

**ASPECTS OF A FUNCTIONAL DESCRIPTION OF ENGLISH
MORPHOLOGY**

Muhammad Salim Munla

**A Thesis Submitted for the Degree of PhD
at the
University of St. Andrews**

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ASPECTS OF A FUNCTIONAL DESCRIPTION
OF
ENGLISH MORPHOLOGY

BY

MUHAMMAD SALIM MUNLA

Thesis submitted for the Degree
of Doctor of Philosophy in the
University of St Andrews

Martinmas Term 1981



DECLARATION

I HEREBY DECLARE that the present Thesis embodies the results of investigations conducted by myself which are being made public for the first time, that the Thesis is my own composition, and that it has not been accepted in any previous application for a Higher Degree.

I also declare that the research was carried out under the supervision of Dr. S.G.J. Hervey of the Department of Linguistics, University of St Andrews, to which I was admitted as a research student under Ordinance General No.12 in October, 1977, and as a candidate for the Degree of Doctor of Philosophy in the same year (retroactive to October, 1976).

A handwritten signature in black ink, appearing to read 'Muhammad Salim Munla', is written over a dark, irregularly shaped background that looks like a stamp or a piece of paper with a scalloped edge.

Muhammad Salim Munla

CERTIFICATE

I HEREBY CERTIFY that the conditions of the Ordinance and Regulations concerning the submission of a Ph.D. thesis have been fulfilled by Mr Muhammad Salim Munla

SUPERVISOR



Dr Sándor G.J. Hervey

ACKNOWLEDGEMENTS

My sincere thanks and deepest gratitude go to my supervisor Dr. S.G.J. Hervey of the Department of Linguistics, University of St Andrews, for his constant and most generous guidance, invaluable suggestions, and thoughtful attention throughout the writing of this thesis.

I wish also to thank Professor J.W.F. Mulder, Chairman of the Department of Linguistics, University of St Andrews, for his generous assistance in going over the theoretical parts in the manuscript and making helpful remarks.

My thanks are due as well to all my colleagues for discussion of various problems touched on in this work.

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INTRODUCTION

The present work offers an investigation of what the writer has called morphological expansions, an investigation that, in some respects, takes as its starting-point the notions of Axiomatic Functionalist theory. Throughout the text, the term morphological expansion is applied to that constituent of a morphological complex (complex plereme) that directly and separately commutes with zero within that complex itself, the latter being, by definition, a self-contained simultaneous bundle of two or more monemes in a morphological relation with one another. The description may be conceived of as an attempt at exploring the possibility of testing hypotheses for moneme-identity (with regard especially to "morphological expansions") by using an additional criterion of adequation with respect to semantic factors: a criterion concerning the assumption of recoverability of denotations of complex pleremes from the denotations of their constituents.

The thesis falls into three major parts. Part I offers a brief account of the philosophical principles and methodology which underlie an Axiomatic Functionalist approach to linguistics. This part, falling under the heading "Axiomatic Functionalism: A Brief Overview", comprises three chapters. Chapter I gives an explanation of the ontological distinction Axiomatic Functionalism draws and maintains throughout between linguistic theory and

linguistic descriptions based on that theory. Chapter II, "Morphology", is mainly concerned with outlining the way Axiomatic Functionalism accommodates morphology as an autonomous sub-discipline of linguistic theory and linguistic description, i.e. the manner in which Axiomatic Functionalism postulates a sharp morphology-syntax dichotomy. Chapter III is devoted specifically to providing an all-embracing explanation of a methodology consisting of the step-by-step application of successive criteria stipulated by Axiomatic Functionalist theory for discriminating between morphological complexes and syntactic complexes.

The description cannot entirely do without some further theoretical notions and descriptive conventions; some of these which have been either adopted or adapted for the specific purpose of this analysis, are introduced in Part II. This part, falling under the heading "Further Theoretical Notions and Descriptive Conventions", comprises four chapters which may be conceived of as a kind of interlude to the description. Chapter I is given over to explaining the notions "sign", "allomorph", "unique morph", "homomorphy", and "homonymy" as they are conceived of in Axiomatic Functionalism. Chapter II, "Allomorphy", offers a detailed discussion of the various types of allomorph while Chapter III is specifically restricted to introducing my notions "morphological expansion" and "plereme-base". Chapter IV offers an all-embracing classification of allomorphs of "morphological expansions" in general, together with a classification

of allomorphs of morphological expansions in English. In contrast to "morphological expansion" (moneme that directly and separately commutes with zero within a complex plereme), the term "plereme-base" is applied to the set of (one or more) monemes that do not directly and separately commute, one at a time, with zero within a complex plereme (i.e. "plereme-base" is the set of bound monemes within a complex plereme).

The third, and last part, falling into sixteen chapters, is concerned with the identification and description of a number of "morphological expansions" in English. It would be a little short of a marathon task to give a description embracing all aspects of "morphological expansions", and limitation of space, therefore, dictates the necessity for selection. In other words, the present description does not pretend to be exhaustive, in that not all phenomena of English that may be covered under the term "morphological expansion" are dealt with. Certain "morphological expansions" (for instance, the phenomenon traditionally recognized as "prefixation") have been excluded in order that the scope of this thesis may be kept within reasonable limits. Also excluded are the phenomena generally referred to as "clipping", "blending", and "derivation by zero morphemes"; the latter phenomenon probably deserves a thorough investigation on its own.

PART I

"AXIOMATIC FUNCTIONALISM: A BRIEF OVERVIEW"

CHAPTER I

THEORY AND DESCRIPTION

1. Linguistic Theory

Most recent schools of linguistics attach a great measure of importance to the question of achieving scientific objectivity in their descriptions of particular languages. The notion has been worded and posited in different ways by linguists of varying approaches. In Axiomatic Functionalism, the notion "scientific objectivity"¹ is conceived of as the interpretation of speech phenomena in the light of a theory. Axiomatic Functionalists believe that a structural description of speech phenomena can only be pronounced scientific if it presupposes a linguistic theory as an instrument. In other words, it is the theory that makes any descriptive statement scientifically meaningful and allows us to formulate our observations about the data in a meaningful way. Linguistic description may then be seen as the application of a particular linguistic theory to a selected field of speech phenomena².

¹ For a detailed treatment of the notion "scientific objectivity", see J.W.F. Mulder, Sets and Relations in Phonology, Oxford University Press (1968), "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena", and "The Strategy of Linguistics" in Mulder and Hervey, The Strategy of Linguistics: Papers on the Theory and Methodology of Axiomatic Functionalism, Scottish Academic Press (1980); see also S.G.J. Hervey, "Grammar and Semantics in Axiomatic Functionalist Linguistics" in the same volume.

² cf. Mulder, "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena" in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

Axiomatic Functionalism embraces a version of the hypothetico deductive approach to linguistics, a method which should be seen as comprising two separate attributes: "deductive" and "hypothetical". The attribute "deductive" is assigned to the theory and the attribute "hypothetical" to the descriptions¹. Linguistic descriptions (but not linguistic theories) are hypothetical in the sense that the statements they contain are hypotheses that can be confronted with the data described. The linguistic theory, on the other hand, is said to be axiomatic and (therefore) deductive in that it builds on statements that are not meant to be verifiable. That is to say, statements in the theory are not subject to attempted refutation because they make no existential claims.

An axiomatic theory, as a "logical" system, operates with uninterpreted axioms² which have a purely formal status of primitive propositions. These axioms contain "variables" which

¹ cf. S.G.J. Hervey, "Scientific Explanation in Axiomatic Functionalism" (Unpublished paper). It is worthwhile noting that the attitude of Axiomatic Functionalism towards linguistic theory and linguistic description as outlined above has triggered a fundamental re-interpretation of the hypothetico-deductive method of testing as propounded by Karl Popper. I shall not go in detail into Popper's pronouncements on the method since such a discussion falls outside the scope of this chapter. Suffice it to say that, according to Popper, theory and description form an undifferentiated whole, i.e. hypotheses are located in both theory and description.

² Mulder's Axiomatic Functionalist theory contains five axioms to which Hervey has added a further one on semantics. The theory as it stands today is an all-embracing theory in the sense that it covers within its scope not only phonology and grammar but semantics as well (cf. Mulder, "Postulates for Axiomatic Functionalism" and Hervey, "Postulates for Axiomatic Functionalist Semantics" in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980).

are then given an "interpretation" by the system of definitions that constitutes the "semantics" of the theory. Interpreted axioms, therefore, are propositions with "constants" (primitive or defined terms)-- they have meaning, but no truth value. An axiomatic-deductive theory also contains "theorems". These are statements that may be derived from the set of axioms or from the definitions or from both. Theorematic statements are not necessarily explicitly spelt out in the exposition of the main body of the theory since they are implied by the set of axioms and the definitions in the theory.

Axioms, as major statements in an axiomatic linguistic theory, are initially posited as being "reasonable" in the light of common-sense, and are held to be appropriate, subject to subsequent refutation of their appropriateness: "The initial justification for these statements is that they seem reasonable and acceptable to others, and their further justification is that they are assumed, in the absence of refutation, to be appropriate"¹. Mulder maintains that linguistic theory is both arbitrary and appropriate and goes on to emphasise that its arbitrariness derives from the fact that (a) it does not -- in Hjelmslev's conception -- contain any existential postulate², i.e. it is independent of any empirical data, and (b)

¹ Mulder, "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

² cf. Louis Hjelmslev, Prolegomena to a Theory of Language, University of Wisconsin Press (1969).

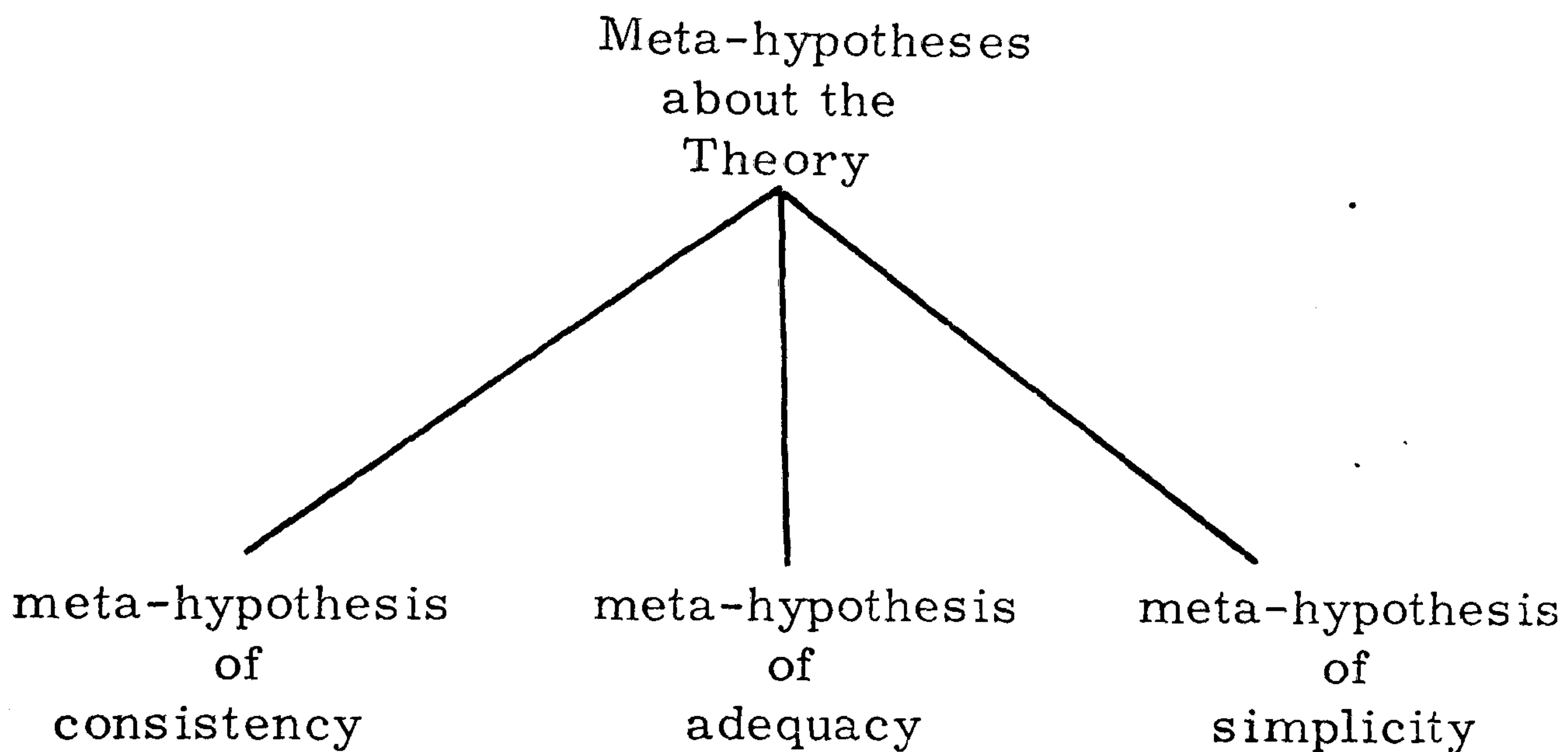
it contains statements which the linguist has chosen to build into it¹. The linguistic theory is required to be appropriate in the sense that the principles introduced by it can be applied to empirical data, whether actual or potential, of a certain premised nature.

As pointed out earlier, the task of definitions is to assign meanings to technical terms which may be encountered in the axioms, theorems, or in other definitions. The other task of definitions is to introduce notions of the theory. Examples of such notions in Axiomatic Functionalist linguistics are "opposition", "commutation", "distinctive function", "distinctive feature", "simultaneity", "neutralization", "archi-phoneme", etc. Some of these notions, for instance the notions "distinctive feature" and "archi-phoneme", apply to entities in the linguistic descriptions based on that theory. There are, however, no entities in a linguistic description that might be called "opposition", "commutation", "distinctive function", etc. These may be called processes or states of affairs. It must be noted that entities in a linguistic description are not entities in the realm of speech phenomena, but they stand in a certain relation of isomorphism with certain classes of phenomena (i.e. they apply-- descriptively, as models, that is-- to entities or classes of entities in the domain of speech phenomena). Such descriptive entities may

¹cf. Mulder, "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

be called models or descriptive models. The notions in the theory corresponding to these models may be called meta-models or theoretical models.

Axioms, theorems, and definitions constitute statements belonging to the theory. That the theory is required to be consistent, adequate, and relatively simple are, however, statements about the theory. These statements have the status of meta-hypotheses in that they are subject to attempted refutation and that, by evaluating these statements, the theory is automatically evaluated.



A good axiomatic deductive theory must, in the first place, be internally consistent, which means simply that no two of its statements (whether these statements are axioms, theorems or definitions) should contradict one another. If we find one single instance of internal contradiction in the theory, the meta-hypothesis according to which the theory is said to be consistent is refuted. In the event of such refutation, the theory has to be either altered or entirely discarded.

The second major requirement an axiomatic-deductive theory must satisfy is adequacy. A theory is said to be adequate if it fulfils

its purpose which is to render possible an unlimited number of consistent, adequate, and simple descriptions that are based on it¹.

The requirement of simplicity does not figure as prominently as the other two, namely consistency and adequacy. The reasons for saying that a linguistic theory must be relatively simple are the same as those proposed for linguistic description (cf. section 2 below). However, because of the one-to-many relation between a particular linguistic theory and the descriptions based on it (cf. section 3), we may sacrifice some simplicity in the theory in favour of simplicity in its descriptive applications².

2. Linguistic Description

A linguistic description contains neither axioms nor definitions of the kind to be found in the linguistic theory, but it primarily contains a set of descriptive statements, i.e. hypotheses that are subject to attempted refutation. Since linguistic description is the application of a particular linguistic theory to a selected field of speech-phenomena³, it follows that hypotheses in the description are dependent on the linguistic theory in that they make use of statements and notions from the theory on which the description is based. In contradistinction with the axiomatic statements in the theory, hypotheses in the description, i.e. descriptive statements, are not arbitrary, as they must be justified by

¹ ibid.

² ibid.

³ ibid.

the theory, on the one hand, and supported by the "facts" in the data, on the other. Because hypotheses can be refuted if they conflict with the data, it is worthwhile pointing out that a linguistic description (as a set of hypotheses) remains tentative throughout the process of hypothesis-formulation. If no counter-evidence from the data is found to refute a given hypothesis in the process of making the description, then that hypothesis is pronounced valid, otherwise it is invalidated and consequently rejected. This, in actual fact, means that the final statements in a description are not mere untested hypotheses but they are tested and unrefuted ones. (It must be noted that the possibility of further testing and eventual refutation is, however, never excluded at any point).

Every descriptive statement (hypothesis) carries with it the meta-hypothesis of its consistency (with the rest of the description), of its adequacy and its relative simplicity. If any of these meta-hypotheses is refuted, it goes almost without saying that the description is invalidated and has to be re-examined so as to pinpoint and, consequently, avoid any future discrepancies. Therefore, a linguistic description is pronounced a good description if it meets the three main requirements of consistency, adequacy and relative simplicity¹, i.e. it should account for the speech phenomena in a consistent, adequate, and simple way. This should be carried out with the backing of a given theory, otherwise statements about the data

¹Glossematics is another school of linguistics which has propounded similar criteria (cf. Hjelmslev's so-called "empirical principle" in L. Hjelmslev, Prolegomena to a Theory of Language, University of Wisconsin Press (1969)).

would be void of sufficiently precise descriptive content for them to be scientifically interpreted and tested. For example, to say that in English a construction such as "story book" is a syntagm (i.e. syntactic complex) and not a complex plereme (i.e. morphological complex)¹ would not be meaningful unless the terms "syntagm" and "complex plereme" are defined in the theory on which the description is based.

A successful linguistic description must be consistent, i.e. must not contain internal contradictions, in that "no two statements it contains or implies should be in contradiction with one another. If one statement contradicts another, both statements involved are scientifically, i.e. in their capacity as statements in a description, meaningless, even though one of them may be objectively correct"². Since a linguistic description is dependent on the linguistic theory (cf. section 3 below), that description must, by requirement, be consistent with the theory on which it is based. That is to say, every statement in the description must be justified by the theory, otherwise that descriptive statement becomes arbitrary and consequently the description will be arbitrary in that it contains arbitrary statements. (Here "arbitrary" means "not capable of attempted refutation along lines laid down by the theory itself").

The requirement of adequacy demands that a linguistic description must be materially adequate (which means simply that its statements

¹ cf. Chapter III, "Criteria for Morphological Analysis".

² J.W.F. Mulder, "Descriptive Adequacy in phonology and the Vowel Phonemes of the Scottish Dialects of Angus and Perthshire Compared with the Southern English System", La Linguistique 10, 1974.

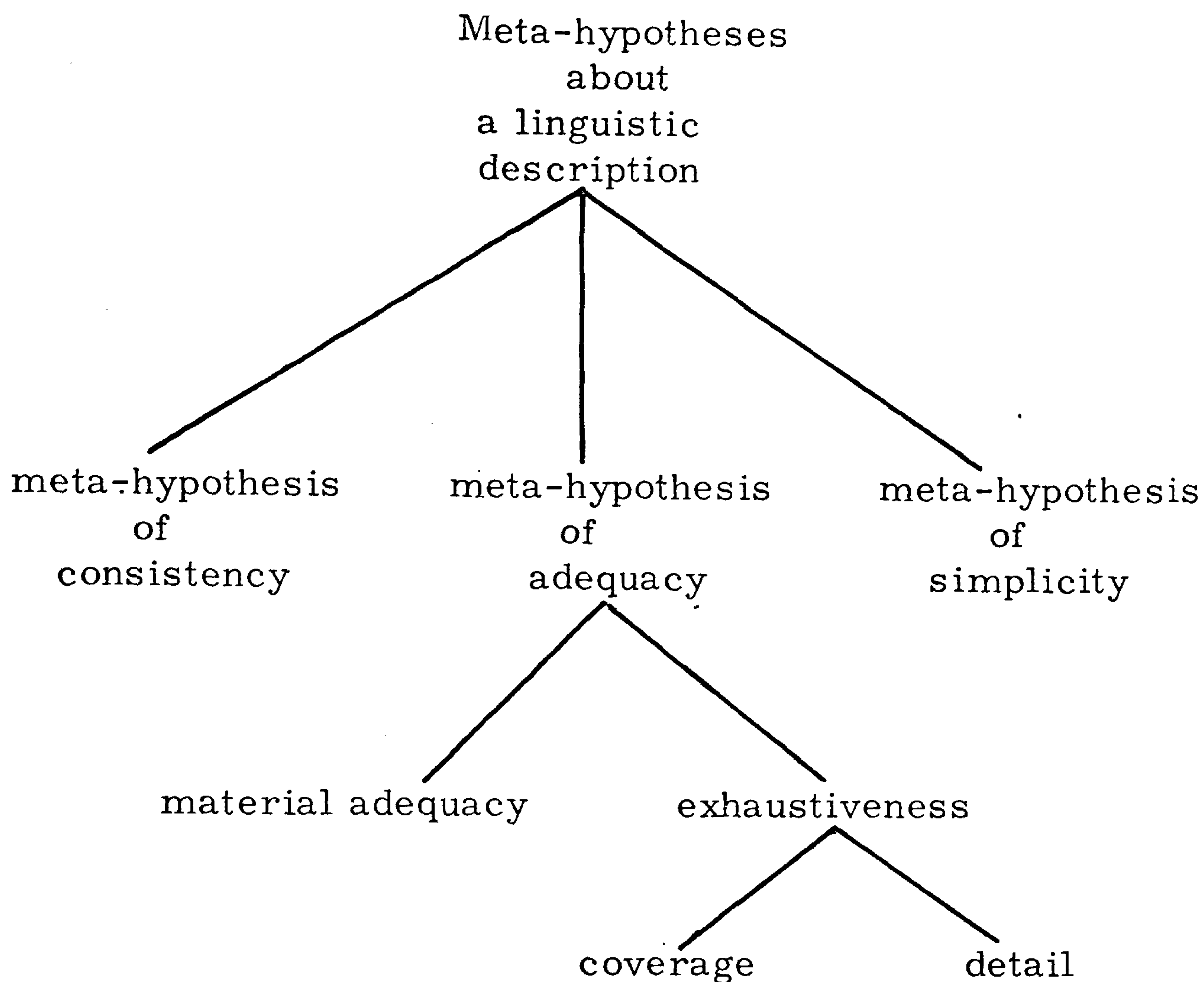
and their implications do not contradict observational statements about the phenomena) on the one hand, and it must have "full" coverage of the data, on the other. Adequacy, it is important to note, must not be achieved at the expense of consistency. In actual fact, the three main requirements for a successful description (and for that matter a successful theory, cf. preceding section), namely consistency, adequacy, and relative simplicity, are arranged hierarchically according to their order of precedence.

The third requirement a successful linguistic description must satisfy is relative simplicity. Axiomatic Functionalists have not worked out rules for the "intricacies of assessing simplicity" which they tend to view as a relative matter of economy and elegance of presentation rather than of descriptive content¹. The question of producing a simple linguistic description is summed up by Mulder as follows: "there should be no redundant elements in a description, and the number and complexity of statements it contains should be reduced as much as satisfying the conditions of consistency and adequacy (the latter including 'clarity') allows"². We may note that the requirement of simplicity assumes its significance when we arrive at two statements which we judge to be equally consistent and adequate. Of two such statements, we shall always opt for that statement which is the simpler of the two.

