
In: Sign: Language: Culture
Ed. by A.J. Greimas et al.
Janua Linguarum Series Maior No.1.
Mouton, The Hague, 1970.
- H. Spang-Hanssen - "On the Simplicity of Descriptions".
In: Recherches Structurales
Travaux du Cercle Linguistique de
Copenhague. Vol.5. (1949).
- "Recent Theories on the Nature of the
Language Sign"
Travaux du Cercle Linguistique de
Copenhague Vol.9. (1954)
- Probability and Structural Classification.
In: Language Description.
Copenhagen. 1959.
- D.W.T. Starnes & G.E. Noyes - The English Dictionary from Cawdrey to
Johnson 1604 - 1755.
University of N. Carolina. 1946.
- K. Togeby - "Qu'est-ce qu'un mot?"
In: Recherches Structurales
Travaux du Cercle Linguistique de
Copenhague. Vol.5. (1949).
- Structure Immanente de la Langue
Francaise.
Travaux du Cercle Linguistique de
Copenhague. Vol. VI. Copenhague (1951)
- Immanence et Structure.
Recueil d'articles publies a l'occasion
du 50me anniversaire de K. Togeby.
Revue Romane. Numero Special. 2. (1968)
- B. Trnka - "Bemerkungen zur Homonymie"
In: A Prague School Reader in Linguistics
Ed. by J. Vachek
Indiana Press, Bloomington, 1966.
Originally published in
Travaux du Cercle Linguistique de Prague?
Vol. IV (1931)

- B. Trnka et al. - "Prague Structural Linguistics
In: A Prague School Reader in Linguistics
Ed. by J. Vachek
Indiana Press, Bloomington, 1966.
Originally published in
Philologie Pragensia (Prague)
Vol. I (1958)
- S.I. Tucker - English examined - Two Centuries of Comment on the Mother-tongue.
Cambridge, 1961.
- H.-J. Uldall - Outline of Glossematics.
Travaux du Cercle Linguistique de Copenhague.
Vol.10 (part 1). Copenhagen. 1957.
- S. Ullman - The Principles of Semantics
Blackwell, Oxford, 1957.
First published 1951.
- Semantics - an Introduction to the Science of Meaning
Blackwell, Oxford, 1967.
First published 1962.
- J. Vachek - Dictionnaire de Linguistique de L'Ecole de Prague
Spectrum, Utrecht, 1960.
- M.T. Varro - De Lingua Latina
ed. I. Spengel.
Berlin 1885.
- C.F. de Vaugelas - Remarques sur la langue Francois.
Ed. by J. Streicher
Paris. (Droz) 1934
First published early 17th century.
- J. Wallis - Institutio Logicae
Oxford. 1763
- J.T. Waterman - Perspectives in Linguistics
Phoenix Books
University of Chicago Press. 1963.
- B. Weinberg - "Scaliger versus Aristotle on Poetics."
In Modern Philology, No. 39. May 1942.
- A.P. Weiss - "Linguistics and Psychology"
Language, Vol.1 (1925)

- F.J. Whitfield - "Linguistic Usage and Glossematic Analysis"
In For Roman Jakobson - Essays on the Occasion of his 60th Birthday
 Mouton, The Hague, 1956.
- W.D. Whitney - The Life and Growth of Language.
 London, 1883.
- Max Müller and the Science of Language: A Criticism.
 New York, 1892.
- B.L. Whorf - Language, Thought and Reality
 New York - London, 1958.
- K.S. Wilkins - A Study of the Works of Claude Buffier.
Studies on Voltaire and the Eighteenth Century.
 Vol.66.
 Geneve 1969.
- L. Wittgenstein - Philosophical Investigations
 Translated by G.E.M. Anscombe
 Oxford, 1958.
- Tractatus Logico-philosophicus
 Translated by D.F. Pears and B.F. McGuinness
 London, 1961.
- L. Zawadowski - A Classification of Signs and Semantic Systems
In Sign: Language : Culture
 Ed. by A.J. Greimas et al.
Janua Linguarum, Series Maior, No.1
 Mouton, The Hague, 1970.