¹cf. S.G.J. Hervey, "Scientific Explanation in Axiomatic Functionalism" (Unpublished paper).

²J.W.F. Mulder, "Descriptive Adequacy in Phonology and the Vowel Phonemes of the Scottish Dialects of Angus and Perthshire Compared with the Southern English System", *La Linguistique* 10, 1974.

The types of meta-hypothesis¹ that are used by Axiomatic Functionalists to evaluate a linguistic description may be tabulated as follows:



In addition to descriptive statements, a linguistic description contains descriptive models, i.e. entities that stand in a relation of isomorphism with certain classes of the phenomena (cf. preceding section). The descriptive models are linked with the theoretical models (meta-models) via a many-to-one relation of isomorphism. For example, in English, the "Past"-moneme (represented by the allomorph "/id/") in the context "to fold" (cf. Description) is conceived of as a descriptive model while the theoretical model which corresponds to it is the notion "moneme".

¹By "meta-hypothesis" is meant a hypothesis referring to a theory or to a description. Unlike "meta-hypotheses", ordinary "descriptive" hypotheses refer to objective phenomena.

Linguistic description may also contain "labels" which are, from an Axiomatic Functionalist point of view, language specific in that they have to be established for each language separately.

"The device of labelling is mainly of a simplificatory and administrative nature, and it is internal to the descriptions"¹. Examples of labels are "adjective", "adverb", "noun", "pronoun", "verb", etc., as used, say, in a description of English.

3. The Relation between Theory, Descriptions and the Speech-phenomena

Axiomatic Functionalism draws a sharp distinction between linguistic theory, linguistic description and speech-phenomena. Linguistic description is defined as "the application of a particular linguistic theory to a selected field of speech-phenomena" (Mulder 1980). This means that in order to produce a linguistic description we must have access to speech-phenomena, on the one hand, and to a theory that would help us account for these phenomena, on the other. The latter, i.e. a linguistic theory, has the power to dictate selection of the type of phenomena to be described and to determine their relevant aspects for description². The describer, however, has the task of selecting the field of speech-phenomena to be described, i.e. the chosen field of speech-phenomena is arbitrarily limited by the describer depending on the latter's specific objective. Speech-phenomena,

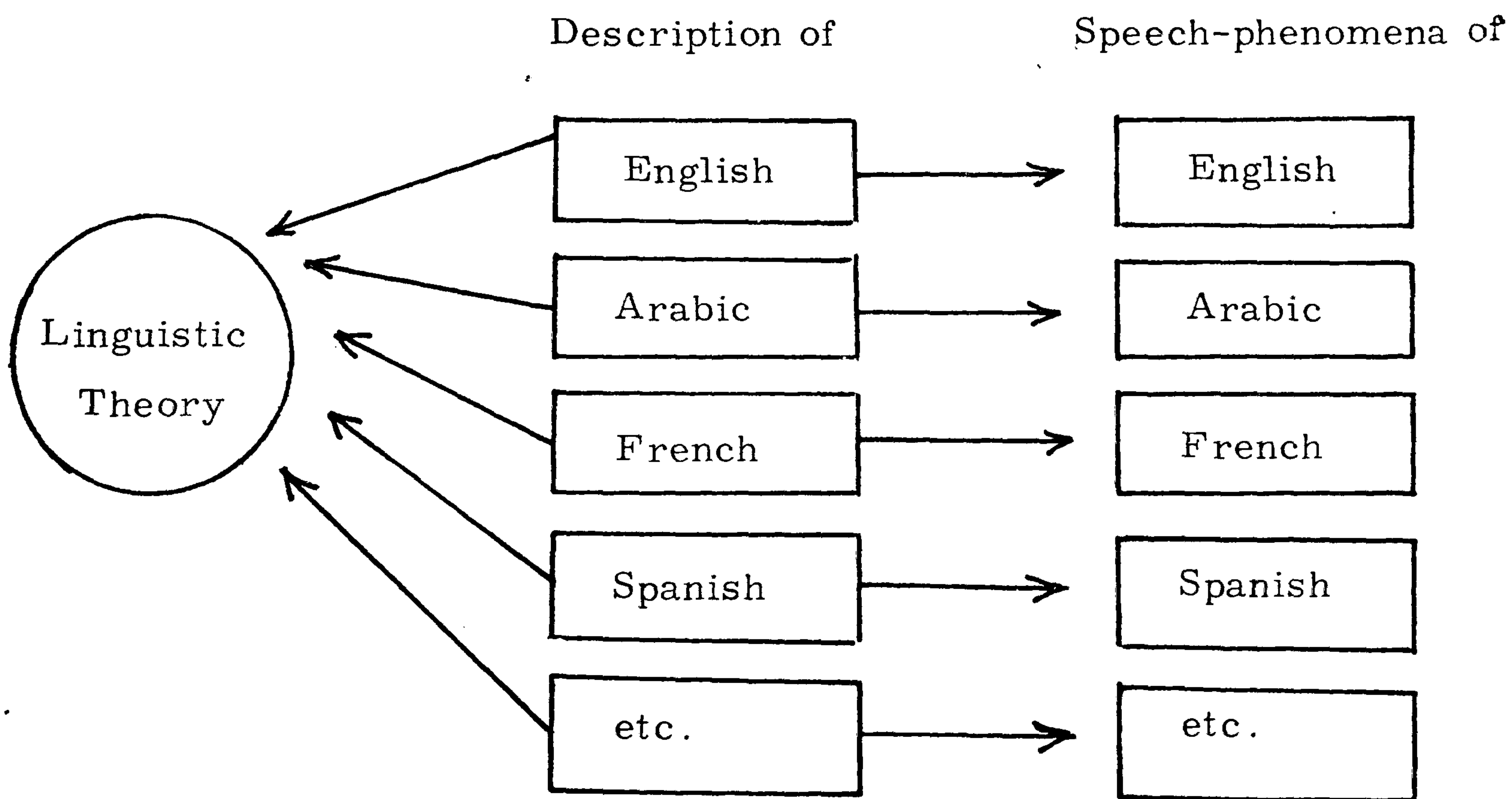
¹ Mulder, "The Strategy of Linguistics", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

² This is true of any theory, not just of linguistic theory. Axiomatic Functionalist theory, for instance, considers only those features of the speech-phenomena which are functional, i.e. separately relevant to the communicative purport of the whole of which they are part (cf. Mulder, "Postulates for Axiomatic Functionalism").

therefore, constitute a virtually infinite set of potential fields of application and it is the task of the linguistic theory to provide the means for making a description of any member of this set¹.

Linguistic theory, therefore, unlike theories of natural sciences, yields a multiplicity of descriptions, i.e. it applies to an unlimited number of parallel universes². For example, applied to the speech-phenomena of English, the theory yields a description of English; applied to Arabic, it yields a description of Arabic, and so on. The description of each of these universes, it should be noted, must be carried out on the basis of one and the same theory.

The relation between linguistic theory, linguistic description and speech-phenomena may be represented as follows:



¹In order to be able to do this the linguist should know the language he intends to describe or should have access to informants or other sources.

²A theory of physics, for instance, does not have multiple applications, which is simply because it applies to physical universe only, i.e. to one field of phenomena. The relation between theory and the physical relation.

If we interpret the arrow (\longrightarrow) as "implies" or "presupposes", the following points may be noted:

- (a) A linguistic theory and fields of speech phenomena are independent, i.e. neither depends for its existence on the other. This points to the fact that a linguistic theory may "exist" -- though it can not be evaluated with regard to "empirical" adequacy -- without being applied, and a field of speech-phenomena may exist without being described.
- (b) A linguistic description presupposes both a linguistic theory and speech-phenomena, i.e. without these two, no sensible description can be produced.
- (c) There is a one-to-many relation between a linguistic theory and the descriptions based on that theory.
- (d) There is a one-to-one relation between a linguistic description and a selected field of speech-phenomena, i.e. each time a linguistic theory is applied to a particular field of speech-phenomena, a single linguistic description of that field is produced.
- (e) There is a direct relation between a linguistic theory and each single linguistic description but there is an indirect relation between a linguistic theory and speech-phenomena, in that this relation goes via the descriptions¹.

¹For more details about the types of relation and the dependencies between linguistic theory, linguistic descriptions and the speech-phenomena, the reader is referred to J.W.F. Mulder, "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena", in Mulder and Hervey, *The Strategy of Linguistics*, Scottish Academic Press (1980). See also Mulder, The Foundations of Axiomatic Functionalist Linguistics (forthcoming).

CHAPTER II

1

MORPHOLOGY

1. The Concept of the "Double Articulation" in Axiomatic Functionalism

The doctrine of the "double articulation" is one of the basic tenets of functional linguistics. Two different versions of this concept have been proposed by Martinet² and Mulder, respectively. These versions diverge as to what constitutes the ultimate elements of both the first and the second articulation³. In this chapter, I propose to explain the Axiomatic Functionalist version (i.e. Mulder's version).

¹The main purpose of this chapter is to outline the way Axiomatic Functionalism accommodates morphology as an autonomous sub-discipline of linguistic theory and linguistic description.

²cf. André Martinet, Elements of General Linguistics, London: Faber and Faber (1964).

³I shall refrain from discussing the differences between the two versions here as such discussion falls outside the scope of this chapter. Suffice it to say that a point of divergence between Mulder and Martinet may be summed up as follows: Martinet regards the "monemes" as the ultimate elements of the first articulation. Mulder, on the other hand, considers the "pleremes" as the ultimate elements of the first articulation, while "monemes" do not belong to articulation. For further differences between Axiomatic Functionalism and French Functionalism (as initiated by Martinet), the reader is referred to Mulder, "Differences between Axiomatic Functionalism and French Functionalism", Proceedings of the Seventh International Colloquium of Functional Linguistics, St Andrews (1980).

The notion "articulation" is defined in Axiomatic Functionalism as "set of ordering relations between constituents in combination" and a "potential for functional ordering of constituents"¹.

"Articulation" (not mere analysis into constituents) manifests itself on two different planes (hence the term "double articulation") namely grammatical and phonological. From an analytic point of view, grammatical articulation is conceived of as segmentation of grammatical complexes into functionally orderable (ultimately into minimal functionally orderable) units, i.e. articulation of elements with both form and meaning. Phonological articulation, on the other hand, may be regarded as segmentation of phonological complexes (chains) into functionally orderable units, i.e. articulation into elements of form alone. The ultimate atomic elements of the grammatical articulation are the pleremes while the ultimate atomic elements of the phonological articulation are the phonemes.

2. The Domain of Morphology in Axiomatic Functionalism

Mulder and Hervey propose that "proper language"² in description, as well as in theory, has two main aspects falling under the two

¹ cf. Mulder, "On the Art of Definition, the Double Articulation of Language and Some of the Consequences", Forum For Modern Language Studies, 5 (1969), Sets and Relations in Phonology, Oxford University Press (1968), and Mulder and Hervey, "Language as a System of Systems", La Linguistique II (1975).

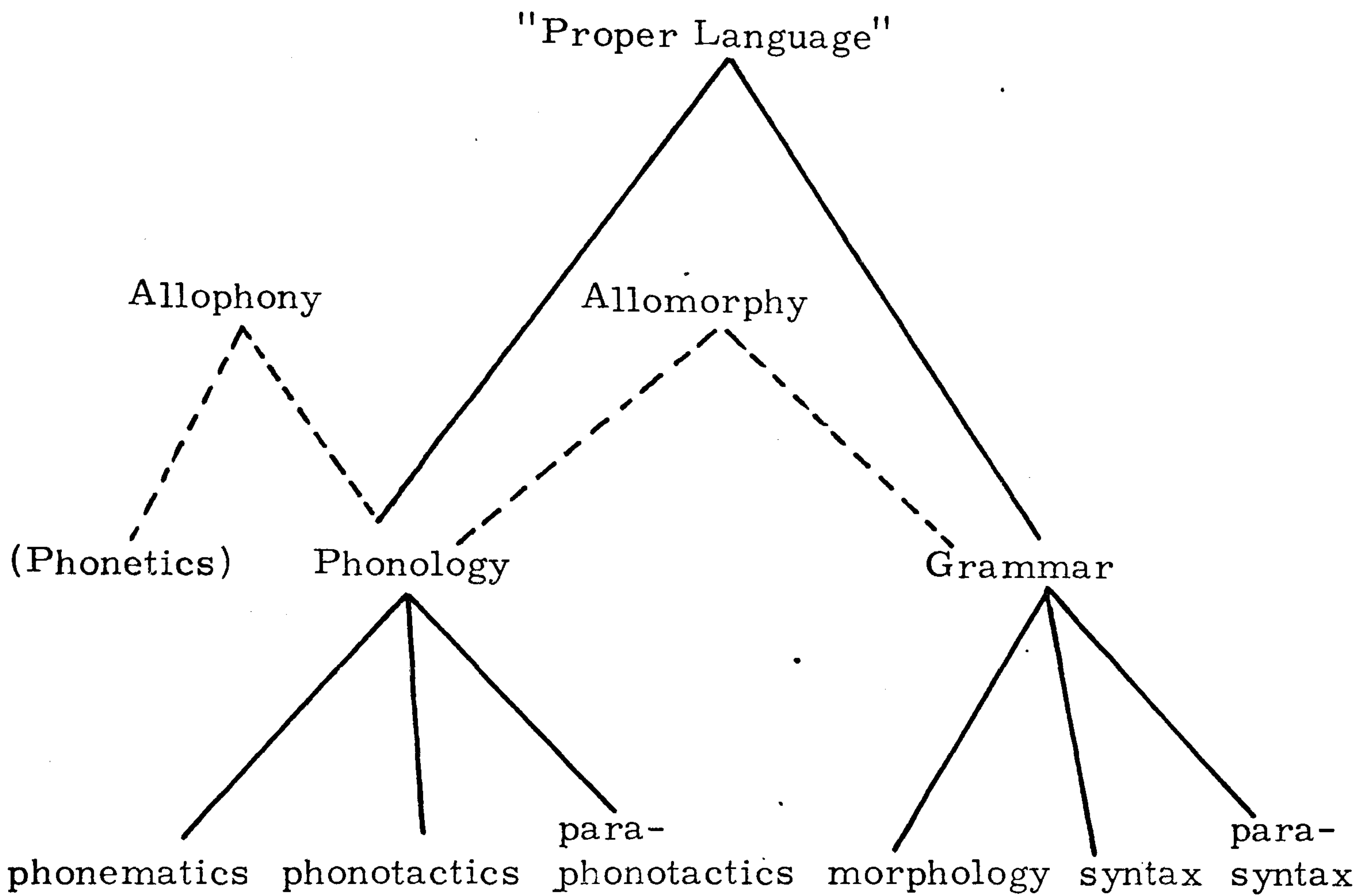
² cf. "Language as a System of Systems" and Mulder's "Postulates for Axiomatic Functionalism" in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

sub-disciplines of phonology and grammar. Phonology is further sub-divided into phonematics and phonotactics, and grammar into morphology and syntax. "Proper language" also incorporates a para-phonotactic and a para-syntactic system ; the paratactic levels stand slightly outside the system of systems which constitutes language¹ in the sense that their relation with the tactic levels, i.e. with phonotactics and syntax, is not that of simple interlock. Mulder sums up the relation between the paratactic and the tactic levels as follows: "the tactic levels provide the bases for the paratactic entities produced by the paratactic level" while on the paratactic level "one finds bases, constituted of tactic entities, together with further features, with respect to natural language, mainly prosodic ones, that contribute to their ultimate identity"².

In the light of what has been said above, the Axiomatic Functionalist model for the structure of "proper language" may be schematized as follows (the dotted line to read "linking") :

¹ cf. Mulder and Hervey, "Language as a System of Systems", in The Strategy of Linguistics, Scottish Academic Press (1980)

² Mulder, "Syntax in Axiomatic Functionalist Linguistics", in Mulder and Hervey, The Strategy of Linguistics; see also "Postulates for Axiomatic Functionalism" in the same volume.



Phonemematics and phonotactics are two autonomous sub-systems of phonology. The phonematic sub-system operates with minimum phonematic entities (distinctive features) which may combine into simultaneous bundles (phonemes)¹. In the phonotactic sub-system, the

¹"Phoneme" for "self-contained bundle of one or more distinctive features as its immediate (and at the same time: ultimate) constituents" (Def.8a, "Postulates for Axiomatic Functionalism").

phonemes may combine into potentially larger complexes (phonotagms)¹.

The distinction between the two sub-systems is captured in terms of

	Phonematics	Phonotactics
Atomic	Distinctive Features 'unvoiced' 'fricative' 'labial	phoneme /f/
Molecular	phoneme /f/	'phonotagm /fain/

the type of constructional relation each exhibits. Axiomatic Functionalists propose that phonematics be equated with that area of phonological systems in which only relations of simultaneity operate while phonotactics is identified as that area of phonological systems in which tactic relations may operate². Furthermore, phonematics and phonotactics interlock with one another in the sense that the former provides the minimum entities of the latter³.

¹"Phonotagm" for "self-contained bundle of positions in phonology" (Def.9a, "Postulates for Axiomatic Functionalism").

²"Tactic relations" for "constructional relations (whether ordering or not) between syntagmatic entities, as immediate constituents in combination" (Def.7c3, "Postulates for Axiomatic Functionalism").

³"Interlocking" for "the one system providing the forms of the entities of the other system", (Def.3c2c, "Postulates for Axiomatic Functionalism").

Similarly, morphology and syntax are two autonomous subsystems of grammar. Moneme, plereme, and syntagm¹ are conceived of as three types of grammatical entity operating on different constructional levels. Monemes are simple signs which, by definition, may combine by morphological simultaneity relations, and their combinations form simultaneous bundles (termed "pleremes"), with each such bundle not extending over more than one position in syntax. Pleremes as maximum morphological entities, therefore, have the potential of being further analysed into simultaneous components (i.e. monemes) in grammar (note that a plereme may be a simultaneous bundle of one moneme). Pleremes are also elements between which syntactic relations may hold. Being minimum entities in syntax, pleremes combine by tactic relations and their combinations form syntagms.

With regard to the foregoing, we may point out that the defining feature of morphology is that any constructional relations which occur in it must be, by definition, symmetrical simultaneity relations, i.e. total absence of any potential for internal asymmetry

¹"Moneme" for "minimum morphological entity". This implies "minimum grammatical entity". Monemes are the grammatical analogues of distinctive features.
"Plereme" for "self-contained (by definition: simultaneous bundle of one or more monemes as its immediate (and at the same time: ultimate) constituents"; "Syntagm", on the other hand, is defined as "self-contained bundle of positions in grammar" or as "instance of a self-contained bundle of positions in grammar" (cf. Defs. 8b3, 8b1, and 9b, respectively, in Mulder, "Postulates for Axiomatic Functionalism").

is the defining feature of morphological constructions. In other words, morphology is that grammatical sub-system which deals with the analysis of signs into simultaneous bundles. The essential characteristic feature of syntax, on the other hand, is that constructional relations occurring in it are, by definition, relations between elements that can stand in tactic relations¹ with one another, i.e. between syntactic entities (pleremes and syntagms)².

In other words, syntax deals with the analysis of syntagms into lower level syntagms until we arrive at their ultimate constituents, the pleremes. The latter are conceived of as minimum orderable units in syntax but maximum grammatical entities in morphology.

	Morphology	Syntax
Atomic	Moneme "-ful" in "spoonful"	Plereme "spoonful" in "one big spoonful"
Molecular	Plereme "spoonful"	Syntagm "one big spoonful"

Morphology and syntax interlock with one another in that the former provides the basic grammatical elements (pleremes) for the latter.

¹Note that tactic relations are not necessarily syntagmatic (i.e. ordering) relations, but they are between syntagmatic entities (cf. Def.7c3, "Postulates for Axiomatic Functionalism").

²"Syntactic entity" for "syntagmatic entity in grammar" (Def.7d, "Postulates for Axiomatic Functionalism"). Note that "plereme" and "syntagm" are two types of syntagmatic entity (cf. Mulder's "Postulates for Axiomatic Functionalism").

Furthermore, phonology and grammar interlock with one another in that the distinction between the forms of grammatical entities is achieved by means of the formal differences between phonological entities, i.e. phonology provides the phonological forms that are involved in the manifestation of the entities in grammar. In terms of entities we may point out that the monemes in grammar are analogous to the distinctive features in phonology while the pleremes are on a par with the phonemes, and the phonotagms are, generally speaking, on a par with the syntagms. That is to say, morphology is the analogue of phonematics while syntax (with certain reservations that will be explained below) is the analogue of phonotactics. It is important to note that phonotagms are not as fully analogous with syntagms as the other pairs (monemes and distinctive features or pleremes and phonemes) of the analogy are. The limits of the analogy between phonotactics and syntax may be seen as follows:

while phonology does not, in general, envisage the combination of phonotagms into higher level phonotagms, it is a commonplace in syntax that syntagms may combine into higher level syntagms. The infinite "output" of syntax, as opposed to the large but finite "output" of phonotactics is linked to this property. The analogy between morphology and phonematics, on the one hand, and between syntax and phonotactics, on the other, may be schematized as follows:

	PHONOLOGY		GRAMMAR	
	phonemetics	phonotactics	morphology	syntax
Atomic	distinctive features 'unvoiced' 'fricative' 'labial' in /f/	phoneme /f/ in /fain/	moneme "-ful" in "spoonful"	plereme "spoonful" in "one big spoonful"
Molecular	phoneme /f/	phonotagm. /fain/	plereme "spoonful"	syntagm "one big spoonful"

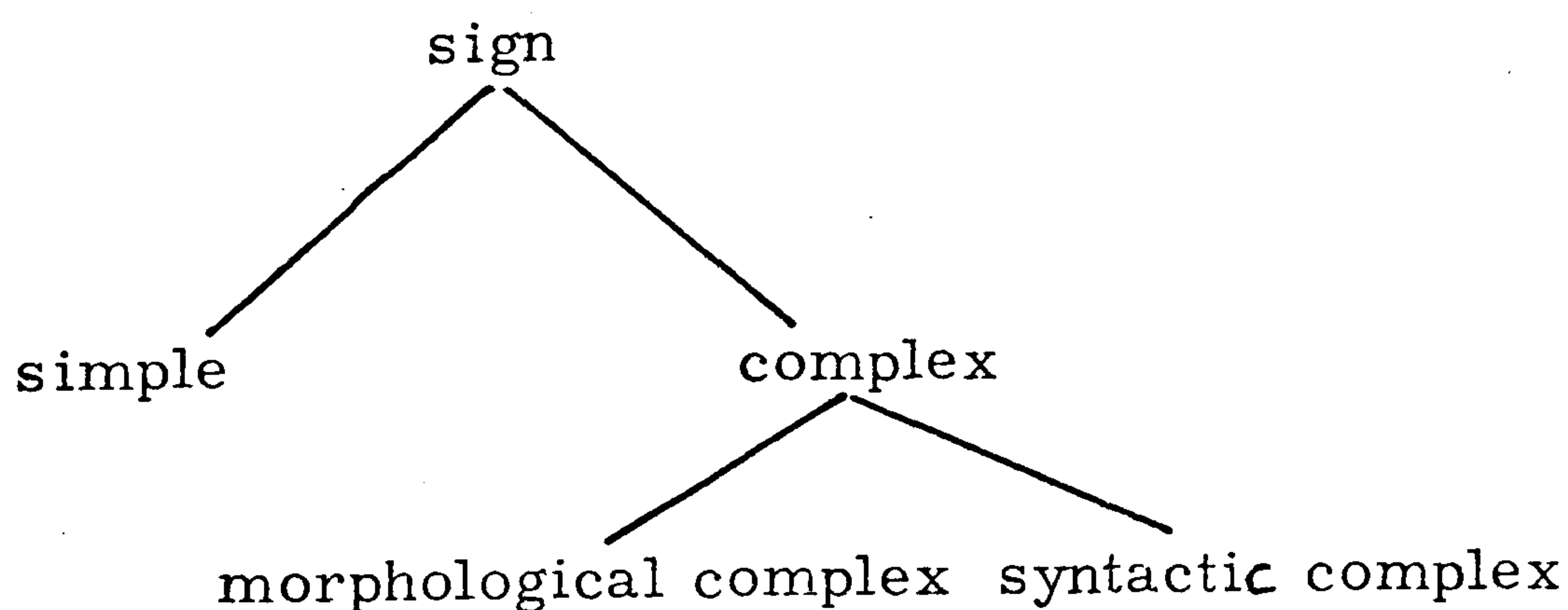
Grammar is linked to phonology via the concept "allomorphy" (see diagram on page 21) and phonology to phonetics (the latter does not belong to linguistic description proper but is a "tool" of that description) via the concept of "allophony". The task of "allomorphy" is to link the systemic entities of grammar (signs) to their phonological forms (assigning appropriate phonological value to grammatical elements) while "allophony" has the task of linking the systemic entities of phonology (phonological elements) to their phonetic forms (assigning appropriate phonetic value to phonological elements).

"Allophony" and "allomorphy", in Axiomatic Functionalism, constitute the "realizational aspect" of phonology and grammar, respectively;

they are neither sub-systems nor interlevels: "to call them interlevels may even be misleading, because as soon as we are dealing with allophones, i.e. as soon as we have brought in "distinctive function", we are no longer in phonetics, but in phonology. Similarly, allomorphs belong to grammar, not to phonology"¹. It would be a mistake to view the link between phonology and grammar as being uniquely mediated between maximum elements of the former and minimum elements of the latter. Furthermore, allomorphy is conceived of as a companion to the whole of grammar and not to a particular sub-system, in that all grammatical entities whether they are monemes, pleremes, or syntagms have a realizational aspect.

3. Morphological Complexes and Syntactic Complexes

With view to the morphology-syntax dichotomy noted in the preceding section, signs (in language) may be classified according to their degree of complexity as follows:



¹ cf. J.W.F. Mulder, "Syntax in Axiomatic Functionalist Linguistics", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

A simple sign is a sign not capable of further functional analysis, i.e. it is not analysable into smaller constituent signs. By calling X a complex sign is meant that it is a complex of signs in which case X has at least two constituents each of which is a sign in its own right, and it contains no constituents that are not signs.

Complex signs may either be morphological or syntactic, depending on whether the constituents of complex sign X are simple signs which do not tolerate any potential for internal asymmetry, in which case complex sign X is a simultaneous bundle of its constituents; or whether the constituents of complex sign Y stand in a syntactic relation to one another. Monemes are, by definition, minimum morphological entities, i.e. simple signs, which combine without syntactic relations; their combinations form simultaneous bundles, with each bundle assignable only to one position in syntax.

A morphological complex may then be viewed as a simultaneous bundle of at least two monemes in a relation of simultaneity with one another. Pleremes, on the other hand, are minimum syntactic entities that may be viewed analytically by considering the monemes

of which they are simultaneous bundles. Pleremes are also elements between which syntactic relations may hold; their combinations form syntagms. A syntactic complex may then be seen as a complex sign containing at least two constituent signs in a syntactic relation with one another¹.

2

DEFINITIONS

"Simple sign" for "sign not consisting of more than one moneme".

"Complex sign" for "sign consisting of more than one moneme".

"Morphological complex" for "complex sign not consisting of more than one plereme".

"Syntactic complex" for "complex sign consisting of more than one plereme".

¹Note the distinction between "syntactic" and "syntagmatic" relations. "Syntactic relations" are tactic relations in grammar" while "Syntagmatic relations" are "ordering relations between semiotic entities in combinations" (cf. Def.7d1 and Def.7b1, in Mulder's "Postulates for Axiomatic Functionalism"). For more details about morphological complexes as opposed to syntactic complexes, the reader is referred to S.G.J. Hervey and J.W.F. Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", La Linguistique 9, 1973 (re-printed in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980).

²cf. S.G.J. Hervey, Axiomatic Semantics: A Theory of Linguistic Semantics, Scottish Academic Press (1979).

CHAPTER III

CRITERIA FOR MORPHOLOGICAL ANALYSIS

In the discussion on the place of morphology in Axiomatic Functionalism (cf. Chapter II), a distinction was drawn between two types of grammatically complex sign operating on two different constructional levels: morphological complex (complex sign not consisting of more than one plereme) and syntactic complex (complex sign consisting of more than one plereme). Axiomatic Functionalism proposes a methodology consisting of the step-by-step application of four successive criteria for the identification of morphological complexes in "proper language" as opposed to syntactic complexes¹.

The criteria run as follows:

- (1) A morphological complex must be a self-contained potential constituent in grammar².

¹ cf. S.G.J. Hervey and J.W.F. Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press(1980). This chapter represents an explanation of these criteria on which the present description is based.

² Mulder now stresses the fact that there are certain self-contained morphological complexes that have no syntactic potential in that some semiotic systems may have only morphology but no syntax: e.g. morphological complexes in the system of traffic signs are ipso facto sentence-bases (they are not potential constituents).

(2) A morphological complex must contain at least two fully-fledged signs, and no constituents that are not fully-fledged signs, otherwise it is not complex on the grammatical level.

(3) A Morphological complex must contain only simple signs, i.e. all immediate constituents of a morphological complex must, at the same time, be its ultimate constituents.

(4) The constituents of a morphological complex (simple signs) must be constituents of a construction that does not tolerate any potential for constructional asymmetry within itself.

The first two of the criteria outlined above are concerned with identifying a potential morphological complex as being a complex of signs, while the last two deal with entities that are already identified as complex signs; they deal with the complexes in terms of discriminating between morphological complexes and syntactic complexes.

With respect to the identification of morphological complexes as opposed to syntactic complexes, it is important to note that the four Axiomatic Functionalist criteria must be applied in their order of precedence. This means that a particular entity does not qualify as morphologically or syntactically complex unless that entity is identified first as a self-contained potential constituent in grammar and second as a complex sign. In what follows, I propose to give a detailed explanation of these criteria.

A Morphological Complex as a Self-contained Potential

Constituent in Grammar

The notion "plereme" may be defined equivalently as a self-contained simultaneous bundle of one or more monemes, or as a minimum syntagmatic element in grammar¹. A morphological complex is not only a self-contained simultaneous bundle of two or more monemes (complex sign not consisting of more than one plereme) but it is also a minimum syntagmatic element in grammar. Furthermore, minimum syntagmatic elements are, by definition, syntactic constituents. Therefore, it is theorematic in Axiomatic Functionalist theory that a morphological complex must be a potential syntactic constituent². In order to determine whether a particular entity is a self-contained potential constituent in grammar or not, we try to commute that entity with other constituents in the same context. Thus, for instance, taking the tentative complex "spoonful", we find that it is a self-contained potential constituent in, say, "one big spoonful" where it commutes with "apple", "cake", "envelope", etc.

1

cf. J.W.F. Mulder, "Postulates for Axiomatic Functionalism", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

2

See Footnote 2 on the first page of this chapter.

A Morphological Complex Contains at Least Two Signs

According to the second Axiomatic Functionalist criterion, a self-contained potential grammatical constituent qualifies as a complex sign if it contains at least two constituent signs. The test by which we determine whether a particular potential grammatical constituent is a complex sign or a simple sign is commutation. In order to avoid pseudo-analysis, it is essential to ensure that commutation is conducted between constituent signs only, in which case analyses with residual elements are rejected. This follows actually from the idea that "complex sign $yRz =$ "complex (consisting) of signs \underline{y} and \underline{z} (in a constructional relation R)".

Following the implications of the statements above, we can say that within a complex sign \underline{X} it is possible to identify a constituent sign \underline{y} if and only if \underline{y} recurs in at least one context other than \underline{X} , with the same form or a combinatory variant of that form, and the same denotation. This holds, of course, only provided that this procedure can be repeated for each of the other constituent(s) in \underline{X} , due to the necessary condition stipulated by Axiomatic Functionalism that "unless each of the constituents can be identified as a sign, none of the constituents can be identified as a sign"¹. It must also be remembered that a constituent \underline{y} ,

¹Hervey and Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics).

in order to qualify as a constituent sign, appears as an element with a certain form and a certain denotation in any complex of which it is said to be a constituent. This denotation is a constant function of that sign, a fact which follows from the very definition of the notion "sign"(in Axiomatic Functionalism). Consequently, y can only be identified as a sign within a complex, if the denotation of the complex is in some way a function of the denotation of y , plus, of course, of the other constituent(s) and of the relation(s) between them.

Axiomatic Functionalism also maintains that in any complex sign the semantic role of the relation(s) between immediate constituent signs can be partially, but not exhaustively, accounted for by the rough paraphrase "the denotation of the complex sign bears some relation to the denotation of each of the immediate constituents"¹. Furthermore, within a complex sign, the denotation of each of the immediate constituents bears some relation, semantically speaking, to that of the other immediate constituent(s), and, of course, vice versa.² Thus for instance, the tentative complex sign X whose

¹ Hervey and Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press(1980).

² ibid.

equally tentative constituents y and z stand in some grammatical relation R to one another can be broken down with regard to semantic role as follows:

X

y	R	z
denotation of y	which bears some relation to	denotation of z
denotation of z	which bears some relation to	denotation of y

The identification of X as a complex sign hinges on both y and z being identifiable as fully-fledged signs. We can validly identify y and z as immediate constituents in X if and only if each y and z recur with the same form or a combinatory variant of that form, and the same semantic role in at least two complexes, namely X1 and X2, which are equivalent to X as to the relation (which means also: the semantic role of the relation) between their immediate constituents. In other words, X can be demonstrated to be a complex sign if we are able to commute the tentative constituents y and z, one at a time, each with another constituent or with zero. It should be noted that while applying the commutation test, we must make sure

that the context, together with the denotation of the tentative constituent(s) and the semantic function of the relation(s), is kept constant. We may also note that, if it is found that one of the tentative constituents of \underline{X} , i.e. either \underline{y} or \underline{z} , is identified as a constituent sign but the other is not, \underline{X} will have to be treated as unanalysable (i.e. pseudo-composite), due to the necessary condition that "unless each of the constituents is identified as a sign, none of the constituents can be identified as a sign".

Taking, for instance, the self-contained potential grammatical constituent "spoonful" (see above). to be a complex sign containing the constituent sign "spoon" and the constituent sign conventionally represented as "-ful", we find that the tentative complex in question can be broken down with regard to semantic role as follows:

"spoonful"

spoon	R	-ful
denotation of "spoon" (utensil having a round or oval bowl and a handle for stirring or serving food)	which bears some relation to	denotation of "-ful" (amount filling x)
denotation of "-ful" (amount filling x)	which bears some relation to	denotation of "spoon" (utensil having a round or oval bowl and a handle for stirring or serving food)

The identification of two component signs in "spoonful" seems to be tenable, as can be demonstrated by the commutation conducted in the equivalent contexts instanced below:

"spoonful"

spoon	R	-ful
denotation of "spoon" (utensil having a round or oval bowl and a handle for stirring or serving food)	which bears some relation to	denotation of "-ful" (amount filling x)
denotation of "pipe" (instrument for smoking tobacco)	which bears some relation to	denotation of "-ful" (amount filling x)
denotation of "spoon" (utensil having a round or oval bowl and a handle for stirring or serving food)	which bears some relation to	denotation of "Plural" (more than one)

It seems possible on the face of it to treat, for instance, the construction "penniless" as a complex of two signs, namely "penny" and "less". This, however, can only be done consistently if all the tentative constituents (in this case both) can be identified

as signs. To begin with we may note that an element with the same "form" as the tentative constituent "penny" can be identified in contexts other than "penniless" such as "there is a penny on the table". However, the hypothesis that in the context "there is a penny on the table" the element with the same "form" as the tentative constituent "penny" has also the same (or at least similar) denotation as that of the tentative constituent within "penniless", is easily refuted. That is to say, the attempted analysis of "penniless" into two constituent signs breaks down on the identification of the tentative constituent *"penny" in that complex with any other element having the form /peni/ (or a contextual variant element), playing a semantic role equivalent to that of *"penny". The element *"penny" in "penniless" is not to be identified with the word "penny" (denoting that bronze coin which has a value equal to one hundredth of a British pound) for a person lacking in financial means can be called "penniless" regardless of the currency used in the country of which that person is a national. Thus, for instance, a Spaniard lacking in financial means is not *"pesetaless", but "penniless", i.e. no reference to the currency value "penny" is intended.

The fact that *"penny" in "penniless" cannot be identified as a constituent sign already implies (as pointed out earlier) that the other tentative constituent, namely *"less", cannot be identified as a sign either. Under these circumstances, we are virtually

forced to treat "penniless" as unanalysable (i.e. pseudo-composite)¹.

A Morphological Complex Must Have As Its Constituents

Simple Signs Only

By virtue of this criterion, we must note that none of the immediate constituents of a morphological complex are, by requirement, allowed to be complex signs. In other words, all the immediate constituents of a morphological complex are, at the same time, its ultimate grammatical constituents, i.e. not further analysable into smaller grammatical constituents; e.g. the complex sign "spoonful" with its two simple signs "spoon" and "-ful". Attention is drawn at this point to the fact that if it is demonstrated that the immediate constituents of a particular complex sign are its ultimate constituents that complex does not qualify as a morphological complex without applying the fourth and final criterion (see below)². It must also be remembered that if a discrepancy is noted between ultimate and immediate constituents of a particular complex sign this is sufficient evidence to conclude that that complex is syntactic (i.e. the assumption that the complex in question is morphological has been refuted).³

¹ Pleremes that give a strong initial impression of being complex, perhaps because they have traditionally been so regarded, or because their historical origin as preserved in their written forms etc. is a grammatical complex, but which turn out, on strict synchronic analysis, to be unanalysable are referred to as "pseudo-composites".

² cf. Part III, Chapter I: "Pseudo-words".

³ ibid.

A Morphological Complex As a Simultaneous Bundle
of Its Constituents

The last Axiomatic Functionalist criterion demands that a morphological complex must not have any potential for tolerating constructional asymmetry within itself because the constituents of a morphological complex (simple signs), by definition, stand in a relation of simultaneity to one another. As opposed to this, a complex of constituents with syntactic relations between these constituents is a syntactic complex (syntagm). It is important to note at this point that relations of simultaneity (a morphological complex is a simultaneous bundle of its constituents) cannot be positively or directly proved to operate in a construction. Therefore, in determining whether a given complex is morphological or syntactic, we first assume that the complex in question is a simultaneous bundle of its constituents and then we attempt to refute this assumption by trying to produce evidence of syntactic relations within the complex itself. If the hypothesis is not refuted then the complex as it stands is considered to be morphological.

With respect to the identification of the type of relation that obtains between constituents in a given complex, it is important to note that only internal evidence must be brought to bear in deciding whether the relation is symmetrical (simultaneity) relation or syntactic relation. By internal evidence is meant evidence that pertains to the internal structure of the complex, i.e. evidence that

is not elicited from the nature of the complex as a constituent in a larger complex. This means that external evidence (i.e. the potential behaviour of a complex as a constituent in a larger complex) must not be used in determining the type of relation holding between the constituents of a given complex¹.

In attempting to refute the hypothesis that a particular complex sign is a morphological complex, Axiomatic Functionalism proposes two tests:

- (1) Reversibility, i.e. "Permutation", and
- (2) Commutation with a syntagm.

Reversibility (Permutation)

A symmetrical relation is a relation characterized by absence of functional ordering. a and b as constituents in complex X are said to be in a symmetrical simultaneity relation with one another only if, the relation of a to b is not functionally different from that of b to a. This is another way of saying that the converse of the relation is the same as the relation itself. Functional ordering can be demonstrated by the reversibility of a and b, i.e. if a in relation to b is functionally distinct from b in relation

¹External evidence is rather misleading. For instance, in the case of constituent X as in, say, "X eats grass", the possibilities are wide open for this constituent to be a syntagm ('the old black cow') in "the old black cow eats grass", a complex plereme "cows" in "cows eat grass" or a monomonematic plereme "it" in "it eats grass". For more details about internal and external evidence, see Hervey and Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press(1980).

to a (aRb is functionally distinct from bRa) then it is demonstrated that the relation which holds between a and b is not a symmetrical (simultaneity) relation but an asymmetrical relation. The latter obtains only between syntagmatic elements and, consequently, the constituents a and b of the complex X must be regarded as syntagmatic elements which are assignable to syntactic positions. This, of course, is tantamount to saying that complex X is syntactic and not morphological. Thus, for instance, taking the construction "car show" to be a complex of the sign "car" and the sign "show", we find that by permuting "car" with "show" we get the complex sign "show car". The identity of both "car" and "show" is kept constant in both "car show" and "show car". The difference between the two complexes, however, ("car show" and "show car") is made ostensible by the relations that hold between the constituents of each of them (i.e. "car" R "show" in "car show" is functionally different from "show" R "car" in "show car"). This points to the fact that "car show" is a syntactic complex.

Commutation with a Syntagm

The procedure of commutation with a syntagm may be summed up as follows. X is a complex sign whose constituent signs y and z are demonstrably simple. y and z stand in a constructional relation to one another (the type of relation, i.e. whether it is a morphological simultaneity relation or tactic relation, is not known). If within the complex X, keeping y constant, we can commute at least one element Q with z, in such a way that Q stands

demonstrably in a position (i.e. syntactic relation) with respect to y, then z, standing in an equivalent relation to y, must stand also in a position with respect to y. Furthermore, if any constituent of Q stands in a separate position from any other constituent of Q, then Q itself, being a syntactic element (syntactic complexes cannot form part of a morphological complex-- only monemes can), stands, as an immediate constituent alongside with y, demonstrably in a syntactic relation to y. If the commutation of Q with z is a valid commutation¹, the relation of y to Q as immediate constituents is equivalent to the relation between the immediate constituents y and z in the complex X.

The fact that the relation R in (yRQ) is a syntactic relation means that the equivalent relation R between y and z in the complex X has also been demonstrated to be a syntactic relation. In other words, complex X is not a simultaneous bundle of its constituents but rather a syntactic complex, i.e. it is a complex of constituents standing in a syntactic relation to one another.²

Let us assume that the construction "quiz book" is a complex sign in which the immediate constituents -- both simple signs-- "quiz" and "book" have been identified but without knowing the type of relation holding between them. A syntagm such as "quiz and story"

¹By valid commutation is meant that the context, together with the denotation of the tentative constituent(s) and the semantic function of the relation(s), is kept constant.

²Having tried and failed to commute one of the constituents of a particular complex with a syntagm, one must then repeat the same test for each of the other constituents, and only if none of the other constituents commutes with a syntagm can we claim that the criterion has produced negative results i.e. the complex in question is morphological.

(with "story" being subordinated to "and" we may show asymmetry within "quiz and story") validly commutes with "quiz" in "quiz book" producing the complex "quiz and story book" (book that has quizzes and stories in it) in which case the constituent "quiz and story" stands in the same type of relation to "book" (also semantically) as "quiz" stands to "book" in "quiz book". On the first level of analysis, the complex "quiz and story book" has the immediate constituents

quiz and story // book

and on the next level of analysis "quiz and story" has the immediate constituents

quiz // and story.

At a yet lower level of analysis "and story" may be further analysed into the immediate constituents

and // story.

It is clear from this illustration that on the lowest level of analysis the constituent "and" and the constituent "story" stand in separate syntactic positions, i.e. the two constituents are in a syntactic relation to one another. With "story" being subordinated to "and" we have shown asymmetry within "and story". On the next higher level, therefore, the constituents "quiz" and "and story" stand also in separate syntactic positions which means that "quiz and story" is a syntactic complex. Consequently, the immediate constituents "quiz and story" (syntactic complexes cannot form part of a morphological complex, only monemes can) and "book" are also in

a syntactic relation to one another in "quiz and story book", and it is demonstrably the case that "quiz and story book" is a syntactic complex. We may then conclude that since "quiz" (in "quiz/ book") and "quiz and story" (in "quiz and story / book") validly commute with one another as immediate constituents to "book" (i.e.

"quiz and story" R "book" is equivalent on that to "quiz" R "book")

"quiz" stands also in a syntactic relation to "book" in "quiz book".

The complex "quiz book" is, therefore, demonstrably syntactic.

To return to our example "spoonful" (which has already been identified as a complex sign whose immediate constituents "spoon" and "-ful" are its ultimate ones) we find that the requirements for a valid commutation of "spoon" (and the same holds for "-ful") with a syntagm cannot be fulfilled. That is to say, no valid commutants containing elements demonstrably standing in positions can be found in the case of the constituents of "spoonful":

- | | |
|-----------------------|-----|
| (a) spoon | ful |
| (b) spoon and fork | ful |
| (c) spoonful and fork | ful |

Neither "spoon and fork" in (b) nor "spoonful and fork" in (c) validly commutes with "spoon" in "spoonful". In the case of (b), we have the elliptical construction "spoon(ful) and forkful"¹. Although

¹For more details about ellipsis, see J.W.F. Mulder, "On the Representation of Syntactic Structures" and "Some Difficult Cases in Syntactic Analysis", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

in (c) we have an acceptable complex "spoonful and forkful", it is worthwhile noting that "spoonful and fork", as it stands, is not a self-contained constituent of "spoonful and forkful", whose constituents are "spoon/ful /// and // fork/ful".

The point raised above may be summed up as follows. If we could have a sign "spoon and forkful" meaning "something that is at once both a spoonful and a forkful and having the immediate constituent structure "spoon and fork/ful" rather than "spoon(ful)/ and forkful" then "spoonful" would be a syntactic complex. But the absence of this possibility leaves us with the conclusion that "spoonful" is not a syntactic complex. That is to say, "spoonful" is a morphological complex in that it does not tolerate any potential for relational hierarchy or syntactic positions within itself.

PART II

FURTHER THEORETICAL NOTIONS AND
DESCRIPTIVE CONVENTIONS

CHAPTER I

THE NATURE OF THE LINGUISTIC SIGN

1. The Notion "Sign"

In Axiomatic Functionalism, the sign is envisaged as the conjunction of a particular formal aspect, expression (E), and a particular meaning-bearing aspect, content (C)¹. Expression and content are inseparably united, i.e. E and C mutually imply each other². This means that a given sign is the bi-unity of expression (E) and content (C), where a given E implies a given C and vice versa. The relationship between E and C may be represented as follows:

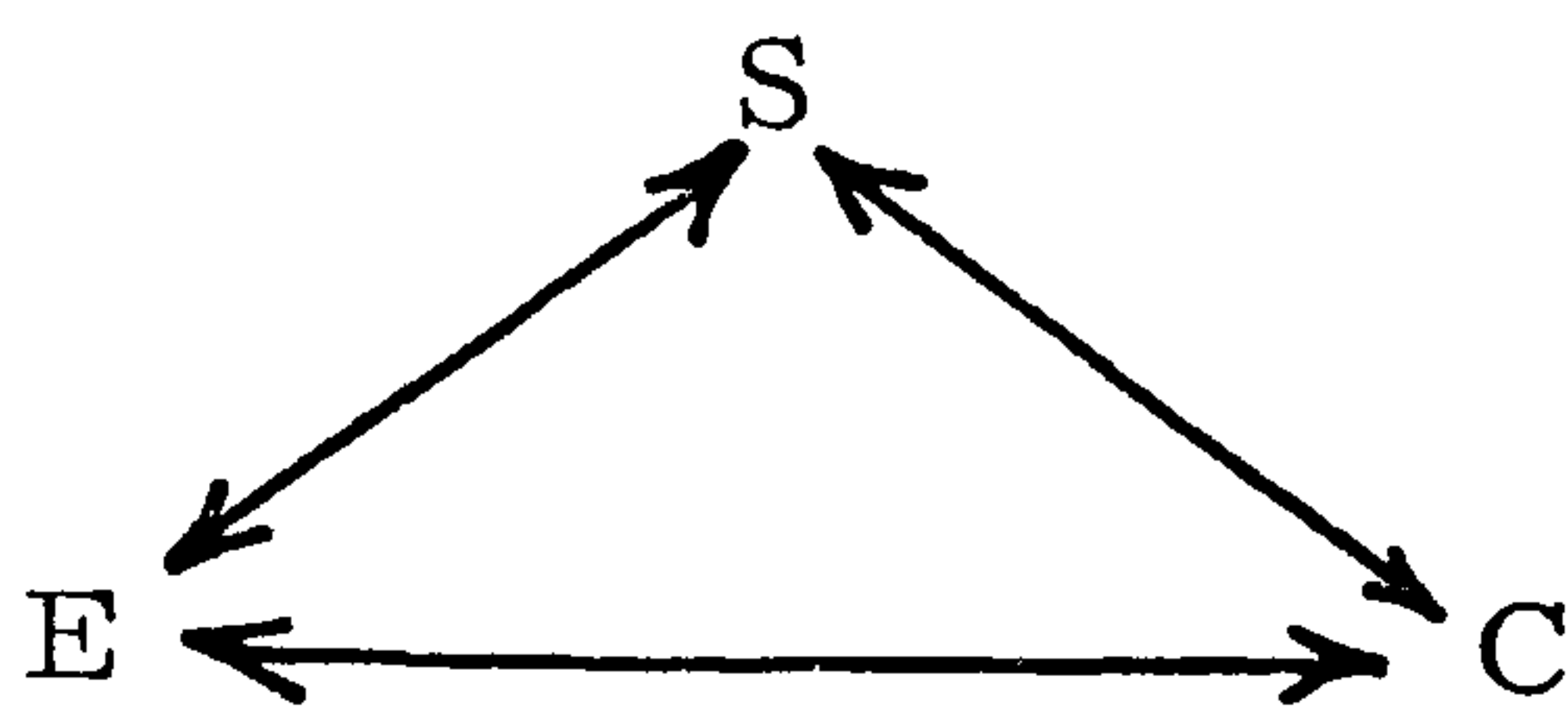


¹cf. J.W.F. Mulder and S.G.J. Hervey, Theory of the Linguistic Sign, Mouton (1972). This section which is presented in synopsis represents a vastly compressed explanation of what is stated in the work above.

²Note that Mulder's concept of the linguistic sign, after de Saussure, brings more precision to linguistic description and is devoid of mentalistic overtones which are inherent in the Saussurian concept. A detailed discussion of this point lies outside the scope of the present chapter. It will be sufficient for our present purpose to say that Mulder has clarified the implications of the relationships between the components of the sign, especially with respect to the notions "expression", "content", "homonymy", "synonymy", and "allomorphy" (cf. Mulder, Sets and Relations in Phonology, Oxford University Press, 1968; "On the Art of Definition, the Double Articulation of Language and Some of the Consequences", Forum for Modern Language Studies 5, 1969; "From Sound to Denotation", Folia Linguistica 6, 1973; "Postulates for Axiomatic Functionalism", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980. See also S.G.J. Hervey, Formal Semantics, Scottish Academic Press, 1979).

By virtue of this mutual implication we may say that expression and content are equivalent. Furthermore, by virtue of the mutual implication between expression and sign (S), i.e.

$E \longleftrightarrow S$, on the one hand, and content and sign, i.e. $C \longleftrightarrow S$, on the other, the notions expression, content, and sign may be said to be equivalent (see diagram below). That is to say,



expression, content, and sign represent "three different ways of looking at the same thing. Using the term 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"¹. For the sake of convenience, however, I shall proceed by talking about the sign in terms of its expression.

"Expression" is defined as "a particular self-contained class of one or more phonological forms $\{ p \}$, each member p in its capacity of standing in a relation with a particular distinctive function s "². In notation, "expression" is symbolised $\{ p \} R_s$, where

¹ Mulder and Hervey, Theory of the Linguistic Sign, the Hague: Mouton (1972).

² cf. Def. 24a in Mulder's "Postulates for Axiomatic Functionalism", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

p = a phonological form
 $\{p\}$ = a class of phonological forms
 R = in its capacity of having
 s = a particular distinctive function
in grammar¹.

This implies that each \underline{p} of the class $\{p\}$ in $\{p\} R_s$ stands in relation with one and the same grammatical distinctive function "s". Accordingly, $\{p\} R_s = p_1 R_s \cup p_2 R_s \dots \cup p_n R_s$. Example: the "phonological form" of the "Plural" sign in English (cf. the "Plural"-moneme in the descriptive part) equals $/iz/ \cup /z/ \cup /s/ \cup /\phi/ \cup /e \sim a/ \cup /Ri \sim u/ \dots$ etc. (\cup : logical symbol signifying the union of terms). These phonological features represent the phonological manifestations of the allomorphs of the "Plural" sign in such words as "horse", "eye", "bank", "sheep", "man", and "foot", respectively. "Expression", then, may be viewed as a class of allomorphs and its relation to the notion "phonological form" is via those allomorphs²; hence the

¹"Distinctive function" for "the set of commutations in which a semiotic entity may partake" (cf. Def. 7a3, in "Postulates for Axiomatic Functionalism"). Note that distinctive function, with a view to the ontological distinction between phonology and grammar (cf. Part I, Chapter II) has two different manifestations: distinctive function in phonology and distinctive function in grammar, the latter is symbolised by "s" and the former by "d".

²"Allomorph" for "a particular phonological form \underline{p} , member of a particular class of phonological forms $\{p\}$, in its capacity of standing in a relation with a particular distinctive function "s" (cf. Def. 24a1, "Postulates for Axiomatic Functionalism").

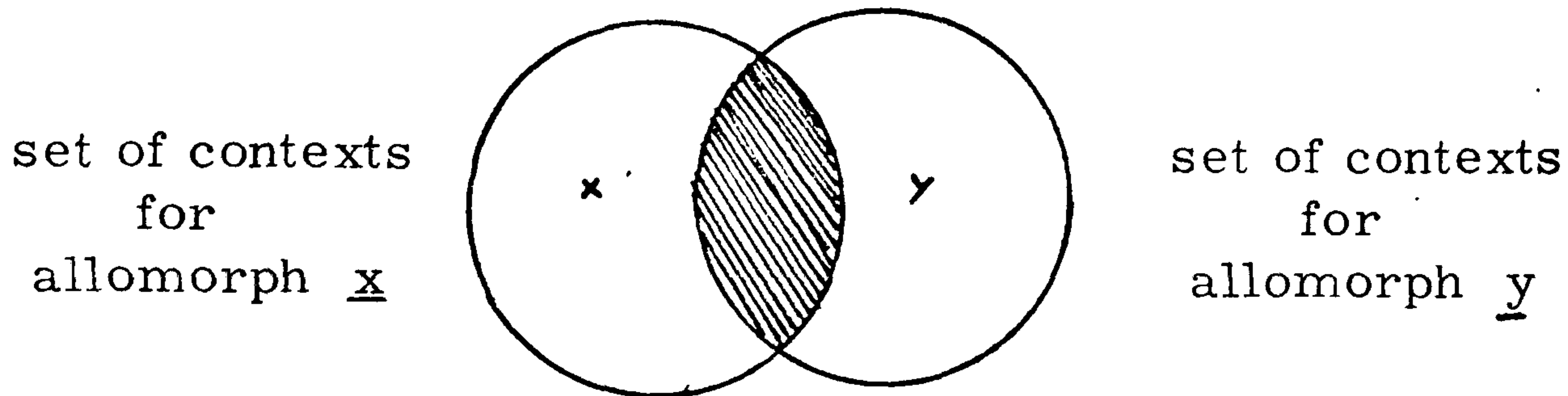
distinction between "expression" and "morph" (or "allomorph"), on the one hand, and "morph" and "phonological form", on the other¹. It is worthwhile noting at this point that, strictly speaking, all allomorphs correlate with differences that are phonologically manifested rather than just with phonological forms (this point will be discussed in detail in the next chapter "Allomorphy") .

By virtue of the mutual implication between "expression" and "sign" (see above) we may say that the sign is a class or set of allomorphs; so is "content". Each allomorph has a phonological form which is a term of a member of the "expression" of the sign. As members of a given sign, allomorphs are equivalent to one another in respect to that sign and each of them represents the sign in question. Allomorphs, as members of a sign (a sign may be a class of one allomorph, i.e. it may have a "unique morph" (cf. section 2 below)², are formally different, but they do not commute with one another because they have the same distinctive function, that of the sign of which they are members.

¹An allomorph, let alone a class of allomorphs, cannot be analysed into phonemes. An allomorph of the "Plural" sign "/iz/", for instance, should not be analysed into /i/ R "Plural" and /z/ R "Plural". If such an analysis were made we would be assigning to phonemes a grammatical distinctive function as well as a phonological one, and this is logically absurd. On the other hand, an analysis into /i/ and /z/ implies that, first, the "phonological form" has been "extracted" from the "morph", by abstracting away from the grammatical distinctive function "s" of the latter.

²For "unique morph", see S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979).

Generally speaking (but with certain reservations that will be explained below), allomorphs are, with regard to distribution, in combinatory (contextual) variance, i.e. in mutually exclusive distribution:



Thus, for instance, the elements "/bRi/", "/am/", "/iz/", and "/ar/", in English, are combinatory (contextual) variants of the sign "to be"; the phonological representations¹ refer to the forms of the allomorphs of the sign "to be" in constructions such as those instanced below:

Susan will be nine this August

I am in my study

He is in the garden

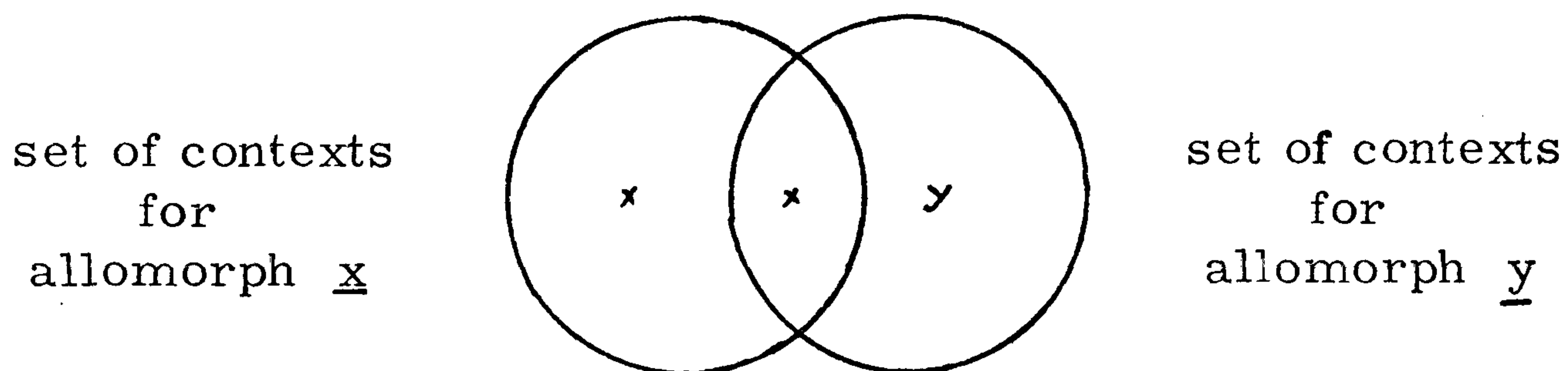
The boys are in the playground.

In the case of pure free variance, we do not speak of allomorphs, but of different signs -- synonyms if these signs turn out to be

¹For the phonemic notation used throughout the present work, the reader is referred to J.W.F. Mulder and H.A. Hurren, "The English Vowel Phonemes from a Functional Point of View and a Statement of their Distribution", La Linguistique, 4 (1968).

denotationally equivalent¹. Thus, for instance, the elements "/aiðr/" and "/Riðr/" (corresponding to the written form "either", in English) may be conceived of, in distributional terms, as free variants of one another.

Attention must be drawn to the fact that contextual variance between allomorphs of the same sign is not always, and is not required to be, "perfect". Thus, for instance, in certain grammatical contexts there may be occasional free variance between some of the alternative allomorphs of a particular sign whose allomorphs are, otherwise, in combinatory variance; in which case these allomorphs may be said to be in mixed variance, i.e. in partially overlapping distribution²:



Taking, for instance, the elements "/rbl/" and "/rbl ~ eit/" to be combinatory (contextual) variants of the sign conventionally represented as "-able"³ in such contexts as "acceptable" and "negotiable":

¹In Axiomatic Functionalism, synonyms are conceived of as different signs that, by definition, correspond to identical denotation classes (cf. S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press, 1979).

²The idea of allomorphs being sometimes in partly free, but partly contextual variance is noted by Hervey in Axiomatic Semantics (cf. Chapter VII: "The Identity of Signs").

³... III Chapter VI: The "Characterizer", "Measure" and

"to accept" R "-able" = "acceptable"

and

"to negotiate" R "-able" = "negotiable",

we find that in, for instance, the context "to navigate" the two allomorphs in question are in occasional free variance. In other words, the allomorphs "/rbl/" and "/rbl ~ eit/" in context with "to navigate" may be said to be in mixed variance, i.e. in partially overlapping distribution:

"to navigate" R "-able" = "navigatable"

and

"to navigate" R "-able" = "navigable".

2. The Notions "Morph", Unique Morph" and "Allomorph"

The notion "morph" is defined as a "class of utterances constituted by the intersection of a sign (class of equivalent utterances) and a given form class"¹. A form class, according to Hervey, is constituted by the whole set of utterances corresponding to one and the same phonological form. That is to say, a "form class" is a class of utterances that are "formally similar; similar, that is, with regard to phonological features"².

¹ cf. S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979). Hervey's definition of the notion "morph", while differently expressed, is equivalent to Mulder's definition of the same notion (cf. Mulder, "Postulates for Axiomatic Functionalism" in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980, and "On the Art of Definition, the Double Articulation of Language and Some of the Consequences", Forum for Modern Language Studies, 5, 1969).

² "Form class" for "the set of all and only the utterances whose forms have phonologically equivalent images" (Hervey, "Postulates for Axiomatic Semantics", Def. 3a, in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980).

For example, every utterance which has the phonological form /ber/ (in English) belongs to the form class {"/ber/"} -- regardless of whether it accounts for the realization of the sign "bear" or the sign "bare" (i.e. regardless of differences in grammatically distinctive function).

The fact that one and the same sign, provided that the requirements of the theorems of sign-identity are satisfied¹, may intersect with more than one form class (in Hervey's sense of the term) implies that a sign may have several morphs. The distinction between unique morphs and allomorphs may be explained as follows: if a sign intersects with only one form class, that sign has one morph. Such a morph "whose members constitute the whole of a sign"² will be called a unique morph (e.g. the unique morph "/frl/" of the moneme conventionally represented as "-ful" in the context "pipe" -- cf. the "Measure"-moneme). Allomorphs, on the other hand, are morphs of a sign, provided that the sign has more than one morph.

3. Homomorphy and Homonymy

Mulder defines "homomorph" as "allomorph of one signum having the same phonological form as an allomorph of another signum"³.

¹ cf. S.G.J. Hervey, *Axiomatic Semantics*, especially Chapter VII: "The Identity of Signs".

² ibid.

³ cf. Mulder, "Postulates for Axiomatic Functionalism", Def. 26.

Homomorphy, therefore, may be viewed as a relation of "formal similarity" holding between a given allomorph of sign X and a given allomorph of sign Y in case the phonological form of the allomorphs is the same. Thus, for instance, "/r/" in "worker" and "/r/" in "fabler" (being allomorphs of the monemes which I have labelled "Participant" and "Author", respectively) are homomorphs with respect to one another (cf. Part III, Chapter II: "The So-called "Agentive" Monemes).

"Homonymy" is defined as "total class of allomorphs of one signum, in comparison with and its members having the same phonological form as those of the total class of allomorphs of another signum"¹. Homonymy may, in this definition, be viewed as a case when every allomorph of sign X (perhaps only one allomorph) has a corresponding homomorph among the allomorphs of sign Y (perhaps only one allomorph) and vice versa.

According to Hervey, homonymy may be total or partial,² depending on whether all the allomorphs of sign X have their corresponding homomorphs among the allomorphs of sign Y, or whether some of the allomorphs of sign X are not homomorphs of any of the allomorphs of sign Y, or vice versa (cf. Part III, Chapter II).

In the present description I use Hervey's definition of "homonymy".

¹cf. Mulder, "Postulates for Axiomatic Functionalism"

²The two types of "homonymy" (total and partial) have been introduced by Hervey (cf. Axiomatic Semantics). Note that Hervey's notion "total homonymy" corresponds to what Mulder calls "homonymy" (cf. Def.27, in Mulder's "Postulates for Axiomatic Functionalism").

CHAPTER II

1

ALLOMORPHY

In the discussion on the notion "sign" in Axiomatic Functionalism (cf. preceding chapter) a distinction was drawn between "expression" and "morph" (or allomorph), on the one hand, and between "morph" (or allomorph) and "phonological form", on the other. "Allomorph" is, by definition, a particular phonological form in its capacity of having a particular distinctive function in grammar². Strictly speaking, all allomorphs (in a true Saussurian fashion: "Dans la langue il n'y a que des différences") correlate with differences that are phonologically manifested rather than just with (discrete) phonological forms. It is the fact that many of these are differences between the presence of a particular phonological form (distinctive feature, phoneme or sequence of phonemes) and its absence (\emptyset)-- viz. "discrete allomorph"--

¹The purpose of the present chapter is to offer a general classification of allomorphs on which allomorphs of morphological expansions (cf. Chapter III) will be based.

²cf. Mulder, "Postulates for Axiomatic Functionalism" (Def. 24a1), "From Sound to Denotation", Folia Linguistica 6 (1973), and "On the Art of Definition, the Double Articulation of Language and Some of the Consequences", Forum for Modern Language Studies 5, (1969). See also Mulder and Hervey, Theory of the Linguistic Sign, Mouton (1972).

that has obscured, and continues to obscure, the differential rather than positively phonological nature of the phonological manifestation of allomorphs in general (see discussion below).

Logically speaking, there are four possibilities by which the phonological correlates of allomorphs may be expressed.

These possibilities may be represented as follows:

(1) /x/ ~ /y/ (or /y/ ~ /x/)

(2) /x/ ~ \emptyset

(3) \emptyset ~ /x/

(4) \emptyset (no opposition)

Note that " ~ " can be read: "instead of" or "opposed to". In what follows, I propose to give a detailed explanation of these possibilities.

(1) A particular allomorph may manifest itself by an opposition between one phonological form and another, i.e. /x/ ~ /y/ or /y/ ~ /x/ -- viz. "non-discrete"; zero, it should be noted, cannot be a term of such an opposition. This type of allomorph shall be called Replacive Proper. Thus, for instance, the phonological feature /i/ ~ /u/ represents the phonological manifestation of the allomorph of the "Plural"-moneme in such words as "mouse"/"mice", "louse"/"lice", "tooth"/"teeth", etc. (cf. Part III, "The "Plural"-Moneme"). In some cases the differential may not be located in one place, i.e. /x/ ~ /y/ ... /z/ ~ /q/. In this case the allomorph shall be called scattered replacive: e.g. /...i ~ u...i ~ r/ represents the phonological

form of the allomorph of the "Plural"-moneme in the context "woman".

(2) By $/x/ \sim \emptyset$ is meant that a particular allomorph manifests itself by the presence of a particular phonological form as opposed to the absence of that phonological form-- viz. "discrete". The phonological form may be either continuous (occurring in direct succession in linear sequence) or discontinuous. In the first case (i.e. continuous) the allomorph shall be called uninterrupted and in the second (i.e. discontinuous) interrupted (see definitions below). An example of the "uninterrupted" type is the allomorph $/iz/$ of the "Plural"-moneme in the context "horse". Strictly speaking, however, the allomorph of the "Plural"-moneme in the context "horse" cannot just be said to be $/iz/$ but it is rather $/iz/$ instead of \emptyset , i.e. $/iz/ \sim \emptyset$. The zero, however, may be deleted as "redundant" or "trivial", and only by its omission may one get the impression that $/iz/$ is just a discrete phonological entity, rather than a difference of phonological form.

It is important to note at this stage that certain allomorphs may be manifested partly by an opposition between one phonological form and another ($/x/ \sim /y/$), and partly by opposition of a phonological form to its absence ($/x/ \sim \emptyset$), i.e. one part of the allomorph is non-discrete and the other part is discrete. In this case the allomorph shall, for lack of a better term, be called partially discrete. (Note that such an allomorph may equally be described as "partially non-discrete"). A partially discrete

allomorph may either be contiguous or non-contiguous, depending on whether the non-discrete part is directly juxtaposed to the discrete part or whether the non-discrete part is not juxtaposed to the discrete part. Thus, for instance, taking each of the constructions "eccentricity" and "sincerity" to be a simultaneous bundle of the moneme "eccentric" and the moneme "sincere" plus the "State"-moneme, respectively (cf. Part III, "The "State"-Moneme"), we may describe the allomorphs of the "State"-moneme as having

- (a) the phonological form $/s \sim k_V \text{iti}/$ (in the context "eccentric")--
note that the symbol "V" indicates juxtaposition -- and
(b) the phonological form $/e \sim Ri \dots \text{iti}/$ (in the context "sincere").

That is to say, the "State"-moneme in context with "eccentric" is represented by the contiguous allomorph $/s \sim k_V \text{iti}/$ and in context with "sincere" it is represented by the non-contiguous allomorph $/e \sim Ri \dots \text{iti}/$. Attention may be drawn to the fact that it would be equally possible to treat the allomorph of the "State"-moneme in context with "eccentric" as having the form $/siti \sim k/$. It is only in the light of preserving the connection with the commonly occurring allomorph $/\text{iti}/ \sim \emptyset$ (Suffix Proper) that I have chosen to speak here of a contiguous allomorph.

(3) The third possibility involves a particular allomorph manifesting itself by the deletion of a certain phonological feature ($\emptyset \sim /x/$), i.e. it is manifested by zero as opposed to a particular/specific overt phonological form. Thus, for instance, taking the

complex plereme "German" to be a simultaneous bundle of the moneme "Germany" (represented in other contexts by the allomorph "/dʒr̥rmrni/") and the "Provenance"-moneme (represented in other contexts, e.g. in the context "Chile", by the allomorph "/rn/", e.g. "Chile" R "Provenance" = "Chilean"), we find that in the context "Germany" the "Provenance"-moneme manifests itself as a differential between the absence of a specific phonological feature /i/ and the presence of that feature. That is to say, the "Provenance"-moneme in context with "Germany" manifests itself by the deletion of the phonological feature /i/. In this case the allomorph of the "Provenance"-moneme shall be described as a subtractive allomorph, having the phonological form $\emptyset \sim /i/$ (cf. Part III, Chapter III).

(4) The last possibility by which phonological correlates of allomorphs may be expressed involves allomorphs that have no overt phonological forms either positively or negatively. Such allomorphs, for lack of a better term, shall be called zero-form allomorphs. Thus, for instance, taking the complex plereme "sheep" (in contexts such as "the sheep are grazing in the field") to be a simultaneous bundle of the moneme "sheep" (represented in other contexts by the allomorph "/ʃRip/") and the "Plural"-moneme (represented in other contexts, e.g. in the context "lip" as in "her lips are red", by the allomorph "/S/"), we find that the allomorph of the "Plural"-moneme in context with "sheep" has no overt phonological form (it is not even expressible

as the absence of any particular phonological form) in that no phonological form has been either added or subtracted. In this way, we may represent the allomorph of the "Plural"-moneme in the context "sheep" as follows: \emptyset Rs "Plural".

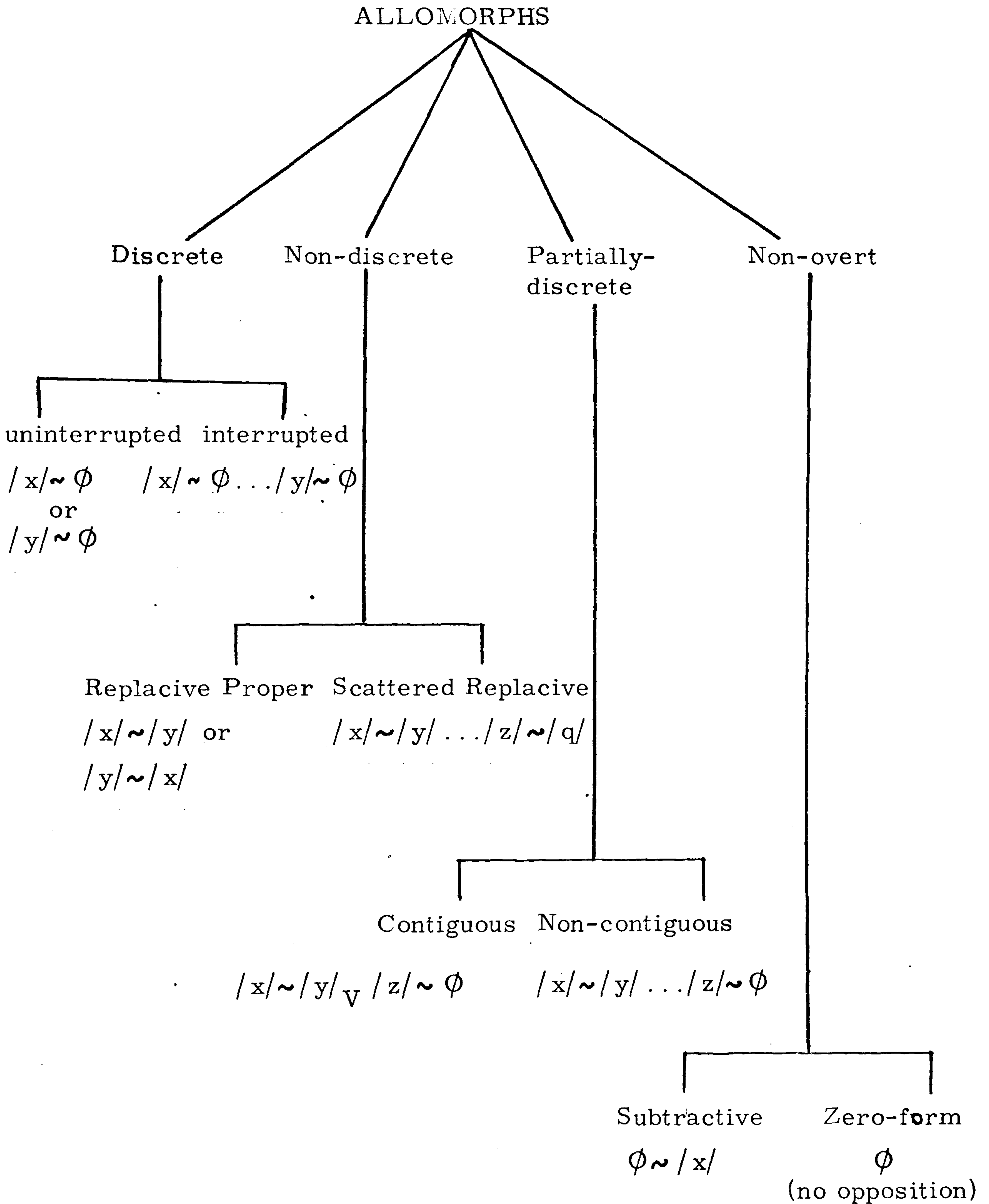
With respect to subtractive and zero-form allomorphs, it may be worthwhile to note that neither type of allomorph, strictly speaking, manifests itself by overt phonological forms (though the former, i.e. subtractive, is, at least, the absence of some specific overt phonological feature) and, therefore, these allomorphs might be classified together under the term non-overt allomorphs.

The inverted tree diagram (Fig.1) on the following page tabulates the types of allomorph discussed in the foregoing paragraphs.

DEFINITIONS

Discrete for "allomorph entirely manifested by a phonological form (distinctive feature, phoneme or sequence of phonemes) that is directly opposed to zero".

Uninterrupted for "discrete allomorph manifested by a continuous phonological form": e.g. the allomorph "/id/" of the "Past"-moneme in the context "to fold" ("to fold" R "Past" = "folded")



(Fig.1)

Note that " \sim " can be read "instead of" or "as opposed to"; the dotted line can read "interrupted" or "not located in one given place in linear sequence"; the symbol " ∇ " indicates "juxtaposition in linear sequence".

- Continuous for "occurring in direct succession in linear sequence".
- Interrupted for "discrete allomorph manifested by a discontinuous phonological form".
- Discontinuous for "not occurring in direct succession in linear sequence".
- Non-discrete for "allomorph entirely manifested by opposition between (overt) phonological forms (zero cannot be a term of such an opposition)".
Alternatively, "allomorph whose phonological form may be represented entirely as a differential between two (overt) phonological forms".
- Replacive Proper for "non-discrete allomorph manifested by the replacement at one given place in linear sequence of an overt phonological form by another": e.g. the allomorph "/e ~ a/" of the "Plural"-moneme in the context "man", i.e. it manifests itself as a differential between /a/ and /e/.
- Scattered Replacive for "non-discrete allomorph manifested by the replacement at two or more different places in linear sequence of an overt phonological form by another": e.g. the allomorph "/...i ~ u...i ~ r/" of the "Plural"-moneme in the context "woman" (cf. The "Plural"-moneme)

Partially-discrete for "allomorph manifested partly by a phonological form directly opposed to zero and partly by opposition between overt phonological forms".

Contiguous for "partially-discrete allomorph whose non-discrete part is directly juxtaposed to the discrete part in linear sequence": e.g. the allomorph "/s ~ k_v iti/" of the "State"-moneme in the context "eccentric" ("eccentric" R "State" = "eccentricity"-- cf. the "State"-moneme").

Non-contiguous for "partially-discrete allomorph whose non-discrete part is not directly juxtaposed to the discrete part": e.g. the allomorph "/e ~ Ri... iti/" of the "State"-moneme in the context "sincere" ("sincere" R "State" = "sincerity").

Non-overt for "allomorph manifested by an absence of phonological form (i.e. \emptyset)

Zero-form for "allomorph manifested by total absence of phonological form": e.g. the allomorph of the "Plural"-moneme in the context "sheep" (as in, say, "the sheep are in the field").

Subtractive for "allomorph manifested by \emptyset as opposed to a particular/specific overt phonological form (i.e. the absence of some specific phonological form), e.g. the allomorph $\emptyset \sim "/i/"$ of the "Provenance"-moneme in the context "Germany" ("Germany" R "Provenance" = "German" -- cf. Part III, Chapter III).

In the classification of types of allomorph above I have not mentioned the complex phenomenon involving allomorphs of two or more signs (in construction with one another) that totally co-incide in one phonological form-- viz. "amalgamation"¹. It is only with the "differential" rather than the "positive" view that allomorphs in amalgamation can be differentiated. In French, for instance, /o/ in "au garçon" is treated by Mulder as the amalgamated realization of the two signs "à" and "le"². In other contexts the signs "à" and "le" are realized by the allomorphs "/a/" and "/l/", respectively, but in the context "au garçon" the realization of "à" which is /o/ \sim /a/ and the realization of "le" which is /o/ \sim /l/ co-incide in the phonological form /o/ of "au garçon". In other words, amalgamation is between two (or more) replacives that manifest themselves at one and the same place in linear sequence,

¹ cf. J.W.F. Mulder, Sets and Relations in Phonology, Oxford University Press (1968) and "On the Art of Definition, the Double Articulation of Language and Some of the Consequences", Forum for Modern Language Studies 5 (1969).

² ibid.

but, which, as replacives, have different phonological correlates (e.g. /o/ ~ /a/ is a different replacive from /o/ ~ /l/).

In the case of amalgamation in English, the following observations may be made. Assuming that a construction like "went" is a simultaneous bundle of

(a) the moneme "to go" (represented in other contexts by the allomorph "/gOu/"), and

(b) the "Past"-moneme (represented in other contexts --e.g. in the context "to row" as in, say, "he rowed for two hours"-- by the allomorph "/d/"),

would entail the following. The allomorph of the sign "to go" in context with the "Past"-moneme manifests itself as a differential between /gOu/ and /uent/, i.e. as a replacive (/uent ~ gOu/), while the allomorph of the sign "Past" may be conceived of as the replacement of /d/ by /uent/, i.e. /uent ~ d/. That is to say, "/uent ~ gOu/" is an allomorph of the sign "to go" in context with the "Past"-moneme and "/uent ~ d/" is an allomorph of the "Past"-moneme. But in the context "went" ("/uent/") the realizations of the signs "to go" and "Past" co-incide in one phonological form /uent/ in which case we cannot separate out the discrete correlates of "to go" from those of "Past"--thence the term "amalgamation"-- because the two replacives (i.e. /uent ~ gOu/ and /uent ~ d/) are manifested at the same place in linear sequence in the same phonological form /uent/.

CHAPTER III

1

MORPHOLOGICAL EXPANSIONS

In the discussion outlining the way Axiomatic Functionalism accomodates morphology as an autonomous sub-discipline of linguistic theory and linguistic description (cf. Part I, Chapter II), we pointed out that a morphological complex (complex plereme) is, by definition, a simultaneous bundle of its constituents.

For convenience in the presentation of the following description, I shall apply the term morphological expansion to that constituent of a morphological complex that directly and separately commutes with zero within that complex itself. A morphological expansion, therefore, is a type of constituent. In other words, this term is applied only to constituents. Thus, for instance, taking the complex plereme "foolish" to be a simultaneous bundle of (a) the moneme "fool" (represented by the allomorph "/fRul/"), and (b) the "Characterizer"-moneme (represented by the allomorph "/iŝ/" -- cf. Part III, "The "Characterizer"-Moneme"), we find that the "Characterizer"-moneme in that context figures as a morphological expansion in that it commutes directly and

¹The chapter aims at introducing two notions: "morphological expansion" and "plereme-base" which I use in the present description.

separately with zero within the complex plereme "foolish". This being the case, the complex plereme "foolish" may be represented as follows:

"fool" $\boxed{\text{"Characterizer"-moneme "/iʃ/"}}$

The square brackets indicate "expansion"¹. On the other hand, taking a complex plereme like "anti-departmental" to be a simultaneous bundle of

(a) the moneme conventionally represented as "anti" (manifested by the allomorph "/anti/"),

(b) the moneme "department" (represented by the allomorph "/dipartmrnt/"), and

(c) the "Characterizer"-moneme (represented by the allomorph "/l/"),

we find that each of the two constituents (the moneme "anti" and the "Characterizer"-moneme) answers the definition of morphological expansion in that either of these monemes can commute directly,

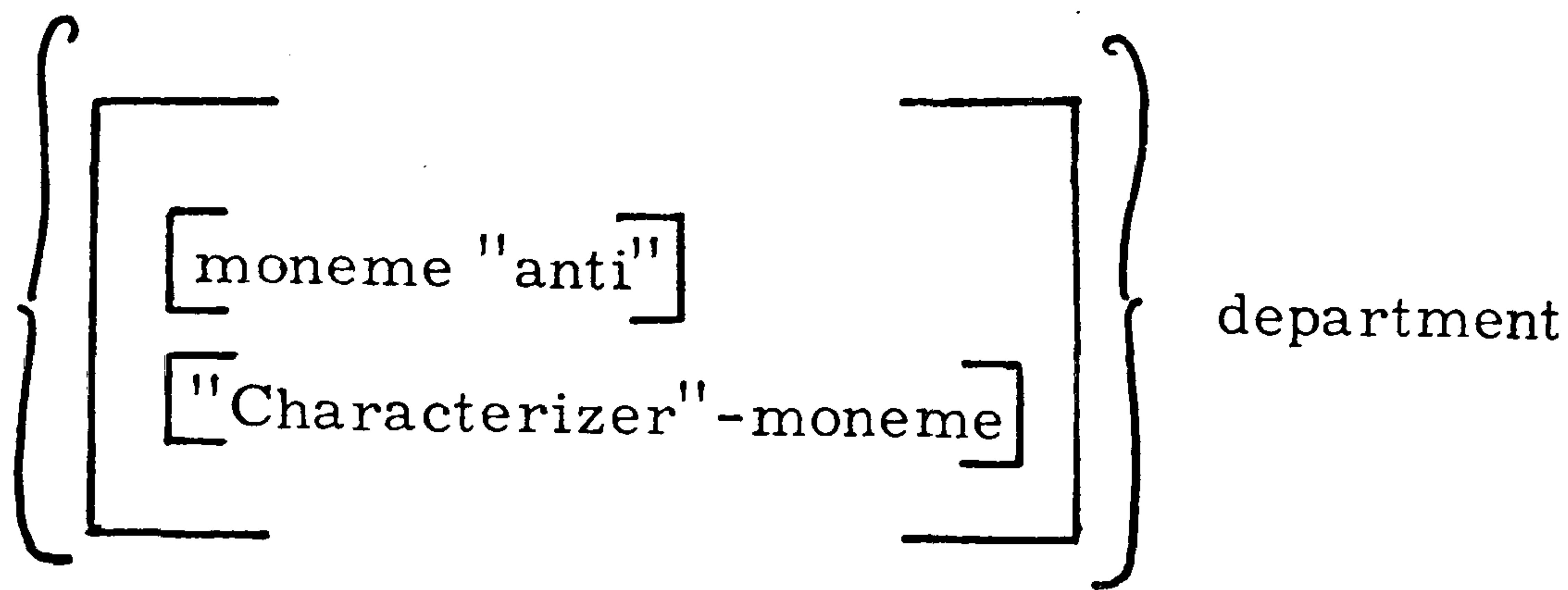
one at a time, with zero within the complex plereme "anti-departmental".

The moneme "anti" and the "Characterizer"-moneme, it should be noted, can also both commute with zero at one and the same

time (this point will be discussed in more detail in the course of

this chapter). In this case the complex plereme "anti-departmental" may be represented as follows:

¹ cf. J.W.F. Mulder, "Postulates for Axiomatic Functionalism", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).



Curly brackets indicate that sets (one or more morphological expansions) are involved, not an analysis into constituents .

All square brackets indicate "expansion".

In contradistinction to "morphological expansion" (a moneme that directly and separately commutes with zero within a complex plereme), I shall apply the term "plereme-base" to the set of (one or more) monemes that do not directly and separately commute, one at a time, with zero within a complex plereme. In other words, "plereme-base" is the set of bound¹ monemes within a complex plereme. It is necessary (in order to avoid conceiving of "plereme-base" as a type of "constituent") to stress at this point that "plereme-base" refers (unlike "morphological expansion") to a set of bound monemes and not to a (self-contained) constituent. The term may then be looked upon as a convenient way of designating that "part" of a plereme which is bound. Alternatively, but equivalently, "plereme-base" may be seen as

¹Strictly speaking, we may distinguish between two types of constituent: expansion and bound, depending on whether a particular constituent commutes with zero or not (cf. Mulder, "Postulates for Axiomatic Functionalism", Def.13c and Def.13d).

the constituent array of one or more monemes that do not commute with zero within a complex plereme: e.g. in the complex plereme "foolish", the moneme "fool" figures as a plereme-base in that it does not commute with zero within the complex plereme in question. On the other hand, taking a complex plereme like "foolishly" to be a simultaneous bundle of three monemes, namely the moneme "fool", the "Characterizer"-moneme ('/iř/'), and the "Manner"-moneme ('/li/')--cf. Description-- we find that both of the two constituents: the moneme "fool" and the "Characterizer"-moneme, figure as bound monemes. In other words, neither the moneme "fool" nor the "Characterizer"-moneme directly and separately commutes with zero within the complex plereme "foolishly". This being the case, we may proceed by saying that the moneme "fool" and the "Characterizer"-moneme, taken together, make up the "plereme-base" of the complex plereme "foolishly". This does not, however, imply in any way that "foolish" is a constituent of that complex. Accordingly, the complex plereme "foolishly" may be represented as follows:

"(fool [ish) [ly])"

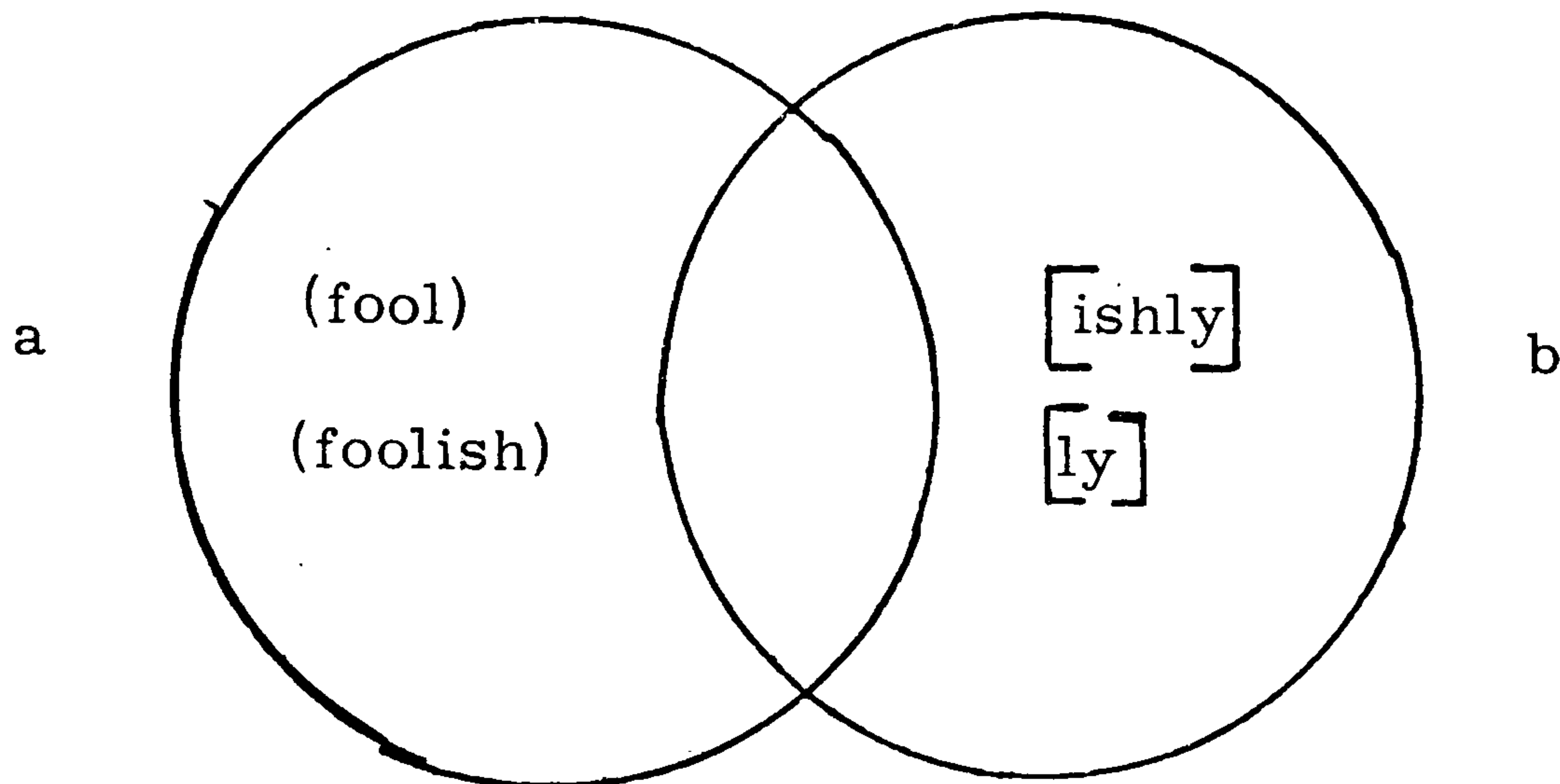
The normal brackets indicate "plereme-base".

It may seem from the representation of the complex plereme "foolishly" above that there is an internal hierarchy of constituents in that complex which suggests that the monemes "fool" and "ish" constitute one immediate constituent and "ly" another,

and that the moneme "ly" depends on both "ish" and "fool". The dependency is, however, of the type referred to as "occurrence dependency"¹. The argument for treating "foolish" as an immediate constituent in "foolishly" is rejected for the simple reason that it is quite invalid to infer from the occurrence dependency of "ly" on both "ish" and "fool" that the latter two form an immediate constituent (rather than just a "plereme-base") in the complex plereme "foolishly". In the complex plereme "foolishly", it must be noted, the constituent monemes "Characterizer" ("/iʃ/") and "Manner" ("/li/") can both commute with zero at one and the same time. In this case one may be tempted to put forward the idea of using the replaceability of the set (ishly) with zero as an argument for the self-containedness of that set as a constituent in "foolishly" (in which case "fool" would be a "plereme-base" and "ishly" a "morphological expansion"). Such an argument, if carried through, may be seen as a form of begging the question and, therefore, must be totally rejected. The set "ishly" may, to the superficial glance, appear to be replaceable with zero but what is more important is the fact that it is not a "morphological expansion", the latter being, by definition, a moneme that commutes with zero

¹For the various types of dependency, the reader is referred to J.W.F. Mulder, "Postulates for Axiomatic Functionalism" especially Defs. 12a, 12b, and 12c, in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

within a complex plereme. In actual fact "ishly" is a set of two monemes, namely the "Characterizer"-moneme ("/iʃ/") and the "Manner"-moneme ("/li/"). In order to say that the "Characterizer"-moneme and the "Manner"-moneme are "morphological expansions" it must be the case that each of these monemes commutes, one at a time, with zero within the complex plereme "foolishly", a condition which is not fulfilled by the "Characterizer"-moneme. Only the "Manner"-moneme answers the definition of "morphological expansion" while each of the monemes "fool" and "Characterizer" figures as a bound moneme in "foolishly" in that each does not directly and separately commute with zero within that complex. From this we may conclude that the bound monemes "fool" and "Characterizer" ("/iʃ/") constitute the plereme-base of "foolishly" while the "Manner"-moneme ("/li/") figures as a morphological expansion in that complex. The set "ishly", however, may, for lack of a better term, be called a "pseudo-expansion", i.e. a set of monemes replaceable en bloc with zero, without being, however, a self-contained constituent, while the moneme "fool" may be called a "pseudo-base". The complex plereme "foolishly" may then be represented as follows:



a : set of bound elements (with two members "fool" and "foolish")

b : set of expansions (with two members [ishly] and [ly])

a ~ b : pseudo-base "fool" and plereme-base "foolish"

b ~ a : set of morphological expansions : [ly] and pseudo-expansion [ishly]

a b is empty.

While on the question of representational conventions, the following points may be appreciated. Throughout the description "plereme-bases" will be given in conventional spelling and phonemic notation will be used only when conventional spelling obscures the discussion¹. The notation "/ /" indicates the appropriate allomorph of a given sign: e.g. the complex plereme

¹For phonemic notation used in the present work, the reader is referred to J.W.F. Mulder and H.A. Hurren, "The English Vowel Phonemes from a Functional Point of View and a Statement of their Distribution", La Linguistique I (1969) 43-60.

"worker" (cf. Part III, Chapter II) is a simultaneous bundle of the moneme "to work" (represented by the allomorph "/urrk/"), and the "Participant"-moneme (represented by the allomorph "/r/").

DEFINITIONS

Morphological Expansion for "moneme that commutes directly and separately with zero within a complex plereme, i.e. within a morphological complex" : e.g. the "Female"-moneme in the context "lion":

$$"(lion) R["Female"] = "lioness"$$

Pseudo-expansion for "set of two or more monemes replaceable en bloc with zero within a complex plereme without being, however, a self-contained constituent" : e.g. the "Characterizer"-moneme ("/iř/") and the "Manner"-moneme ("/li/"), i.e. "ishly", in the complex plereme "foolishly".

Plereme-base for "set of (one or more) monemes that do not directly and separately commute with zero within a complex plereme". Alternatively, "constituent array of one or more monemes that do not commute with zero within a

complex plereme": e.g. the moneme "fool" and the "Characterizer"-moneme ("iř/"), i.e. "foolish", in the complex plereme "foolishly", or the moneme "fool" in the complex plereme "foolish".

Pseudo-base

for

"set of (one or more) monemes within a complex plereme minus the set of two or more monemes which are replaceable en bloc with zero within that complex itself, i.e. the set of constituent monemes minus the "pseudo-expansion": e.g. the moneme "fool" in the complex plereme "foolishly".

CHAPTER IV

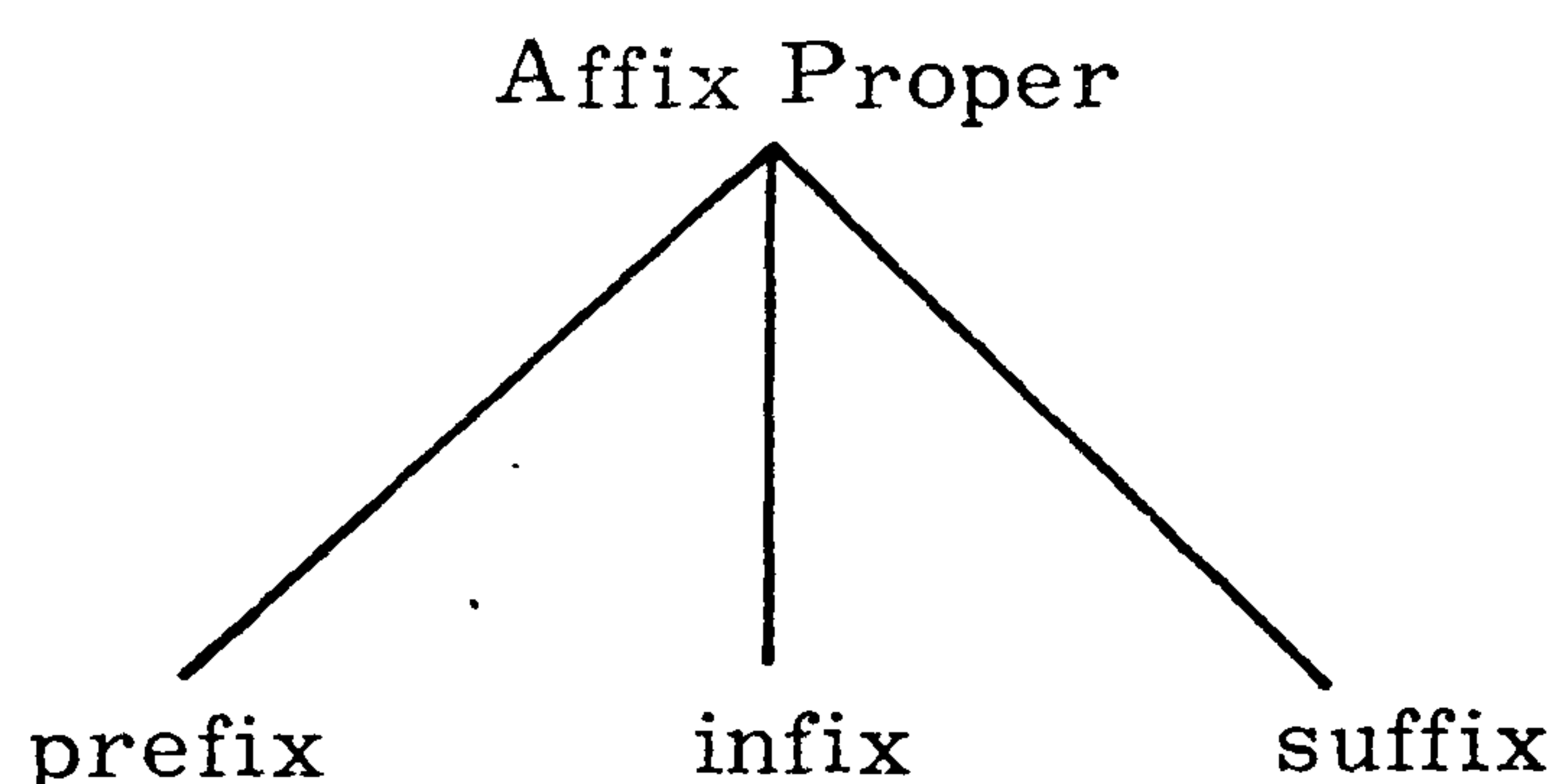
ALLOMORPHS OF MORPHOLOGICAL EXPANSIONS

In the discussion on the notion of "allomorphy" (cf. Part II, Chapter II), we gave a classification of allomorphs in general. It is necessary for our descriptive purposes in this chapter to apply this general classification to allomorphs of "morphological expansions" in particular. For convenience in the presentation of this description, I shall apply the traditionally recognized term "affixes" to allomorphs of "morphological expansions" of the discrete type. An "affix" may then be defined as a "discrete allomorph of a morphological expansion" or alternatively, but equivalently, "allomorph of a morphological expansion entirely manifested by a phonological form (distinctive feature, phoneme or sequence of phonemes) that is directly opposed to zero" (cf. Chapter II "Allomorphy").

In phonological realization, affixes along with other discrete allomorphs, may be either interrupted or uninterrupted. In the case of the uninterrupted type, the following observations may be made.

Uninterrupted affixes may precede, interrupt, or succeed the forms of the plereme-bases (with which they co-occur) in linear sequence of realization. In the case of an uninterrupted

affix X preceding a particular plereme-base, that affix shall be called prefix; in the case of an affix Y interrupting a plereme-base that affix shall be called infix, and in the case of an affix Z succeeding a plereme-base that affix shall be called suffix. The notions "prefix", "infix" and "suffix" may be classified together under the term "Affix Proper" (see definitions below).



DEFINITIONS

Affix

for "discrete allomorph of a morphological expansion". Alternatively, "allomorph of a morphological expansion entirely manifested by a phonological form (distinctive feature, phoneme or sequence of phonemes) that is directly opposed to zero".

Affix Proper for "discrete allomorph of a morphological".
manifested by a continuous phonological form".
Alternatively, "uninterrupted allomorph of a
morphological expansion" :e.g. the allomorph
"/iz/" of the "Plural"-moneme in the context
"horse".

Prefix for "discrete uninterrupted allomorph of a
morphological expansion whose form precedes
that of the plereme-base (with which that
morphological expansion is in construction)
in a linear sequence of realization" : e.g.
the allomorph "/rn/" of the moneme
conventionally represented as "un" in the
context "fair":

"(fair) R["un"]" = "unfair".

Infix for "discrete uninterrupted allomorph of a
morphological expansion whose form interrupts
that of the plereme-base (with which that
morphological expansion is in construction)
in linear sequence of realization" : e.g. the
allomorph "/ʒ/" of the "Diminutive"-moneme, in
Russian, in the context "/sabaka/" (dog)¹

(" /sabaka/ ") R ["Diminutive"] = " /sabačka/ " (doggie).

1
I am indebted to my supervisor Dr. S.G.J. Hervey of the Department
of Linguistics, University of St Andrews, for providing me with

Suffix

for "discrete uninterrupted allomorph of a
morphological expansion whose form succeeds
that of the plereme-base (with which that
morphological expansion is in construction)
in linear sequence of realization": e.g. the
allomorph "/r/" of the "Participant"-moneme
(cf. Part III, Chapter II) in the context
"to work":

"(to work) R "Participant" = "worker"

Affixes of the interrupted type may be manifested in two or more
places in linear sequence of realization. I shall not give all the
logical possibilities here; suffice it to say that with n- places
in linear sequence at which the form of the "morphological
expansion" is expressed -- some of the logical possibilities may
be tabulated as follows:

- 1 precedes n-2 interrupt 1 succeeds
- 1 precedes n-1 interrupt (at different places)
- 1 succeeds n-1 interrupt (at different places)
- n non-contiguous interruptions
- n-2 precede 1 interrupt 1 succeeds
- etc.

In this case, one may talk about such forms of affixes as "prefixo-
infixes", "prefixo-suffixes", "prefixo-infixo-suffixes", etc., but
this is rather cumbersome. Therefore, for the sake of simplicity,

I shall refer to such forms of allomorphs as staggered n-fold affixes.

Thus, for instance, taking the complex plereme "feasibility"

("fRizrbiliti") to be a simultaneous bundle of

(a) the moneme "feasible" (represented by the allomorph

"fRizrbl"), and

(b) the "State"-moneme (cf. Description),

would entail describing the allomorph of the "State"-moneme in

that context (i.e. in context with "feasible") partly as an infix

and partly as a suffix (i.e. as a staggered affix) having the

phonological form /...i...iti/.

Morphological expansions may also be manifested by "pure" replacives, i.e. allomorphs manifested by the replacement of overt phonological forms at one given place in linear sequence (Replacive Proper) or allomorphs manifested by the replacement at two or more different places in linear sequence of overt phonological forms (Scattered Replacive). The allomorphs of the "Plural"-moneme in the context "man" and "woman", for instance, may be described as "Replacive Proper" and "Scattered Replacive" having the phonological forms /e ~ a/ and /...i ~ u...i ~ r/, respectively.

(cf. Part III, The "Plural"-Moneme). In the case like

"(sensitive) R["State"-moneme] = "sensitivity"

and

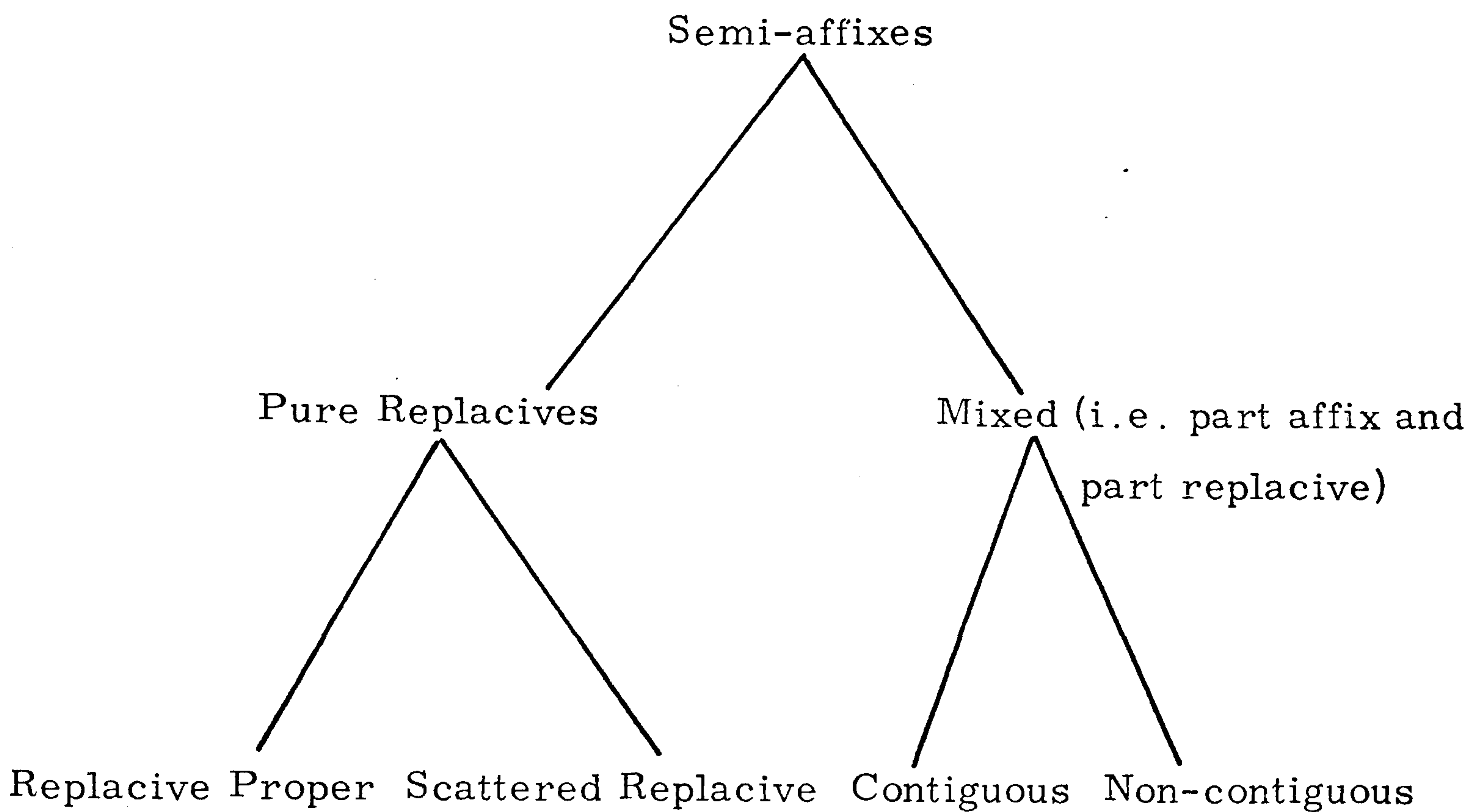
"(sincere) R["State"-moneme] = "sincerity"

the situation is rather different. The allomorph of the "State"-moneme in context with "sensitive" may be described as an affix or, to be more

precise, as a suffix proper, having the phonological form /iti/. On the other hand, the allomorph of the "State"-moneme in context with "sincere" may be conceived of as a non-contiguous allomorph having the phonological form /e ~ Ri... iti/, in which case, strictly speaking, it is partly non-discrete (Replacive Proper), and partly an affix (Suffix). The same holds for contiguous allomorphs, i.e. contiguous allomorphs may be described partly as affixes and partly as replacives: e.g. the allomorph "/s ~ k_v iti/" of the "State"-moneme in the context "eccentric":

"(eccentric) R ["State"]" = "eccentricity"

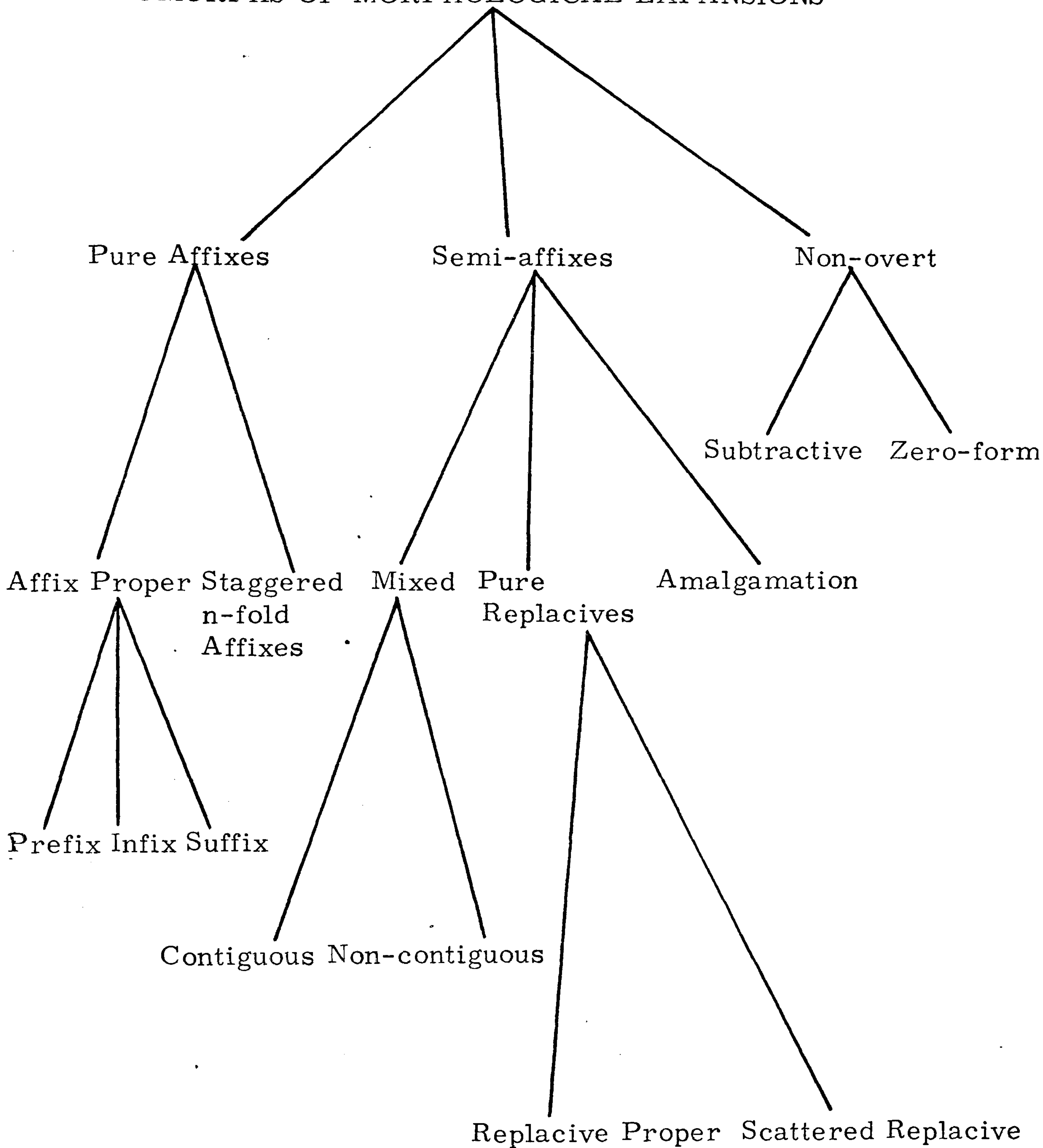
(cf. Part III, The "State"-Moneme). The difference between a contiguous allomorph and a non-contiguous one (both manifested partly be replacives and partly by affixes) may be pinpointed in terms of the place where the replacive is manifested in linear sequence with respect to the affix. The replacive part in a contiguous allomorph is directly juxtaposed to the affix in linear sequence of realization while the replacive part in a non-contiguous allomorph is not. Allomorphs of morphological expansions of the non-discrete type (i.e. "replacive proper", "scattered replacive", "contiguous", and "non-contiguous") may, purely for reasons of convenience, be classified together under the term "semi-affixes" (Fig.1).



(Fig.1)

In the light of what has been said in the foregoing paragraphs, and with an eye to the general classification of allomorphs (cf. Chapter II: "Allomorphy"), allomorphs of morphological expansions may be tabulated as follows (Fig. 2):

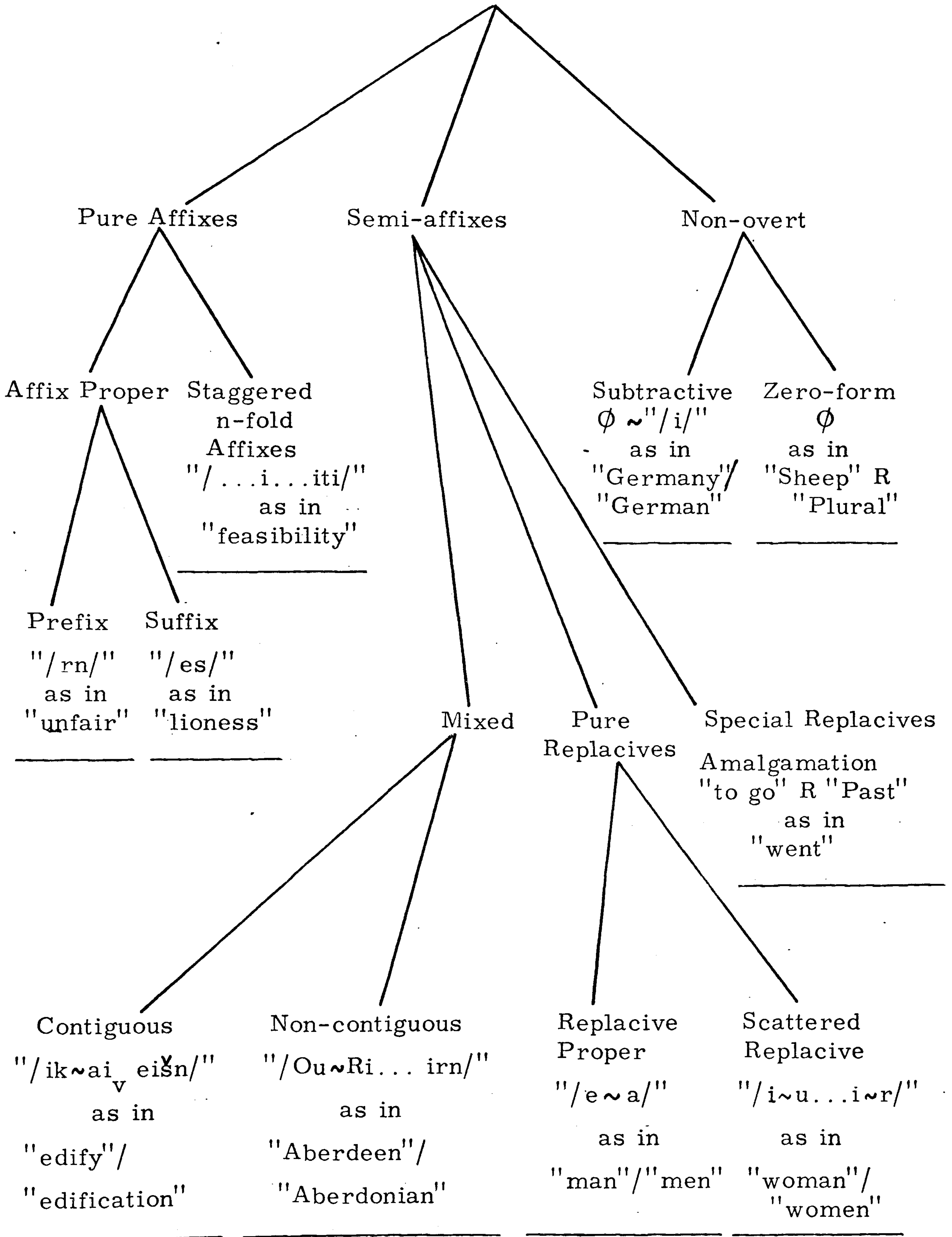
ALLOMORPHS OF MORPHOLOGICAL EXPANSIONS



(Fig.2)

It is important to point out at this stage that the complex phenomenon involving allomorphs of two or more signs (in construction with one another) that totally co-incide in one phonological form-- viz. "amalgamation" (cf. Chapter II: "Allomorphy") -- may also be included as a "special case" of "replacives" (Special Replacives representing the same sign at exactly the same place in linear sequence) in the general classification of allomorphs of morphological expansions outlined above. On applying this general classification to the set of morphological expansions in English presented in the following description, it is interesting to note that English contains no "infixes", but all other categories are represented (see diagram below). The following diagram (Fig.3) tabulates the various types of allomorph of morphological expansions in English:

ALLOMORPHS OF MORPHOLOGICAL EXPANSIONS IN ENGLISH



(Fig.3)

PART III

DESCRIPTION

PREAMBLE TO THE DESCRIPTION

The "morphological expansions" discussed in the forthcoming chapters have been identified in a list of tentative complex pleremes (morphological complexes) collected for the specific purpose of the present description. For each item in the list tests were performed according to a methodology consisting of the step-by-step application of four successive criteria stipulated by Axiomatic Functionalist theory. These tests were designed for the identification of morphological complexes as opposed to syntactic complexes (cf. Part I, Chapter III). All the items retained in the description (cf. Chapters II-XVI)¹ are bona fide morphological complexes in the light of the tests performed. I have refrained from spelling out the demonstrations in the main body of the description, as their inclusion would make for cumbersome, if not tedious, reading.

In the process of formulating and testing my hypotheses concerning moneme-identity (with regard especially to morphological expansions), attention has been paid to keep sight of a very marked characteristic of Axiomatic Functionalist morphological analysis,

¹ Chapter I is specifically aimed at eliminating from the present description certain pleremes which give a strong initial impression of being morphologically complex because they have traditionally been so regarded, or because of their historical origin as preserved in their written forms etc., but which turn out, on application of the four criteria for morphological analysis stipulated by Axiomatic Functionalist theory, to be syntagms, i.e. syntactic complexes.

namely equal emphasis laid, on the one hand, on criteria of "form" (i.e. recurrent elements), commutation and contextual variance, and, on the other hand, on denotational criteria. In testing the hypotheses I shall be working on in the forthcoming description, I use an additional criterion of adequation with respect to semantic factors: a criterion concerning the assumption of recoverability of denotations of complex pleremes from the denotations of their constituents. This attempt to supplement the testing of moneme-identity by the use of considerations of semantic adequacy (a procedure that, arguably, involves semantic adequacy at rather an early stage in morphological description)¹ should be seen in the light of the following factors:

- (i) a constituent sign is, by definition, an element with a certain form and a certain denotation, the latter being a constant function of that sign (a fact which follows from the very definition of the notion "sign") ;
- (ii) each of the constituents of a particular complex sign can be identified as a constituent sign only if it plays the same constant denotational function in that complex of which it is said to be a constituent, as it does in other complexes;

¹In personal communication with J.W.F. Mulder, the founder of Axiomatic Functionalism, it emerges that, in his view, this constitutes a premature application of criteria that should be used, at a later stage, in testing a semantic description of English morphology.

- (iii) constituents of different complex signs may be identified as the same sign only if they can be attributed the same denotational function;
- (iv) each constituent in a complex sign contributes its own denotation to the overall denotation of that complex as a whole, which implies the constraint that from hypothesizing the denotation of each constituent sign, plus, of course, having a relatively clear (though rather approximate) idea of the semantic role played by the constructional relations between them, we should be able to envisage the reconstruction of the denotation of the complex as a whole,¹ and
- (v) all morphological relations are of one single type (namely simultaneity); there is, therefore, reason to believe that the semantic function of this simultaneity relation is also of one single type (i.e. proliferation of the semantic functions of this relation must be precluded). This semantic function is unlikely to be more specific than what can be roughly captured by the paraphrase "has something to do with", and is, in all probability, a symmetrical function.

¹In "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis (in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980), Hervey and Mulder assert that "within a complex sign, the denotation of each of the immediate constituents bears some relation, semantically speaking, to that of the other immediate constituent(s), and, of course, vice versa". They point out that such an assertion is, of course, a truism (cf. Footnote 21 in the same article).

There is, however, an important consideration at the root of testing moneme-identity against recoverability of denotations.

This consideration may take the following form.

If the denotational contribution of a tentative moneme is-- in a certain tentative complex -- too particular to be considered equivalent to that of other occurrences of the (supposedly) same moneme in other contexts, the tentative complex under consideration may have to be treated as unanalysable. Thus, for instance, assuming that "black" in "blackbird" is a moneme, its supposed denotational contribution to the tentative complex "blackbird" cannot be seen as equivalent to the denotational contribution of "black" in any other context in which "black" occurs as a constituent. Accordingly, one is forced to treat "blackbird" as unanalysable.

If, however, a denotationally specific tentative moneme can be identified as having an equivalent "narrow" denotational contribution in at least two contexts, I shall take it that analysis is, after all, possible. Thus, for instance, if we take the denotation of "trickster" to be more or less equivalent to "one who is in the habit of playing tricks", the denotational contribution of a tentative moneme conventionally represented as "-ster" must be imagined to be something like "one who is in the habit of doing x", i.e. far too specialized and particular to be equivalent with that of the constituent "-er" in, say, "worker".

On the other hand, we find such contexts as "fibster" (one who is in the habit of telling fibs) in which the tentative constituent "-ster" plays a denotational role equatable with that of "-ster" in "trickster".

(i.e. "one who is in the habit of doing x"). Although no large scale productivity can be claimed for this "specialised" constituent, I shall adopt the position that occurrence in two or more contexts, which is sufficient for the purpose of commutation, is also sufficient for identifying "-ster" as a constituent (though with a limited distribution). In order to insist that morphological analysis in the absence of full-scale productivity (whatever this may mean, given that productivity is a matter of degree in terms of wideness of distribution) is actually a form of pseudo-analysis, the grammatical theory (systemology) of Axiomatic Functionalism would have to be subsequently re-worked. In the meantime I have no alternative but to employ the theory as it stands, that is, without having recourse to the notion of "productivity".

The type of denotationally oriented methodology used here-- for instance, in the light of what has been said about denotational "specialisation" and "productivity", in particular-- to produce morphological descriptions that may give the impression of being over-differentiated and over-particularised. At times this impression may culminate in an apparent proliferation of monemes. What such a description may lose in terms of "generalisation", however, should be balanced against what it gains in "detail". More specifically, the impression of "over-discrimination" is to be contrasted with the alternatives of

(a) attributing an unrealistically wide denotation to a host of

pleremes (e.g. "violinist" interpreted as "one engaged in the performance of some (unspecified) activity involving violins", rather than "one who plays the violin", in order to avoid giving "-ist" a specialised denotation in the complex "violinist"-- cf. Chapter II), and

- (b) leaving a whole host of pleremes unanalysable which might lay one open to the charge of shirking the task of morphology (e.g. leaving "typist" unanalysed in order to avoid setting up an additional, and admittedly rather specialised, moneme "-ist" with a denotation equivalent to "one who is professionally employed for performing an activity x"-- cf. Chapter II: "The So-called "Agentive" Monemes").

In testing the particular hypotheses that I shall be considering in the forthcoming description I place-- rightly or wrongly-- additional emphasis on considerations of adequation with respect to semantic factors (recoverability of denotations) alongside with commutational, "formal" and distributional criteria of moneme-identity. As such, the hypotheses tentatively advanced represent an exploration of the form a morphological description might take if developed and tested not only against "formal", commutational, and distributional criteria but also against considerations of a semantically slanted nature. It would be hard to claim that-- even in the light of the kind of semantic considerations against which the adequacy of "solutions" are measured-- these hypotheses are

necessarily the most effective or satisfactory ones available. Nonetheless, they represent a genuine attempt at a particular way of going about the business of decision-making in morphology-- one which seems not to be a priori ruled out by at least a possible way of interpreting the published literature on Axiomatic Functionalist theory¹. Such an attempt would be worthwhile even if it turned out to reflect a misconception of that theory, or even if it merely produced a stepping-stone towards more effective and satisfying hypotheses. I shall refrain from trying to assess whether it is only possible to claim such rather negative virtues for the description formulated along the lines I have chosen to follow, or whether that description commends itself in a more positive way. Accordingly, I shall adopt the strategy, throughout, of stating in tabulated form certain hypotheses concerning (morphological) sign-identity and allomorphy. The hypotheses advanced, it should be noted, are motivated by the assumption that they need to be tested against the criterion of recoverability of denotations. I shall also attempt to outline the considerations that would appear to favour these hypotheses, stopping short, however, of trying to draw any conclusions as to whether the needs of morphological description are

¹cf. Bibliography of Axiomatic Functionalism in this thesis, especially S.G.J. Hervey and J.W.F. Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", and S.G.J. Hervey, "Grammar and Semantics in Axiomatic Functionalist Linguistics", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980). See also S.G.J. Hervey, Axiomatic Semantics: A Theory of Linguistic Semantics, Scottish Academic Press (1979).

best served by making an immediate use of semantic considerations, or by methodologies that give less weight to such considerations.

As a further remark to the method of stating in tabulated form certain hypotheses concerning (morphological) sign-identity and allomorphy, I must mention that in each of the tables an attempt has been made at specifying the type/types of allomorph representing a particular "morphological expansion" and at providing an example of the kind of context ("plereme-base") in which that allomorph occurs. The reason for not giving an exhaustive inventory of the "plereme-bases" a particular allomorph co-occurs with (though this is possible both in principle and in practice) is dictated purely by limitations of space. Consequently, a substantial number of "plereme-bases" noted in the tables are marked by etc.. This is to indicate that the set of "plereme-bases" with which a particular allomorph co-occurs is either relatively large or "open" (note that "open" is used here in the sense "hard to inventorise")¹. The absence of an etc., therefore, should be taken to mean that the set of "plereme-bases" is closed. For the purpose of further clarification, I have also attempted to supplement the tabulated version of my hypothesis with a sub-table marked "Distribution", giving more examples of "plereme-bases" with which particular allomorphs co-occur.

¹It is important to note that the inventory of "plereme-bases" in a particular synchronic system may be so large that one is never sure of not having overlooked some items. Therefore, strictly speaking, the inventory is closed, though it is hardly practicable to list it exhaustively.

CHAPTER I

PSEUDO-WORDS

Moneme , plereme , and syntagm are three types of grammatical entity operating on different constructional levels . With respect to the distinction between these entities (cf Part I, Chapter II), and with an eye to the methodology stipulated by Axiomatic Functionalist theory for discriminating between "morphological complexes" and "syntactic complexes" (see discussion below), certain items which are traditionally recognized as morphological have been eliminated from the present morphological description. These items run as follows:

"-th" as in "tenth"
"-fold" as in "two-fold"
"-ish" as in "eightish"/"reddish"
and
"-ly" as in "hourly"

I shall apply the term "Pseudo-word"¹ to complex signs which superficially, or traditionally, look as though they may be pleremes but which, on my analysis, actually turn out to be syntagms .

1

The term is used by Hervey and Mulder in their article "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics , Scottish Academic Press (1980).

The constructions "tenth", "two-fold", "eightish", "reddish", and "hourly" appear, to the superficial glance, to be pleremes, and traditionally they have always been considered to be "morphological complexes" (viz. evidence of spelling). If it can be refuted that these complexes are simultaneous bundles, then it is demonstrated that each is merely a "pseudo-word".

For the purposes of attempted refutation (which, I may say, will in this case be found to be successful) I shall assume that each of the constructions "tenth", "two-fold", "eightish", "reddish" and "hourly" is a bona fide morphological complex, i.e. each is a self-contained simultaneous bundle of two monemes in a morphological relation to one another. Adopting this hypothesis implies that each of the tentative complexes above is required to fulfil the criteria stipulated by Axiomatic Functionalist theory governing the identification of morphological complexes as opposed to syntactic complexes¹. In particular, it is implied that

1
Note that the constructions "tenth", "two-fold", etc. fulfil, as can be demonstrated, the first three conditions of the step-by-step methodology stipulated by Axiomatic Functionalist theory for morphological analysis, namely that (a) each is a self-contained potential constituent in grammar (b) each contains two fully-fledged signs, and (c) the constituent signs of these constructions are demonstrably simple, i.e. they are not capable of further functional analysis into signs. I have refrained from spelling out the demonstration for each of the constructions under consideration in the main body of this chapter as its inclusion would make for tedious reading. For a detailed explanation of the Axiomatic Functionalist criteria governing the identification of morphological complexes as opposed to syntactic ones, see Part I, Chapter III in the present work. The reader is also referred to Hervey and Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, *The Grammar of Linguistics*, Scottish Academic Press (1980).

the constructions in question do not tolerate any potential for constructional asymmetry within themselves.

It will be seen that the complex sign "tenth" , for instance, (whose constituents are simple signs) is not a simultaneous bundle of the sign "ten" and the sign conventionally represented as "-th", for, according to the fourth Axiomatic Functionalist criterion, a morphological complex, by definition, does not tolerate any potential for internal asymmetry. This condition is not fulfilled by the complex sign "tenth" as I shall demonstrate below.

By using the technique of commutation with a syntagm , we can demonstrate non-simultaneity between the simple constituents of "tenth", i.e. between "ten" and "-th" (note that "permutation" does not seem to apply in this case). For instance, a syntagm such as "one hundred and four" (with "four" being subordinated¹ to "and" we may show asymmetry within "one hundred and four") validly commutes with "ten" in "tenth", producing the complex "one hundred and fourth", in which case the constituent "one hundred and four" stands in the same type of relation to "-th" (also semantically) as "ten" stands to "-th" in the complex "tenth". On the first level of analysis we find that the complex "one hundred and fourth" has the immediate constituents

¹"Relation of subordination" or "determination" for "direct tactic asymmetrical relation of functional dependency", Def.11a in Mulder's "Postulates for Axiomatic Functionalism", in Mulder and Hervey, The Strategy of Linguistics , Scottish Academic Press(1980).

one hundred and four // -th

and on the next level of analysis "one hundred and four" has the immediate constituents

one hundred // and four .

On a lower level of analysis the constituent "and four" may be further analysed into the immediate constituents

and // four.

From the illustration above it is clear that on the lowest level of analysis the constituents "and" and "four" stand in separate syntactic positions, i.e. the two constituents are in a syntactic relation to one another. With "four" being subordinated to "and" we have shown asymmetry within "and four". On the next higher level, therefore, the constituents "one hundred" and "and four" stand also in separate syntactic positions which means that "one hundred and four" is a syntactic complex. Consequently, the immediate constituents "one hundred and four" (note that syntactic complexes cannot form part of a morphological complex, only monemes can) and "-th" are also in a syntactic relation to one another in "one hundred and fourth", and it is demonstrably the case that "one hundred and fourth" is a syntactic complex. We may then conclude that since "ten" and "one hundred and four" commute validly with one another as immediate co-constituents to "-th" (i.e. "one hundred and four" R "-th" is equivalent to "ten" R "-th") "ten" stands also in a syntactic relation to "-th" in "tenth". The complex "tenth" is, therefore, demonstrably

syntactic. Our hypothesis that "tenth" is a simultaneous bundle of two monemes is, therefore, refuted, which leaves the only possible alternative that it is actually a syntactic complex ("pseudo-word") containing the two pleremes "ten" and "-th".

Similarly, in the case of "two-fold" and "reddish" we can validly commute, within each of these complexes, elements which themselves contain constituents standing in syntactic positions. Thus, for instance, we can commute "two" in "two-fold" with the syntagm "one hundred and four":

one hundred and four / fold

while "red" in "reddish" can also validly commute with the syntagm "dark brown":

dark brown / ish.

This means that each of "two-fold" and "reddish" is a complex of two pleremes (i.e. each is a syntactic complex):

- (i) "two-fold" as a complex of the plereme "two" and the plereme "-fold", and
- (ii) "reddish" as a complex of the plereme "red" and the plereme "-ish". It is important to note here that the same argument holds for "eightish" (containing the simple signs "eight" and "-ish") as there is no reason to believe that the element "-ish" (in "eightish") is denotationally different from the plereme "-ish" in "reddish".

Also using the technique of commutation with a syntagm, we can demonstrate non-simultaneity between the simple constituent signs of "hourly" (i.e. between "hour" and "-ly"). A syntagm such as "half year", for instance, validly commutes with "hour" in "hourly", producing "half yearly" whose immediate constituents are

half year / ly.

CHAPTER II

1

THE SO-CALLED "AGENTIVE" MONEMES

In what follows, I propose to hypothesise the separate identity of seven "agentive" monemes. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations of complex pleremes from the denotations of their constituents. These so-called "agentive" monemes, identified tentatively as different signs, and labelled respectively as "Participant", "Manipulator", "Author", "Specialist", "Occupational", "Habitual", and "Recipient", are, in advance of discussion, presented (together with their allomorphs) in seven separate tables in terms of which my hypothesis is formulated.

In order to set the scene for the formulation of my hypothesis, the following general observations may be made. To begin with we may note that

(a) on purely "formal" grounds the most superficially satisfying solution might be to set up, in the range of so-called "agentive" monemes, as many signs corresponding to "morphological expansions" as there are

¹The traditionally recognized term "agentive" is applied here purely for purposes of convenience in the presentation of this chapter. The "morphological expansions" under discussion are generally referred to as "agent morphemes" which are claimed to derive so-called "agent nouns" defining persons involved or affected by a particular activity.

commutationally isolatable phonological forms. In this case all commutable manifestations of /r/ would be looked upon as representing one sign, all commutable manifestations of /isT/ another sign, and so forth:

<u>/r/ as in</u>	<u>/isT/ as in</u>
"worker"	"violinist"
"fifer"	"cyclist"
"fabler"	"novelist"
etc.	etc.

(b) on the grounds of, still rather excessively "form-oriented", considerations of "distribution" and contextual variance, a more satisfying solution may "collapse", for instance, the /r/ of "worker" and the /isT/ of "violinist" into one sign-- by treating them as allomorphic variants with respect to one another.

Neither of the alternatives (a) and (b) seems, however, to hold the promise of adequacy with regard to the additional criterion of full "recoverability" (predictability) of the denotations of complex pleremes containing an "agentive" moneme as one of their constituents. Thus, for instance, taking

- (i) the denotation of "worker" to be more or less equivalent to that of "one who performs work (of any kind)",
- (ii) the denotation of "fabler" to be more or less equivalent to that of "one who is the author of fables", and

(iii) the denotation of "novelist" to be more or less equivalent to that of "one who is the author of novels",

we find the overall denotation of each of these complex pleremes is recoverable only on the hypothesis that

(a) the form /r/ in "worker" represents a denotationally (and also qua sign-identity) different moneme from that represented by the

form /r/ in "fabler" (in spite of "sameness" of form), and

(b) the form /r/ in "worker" represents a denotationally (and also qua sign-identity) different moneme from that represented by the form /isT/ in "novelist" (in spite of apparent mutually exclusive distribution).

For the time being, I shall refrain from giving a detailed argumentation in support of my solution of setting up seven different "agentive" monemes. I shall reserve such discussion until after the hypotheses concerned have been presented in complete tabulated form. This does not mean, however, that the tables themselves are any less hypothetical or tentative. The reason for formulating these hypotheses in tabulated form springs from my conviction that

(i) hypotheses in general cannot be tested in isolation from the description of which they form a part, and

(ii) the hypotheses under consideration here are, in one way or another, interrelated.

The tables run as follows:

TABLE I

The identity hypothesis concerning the "Participant"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "one who is engaged in the performance of an activity or field of activity x (specified by the plereme-base)" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/r/"	(to work), <u>etc.</u>	"worker"
"/isT/"	(to cycle), (to conform).	"cyclist" "conformist"
"/rnt/"	(to assist), <u>etc.</u>	"assistant"
"/mrn/"	(to chair), (business).	"chairman" ¹ "businessman"
"/Smrn/"	(sport), (craft), (handcraft).	"sportsman" "craftsman" "handcraftsman"
"/dr/"	(to spall)	"spalder"

¹Not to be confused with the homonym "chairman" /head of a company, department, etc./ which is not analysable due to its semantic specialisation.

(b) Replacive Proper

"/isT ~ aiz/"	(to plagiarize), <u>etc.</u>	"plagiarist"
"/rnt ~ eit/"	(to participate), <u>etc.</u>	"participant"
"/rnt ~ ai/"	(to occupy) ¹	"occupant"
"/isT ~ S/"	(darts)	"dartist"
"/šn ~ k/"	(music),	"musician"
	(magic).	"magician"
"/šn ~ kS/"	(politics)	"politician"
"/r ~ i/"	(sorcery)	"sorcerer"
"/or ~ Ri/"	(to guarantee)	"guarantor"

(c) Contiguous

"/es ~ Ri _V r/"	(to succeed) ²	"successor"
"/t ~ š _V r/"	(to admonish) ³	"admonitor"
"/ik ~ ai _V rnt/"	(to apply)	"applicant"

(d) Non-contiguous

"/e ~ Ri... or/"	(to lease)	"lessor"
"/e ~ Ri... itr/"	(to compete)	"competitor"

¹Setting apart the homonym "to occupy" /to take possession by military force/.

²Not to be confused with the homonym "to succeed" /to accomplish one's purpose or have success/.

³Note that the suffix "/r/" can also occur in the context (to admonish) which suggests that in that context the suffix "/r/" and the contiguous allomorph "/t ~ š_V r/" are in mixed variance.

"/i ~ ai... rtr/"	(to conspire)	"conspirator"
"/i ~ ai... rnt/"	(to aspire)	"aspirant"
"/e ~ i... i ~ ai... rnt/"	(to preside),	"president" ¹
	(to reside).	"resident"

(e) Zero-form

∅	(to cook), <u>etc.</u>	"cook"
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A rider must be added in connection with representing the allomorph of the "Participant"-moneme in the context of the plereme-base (to admonish). It would be equally possible to treat this allomorph as having the phonological form /tr ~ ʒ/ (replacive proper) rather than /t ~ ʒ_V r/ (contiguous). It is only in the light of preserving the connection with the commonly occurring allomorph "/r/" (suffix):

e.g. "(to teach) R [Participant]" = "teacher"

that I have chosen to speak here of a contiguous allomorph. This form of representation, which may show up better the idea that there is a semi-affix (quasi-suffix) involved, will be adopted throughout the description.

¹Not to be confused with the homonym "president" /head of government/ which is not analysable due to its semantic specialisation.

TABLE II

The identity hypothesis concerning the "Manipulator"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "one who has a degree of competence in manipulating an object x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/r/"	(fife), <u>etc.</u>	"fifer"
"/isT/"	(violin), <u>etc.</u>	"violinist"
"/rnisT/"	(lute)	"lutanist"
"/mrn/"	(boat), <u>etc.</u>	"boatman"
"/Smrn/"	(sword), <u>etc.</u>	"swordsman"
"/i/"	(cab)	"cabby"
"/ir/"	(chariot), <u>etc.</u>	"charioteer"
(b) <u>Replacive Proper</u>		
"/isT ~ Ou/"	(cello)	"cellist"
"/isT ~ r/"	(viola)	"violist"
"/ir ~ r/"	(gondola)	"gondolier"
(c) <u>Scattered Replacive</u>		
"/ir ~ ia...isT ~ Ou/"	(piano)	"pianist"
(d) <u>Non-contiguous</u>		
"/o ~ r...r ~ Ou... isT/"	(saxophone)	"saxophonist"
	(xylophone)	"xylophonist"
		"flautist"

TABLE III

The identity hypothesis concerning the "Author"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "one who is the author of product x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/isT/"	(novel), <u>etc.</u>	"novelist"
"/r/"	(fable), (preface).	"fabler" "prefacer"
"/ir/"	(sonnet), (pamphlet), (slogan).	"sonneteer" "pamphleteer" "sloganeer"
"/sTr/"	(rhyme)	"rhymester"
(b) <u>Replacive Proper</u>		
"/t ~ m/"	(poem)	"poet"
"/etiŝn ~ i/"	(theory)	"theoretician"
"/sisT ~ kS/"	(lyrics)	"lyricist"

TABLE IV

The identity hypothesis concerning the "Specialist"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "one who is qualified in the study of a subject x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/sT/"	(psychology), <u>etc.</u>	"psychologist"
(b) <u>Replacive Proper</u>		
"/sisT ~ kS/"	(semantics),	"semanticist"
	(physics).	"physicist"
"/r ~ i/"	(astronomy), <u>etc.</u>	"astronomer"
"/šn ~ k/"	(logic)	"logician"
"/šn ~ kS/"	(phonetics), <u>etc.</u>	"phonetician"
"/erriřn ~ r/"	(grammar)	"grammarian"
"/orriřn ~ ri/"	(history)	"historian"

TABLE V

The identity hypothesis concerning the "Occupational"-
moneme, having the formal variants listed below and being
denotationally equivalent to the rough paraphrase "one who is
professionally employed for performing an activity x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/isT/"	(to type), <u>etc.</u>	"typist"
"/sTr/"	(to spin), (to sew).	"spinster" "sewster" ¹
"/mṛn/"	(to repair), <u>etc.</u>	"repairman"
"/zmṛn/"	(to steer)	"steersman"
"/ṛmṛn/"	(to fish)	"fisherman"

¹This complex plereme is used in certain Scottish dialects (cf. Otto Jespersen, Modern English Grammar on Historical Principles, Vol. VI Morphology, Copenhagen (1942).

TABLE VI

The identity hypothesis concerning the "Habitual"-moneme, having the formal variant listed below and being denotationally equivalent to the rough paraphrase "one who is in the habit of doing x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/sTr/"	(trick),	"trickster"
	(fib),	"fibster"
	(pun).	"punster"

TABLE VII

The identity hypothesis concerning the "Recipient"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "one who is at the receiving end of a process x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/Ri/"	(to pay), <u>etc.</u>	"payee"
(b) <u>Replacive Proper</u>		
"/Ri ~ eit/"	(to nominate)	"nominee"
(c) <u>Non-contiguous</u>		
"/i ~ ei... Ri/"	(to ordain)	"ordinee"
"/e ~ Ri... Ri/"	(to lease)	"lessee"

DISCUSSION

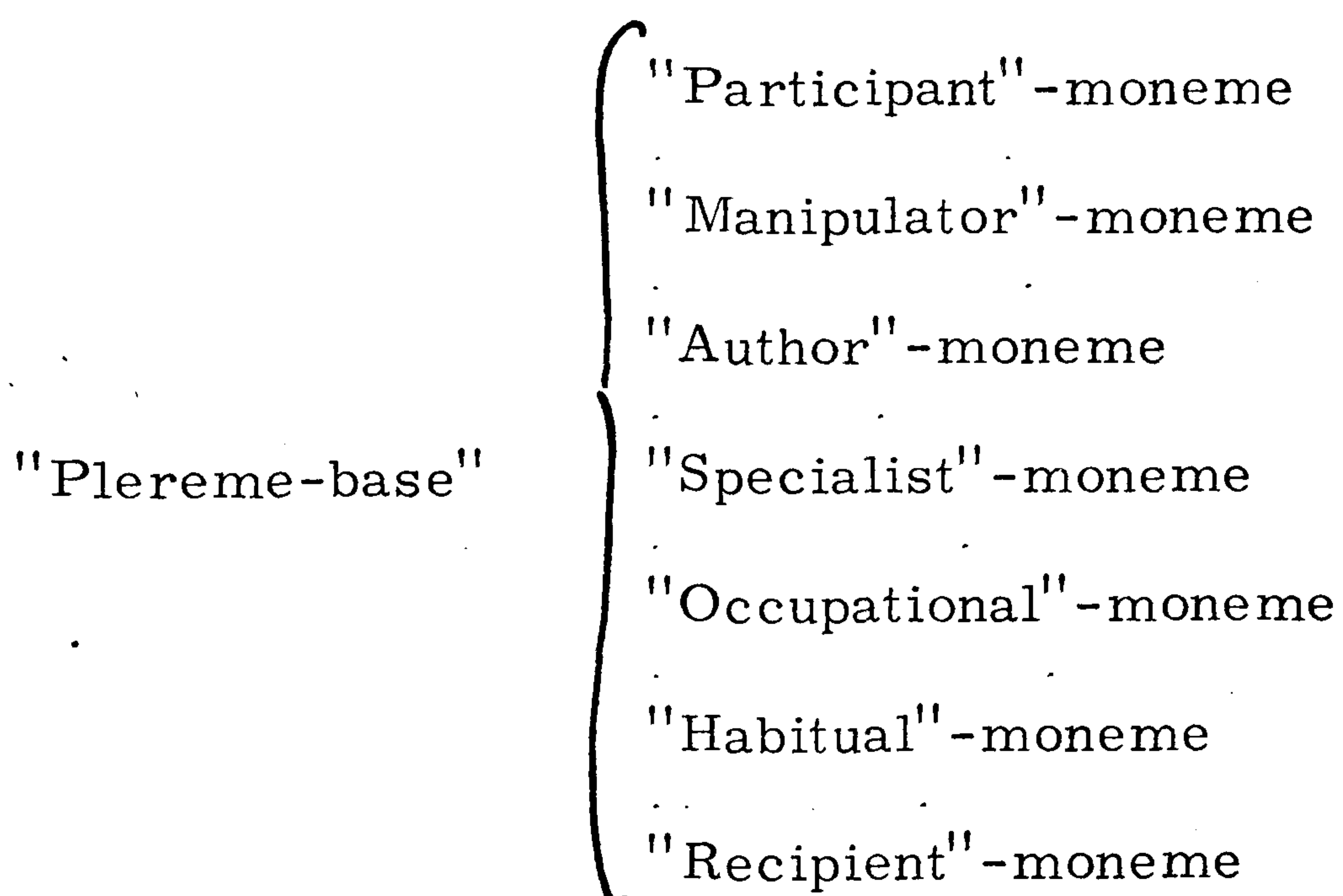
The hypothesis tentatively advanced-- identifying seven different monemes to account for the whole range of "morphological expansions" in the sets of complex pleremes above-- does not conflict with "formal" criteria. In terms of form, each of the monemes identified has a number of allomorphs and the sets of allomorphs in question give rise to a complex pattern of homomorphy. The principles of commutation are also satisfied by the hypotheses; the tentative monemes found in these hypotheses are indeed morphological as they stand the tests stipulated by Axiomatic Functionalist theory¹ for the identification of complex pleremes. The remaining question, however, is whether the hypotheses concerned satisfy also conditions of a denotational nature (in particular, for instance, whether the homonyms identified stand the tests imposed on tentative homonyms). In the discussion below I shall use the criterion of recoverability of denotations as an additional factor in testing the hypotheses under consideration.

¹cf. Part I: Chapter III, and S.G.J. Hervey and J.W.F. Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

It should be noted that the seven sets of complex pleremes presented in the tables above differ from one another in

- (a) the type of overall denotation characteristic of members of each set,
- (b) the type of denotational contribution of the respective "plereme-bases", and
- (c) the type of denotational contribution of the respective "morphological expansions".

I have taken the position that, in the final analysis, the hypothesis that a particular complex plereme is a combination of



holds on condition that the overall denotation of that complex is recoverable from the denotation of its constituents, plus, of course, from having a relatively clear (though necessarily rather approximate) idea of the semantic role played by the constructional relation between these constituents. As has been pointed out in "Preamble to the Description", all morphological relations are of one single type (namely simultaneity); there is, therefore, reason to believe that the

semantic function of this simultaneity relation is also of one single type (i.e. proliferation of the semantic functions of this relation must be precluded). This semantic function is unlikely to be more specific than what can be roughly captured by the paraphrase "has something to do with", and is, in all probability, a symmetrical function. Thus, for instance, although we may not be able to specify exactly the semantic function of R in, say,

"work" R $\left[\begin{array}{l} \text{a moneme represented} \\ \text{by the allomorph "/r/"} \end{array} \right] = \text{"worker"}$

the assumption that this relation can be different (semantically) from that in

"fife" R $\left[\begin{array}{l} \text{a moneme represented} \\ \text{by the allomorph "/r/"} \end{array} \right] = \text{"fifer"}$

is refuted by the fact that simultaneity relations must all be identical both constructionally and, presumably, semantically. Yet, unless we say that the morphological expansions in the constructions "worker" and "fifer" are different (see below) the only two remaining alternatives are:

(a) that the semantic function of R is different in the two cases,

OR

(b) that the denotation of the complex is not a calculable function of its contents (relation R included).

Both (a) and (b) can be reduced to absurdity in that

- (i) manifestations of one and the same constructional relation cannot have different semantic functions any more than manifestations of one and the same sign have different denotations, and
- (ii) if the denotation of the complex is not recoverable from the denotations of its constituents, then that complex has been wrongly identified as to its contents.

Assuming the overall denotation of the complex plereme "worker" to be more or less equivalent to that of "one who performs work (of any kind)", we find this denotation is recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (to work), having the normal denotation attributed to this sign in such contexts as, say, "he works hard", and
- (b) the tentative "Participant"-moneme represented by the allomorph "/r/".

The denotational contribution of the tentative "Participant"-moneme can be envisaged to be equivalent to "one who is engaged in the performance of an activity or field of activity x". The overall denotation emerges, thus, out of an interplay between the denotation of the "Participant"-moneme and the activity designated in the denotation of the appropriate "plereme-base": e.g. (to drive) / "driver", (to play) / "player", (to dance) / "dancer", etc.

It is, incidentally, not necessary for the "plereme-base" to have a "verbal" counterpart in other contexts (as do "worker" / (to work), "driver" / (to drive), etc.), but only that its denotation should designate an activity or field of activity. Thus, although there is, as far as I know, no "verbal" form

"to music" (the "verbal" equivalent is

provided by the syntagm

"to play music"),

"to golf" (the "verbal" equivalent is

provided by the syntagm

"to play golf"),

each of the plereme-bases "music" and "golf" can be seen to have a denotation designating, in this case, a field or type of activity.

As long as the semantic function of the "plereme-base" can be assumed to be the designation of an activity, the requisite interplay between the denotation of that "plereme-base" and the denotation of the "Participant"-moneme can also be assumed to function.

One might be tempted, on purely "formal" grounds, to identify the elements "/r/" in "fifer" and "/r/" in "fabler" with "/r/" in "worker", suggesting that each of the complex pleremes "fifer" and "fabler" is a combination of

the plereme-base "fife" plus the "Participant"-moneme

the plereme-base "fable" plus the "Participant"-moneme.

Although both complex pleremes denote "persons involved in the

performance of some kind of activity", it seems observationally satisfactory to claim that in the case of "worker":

"(to work) R "Participant"-moneme = "worker"

the specification of the activity involved is the denotational function of the plereme-base "to work" -- thus, for denotational reasons the "Participant"-moneme is identified only in complexes whose "plereme-bases" can be assumed, in themselves, to specify an activity. In the case of "fifer" and "fabler", however, there seems to be nothing in the denotation of the "plereme-bases"

(fife), denotationally equivalent to

"a kind of musical instrument"

and

(fable), denotationally equivalent to

"a short story with a moral"

to designate an activity. In fact the overall denotations of the complex pleremes "fifer" and "fabler" are, by convention, far more specific than merely designating persons engaged in some unstated activity involving fifes or fables, respectively. If, however, we persisted in upholding the assumption that "fifer" (an analogous consideration would hold for "fabler") is a combination of the "plereme-base" (fife) and the tentative "Participant"-moneme, we would either have to attribute, absurdly, two different semantic functions to R in

"work" R ["Participant"-moneme]

"fife" R ["Participant"-moneme]

or enforce the view that the denotation of the complex "fifer" is not

directly calculable from that of its contents. Therefore, since we wish to preserve the promise of adequacy with regard to full recoverability of denotations in testing hypotheses for moneme-identity (as we have expressly chosen to do), we are virtually forced to identify in each of the complex pleremes "fifer" and "fabler" a further "morphological expansion" different in sign-identity from the "Participant"-moneme (and also from each other, as we shall see below). Thus assuming

- (a) the overall denotation of "fifer" to be more or less equivalent to "one who plays the fife", and
- (b) the overall denotation of "fabler" to be more or less equivalent to "one who makes up fables",

we find the overall denotation of each of the complexes in question to be recoverable only on the hypothesis that

- (i) the elements "/r/" in "fifer" and "/r/" in "fabler" represent denotationally different monemes from that of "Participant" (as in "worker"), and
- (ii) "/r/" in "fifer" is denotationally different from "/r/" in "fabler".

Accordingly, I shall take the hypothesis of positing two different monemes to account for the "morphological expansions" in the complex pleremes "fifer" and "fabler". The denotational contribution of these two tentative monemes which I have labelled "Manipulator" (in "fifer") and "Author" (in "fabler") may be hypothesised as follows:

(a) "Manipulator"-moneme, denotationally equivalent to the rough paraphrase "one who has a degree of competence in manipulating an object x". Note that the overall denotation emerges out of an interplay between the denotation of the "Manipulator"-moneme and the designation of objects manipulated, i.e. the appropriate "plereme-base" whose denotation does not directly designate an activity or field of activity: e.g. (violin) / "violinist", (canoe) / "canoeist", (chariot) / "charioteer", (cab) / "cabby", etc.

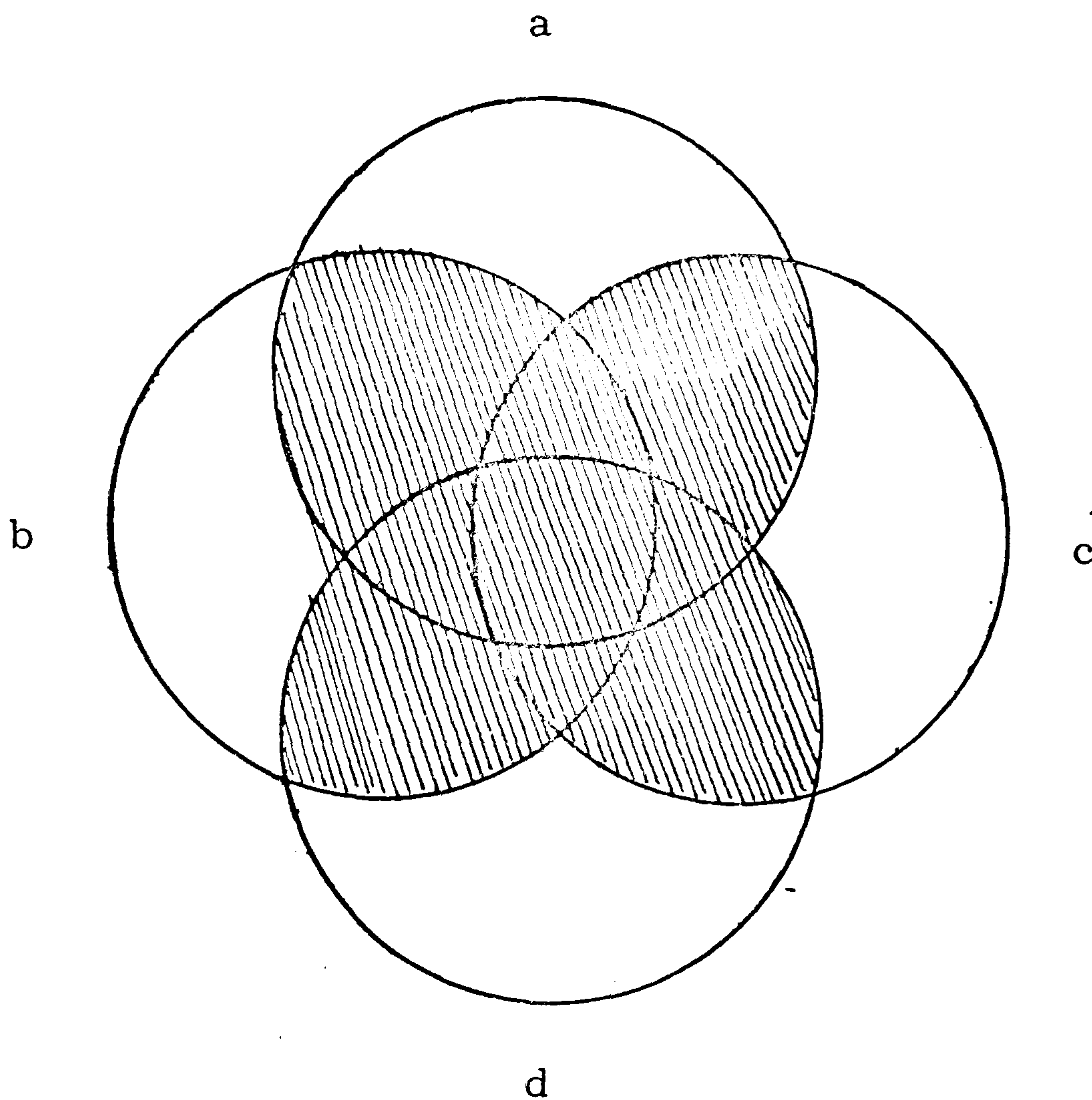
(b) "Author"-moneme, denotationally equivalent to the rough paraphrase "one who is the author of a product x". Attention is drawn to the fact that the denotation of the appropriate "plereme-base" with which the "Author"-moneme is in construction is assumed to be the designation of an artistic product: e.g. (novel) / "novelist", (essay) / "essayist", (preface) / "prefacer", (fable) / "fabler", etc.

Analogous arguments, involving our attempt at testing hypotheses against recoverability of denotations, virtually force us to identify in, for instance, the complex plereme "psychologist" a further "morphological expansion" different in sign-identity not only from the "Participant"-moneme, but from the "Manipulator" and "Author" monemes as well. (Note that the complex plereme "psychologist" is assumed to be a combination of the "plereme-base" (psychology) and the tentative moneme represented by the allomorph "/sT/"). Thus, assuming the overall denotation of the complex plereme "psychologist" to be more or less equivalent to that of "one who is qualified in the study of psychology", the tentative

moneme-- which, for reasons of convenience, I have labelled the "Specialist"-moneme-- represented by the allomorph "/sT/" may be assumed to play a denotational role equatable with "one who is qualified in the study of x". The overall denotation emerges, thus, out of an interplay between the denotation of the tentative "Specialist"-moneme and the designation of the subject studied, namely psychology. Furthermore, the denotation of the "plereme-base" (psychology) does not seem to have the designation of an activity or field of activity in itself. The commonsense material implication whereby a subject seems to entail a field of activity should not be confused with a denotational proper inclusion. In other words, a field of activity is indirectly entailed by the denotation of "psychology", but does not constitute the substance of that denotation. It must also be remembered that if, and only if, the semantic function of the appropriate "plereme-base" can be assumed to be the designation of a subject, the requisite interplay between the denotation of that "plereme-base" and the denotation of the "Specialist"-moneme can also be assumed to function: e.g. (phonology) / "phonologist", (phonetics) / "phonetician", (semantics) / "semanticist", (morphology) / "morphologist", etc.

It should be noted at this stage that the "Participant", "Manipulator", "Author" and "Specialist" monemes are semantically disjunct with respect to one another, i.e. their denotation classes do not overlap with one another. The "Participant"-moneme, it must

be remembered, denotes engagement (in general) in an activity or field of activity specified by the appropriate "plereme-base": e.g. (to work) / "worker", (to assist) / "assistant", (to compete) / "competitor", (golf) / "golfer", (music) / "musician", etc. The "Manipulator"-moneme, on the other hand, denotes the property of being able to fulfil a function manifested in the skilled manipulation of a particular object: e.g. (fife) / "fifer", (violin) / "violinist", (canoe) / "canoeist", (chariot) / "charioteer", etc. The denotation of the "Author"-moneme is assumed to be the designation of the function of being the author of a particular artistic product, while the denotation of the "Specialist"-moneme may be conceived of as the designation of the property of being qualified in the study of a particular subject. It must be remembered at this point that the disjunctness of the denotation classes of these tentative monemes is of particular importance since the monemes in question are involved in homonymy relations. Accordingly, the denotation classes of the "Participant", "Manipulator", "Author", and "Specialist" monemes may be represented in the following Venn-diagram:



KEY

- a : denotation class of the "Participant"-moneme (one who is engaged in the performance of an activity or field of activity x -- specified by the "plereme-base")
- b : denotation class of the "Manipulator"-moneme (one who has a degree of competence in manipulating an object x)
- c : denotation class of the "Author"-moneme (one who is the author of product x)
- d : denotation class of the "Specialist"-moneme (one who is qualified in the study of a subject x)

On the grounds of contextual variance and "distribution", one might be tempted to consider the elements "/isT/" and "/sTr/" in the complex pleremes "typist" and "trickster", respectively, to be allomorphic variants of the "Participant"-moneme, on the understanding that both complexes simply refer to "persons involved in the performance of a particular activity". It is important to note that in the case of "typist", for instance, we find that the tentative moneme represented by the allomorph "/isT/" is functionally opposed to the "Participant"-moneme in the same context:

"typer" ~ "typist".

Judging from restrictions in the deployment of the complex plereme "typist" in larger complexes: e.g.

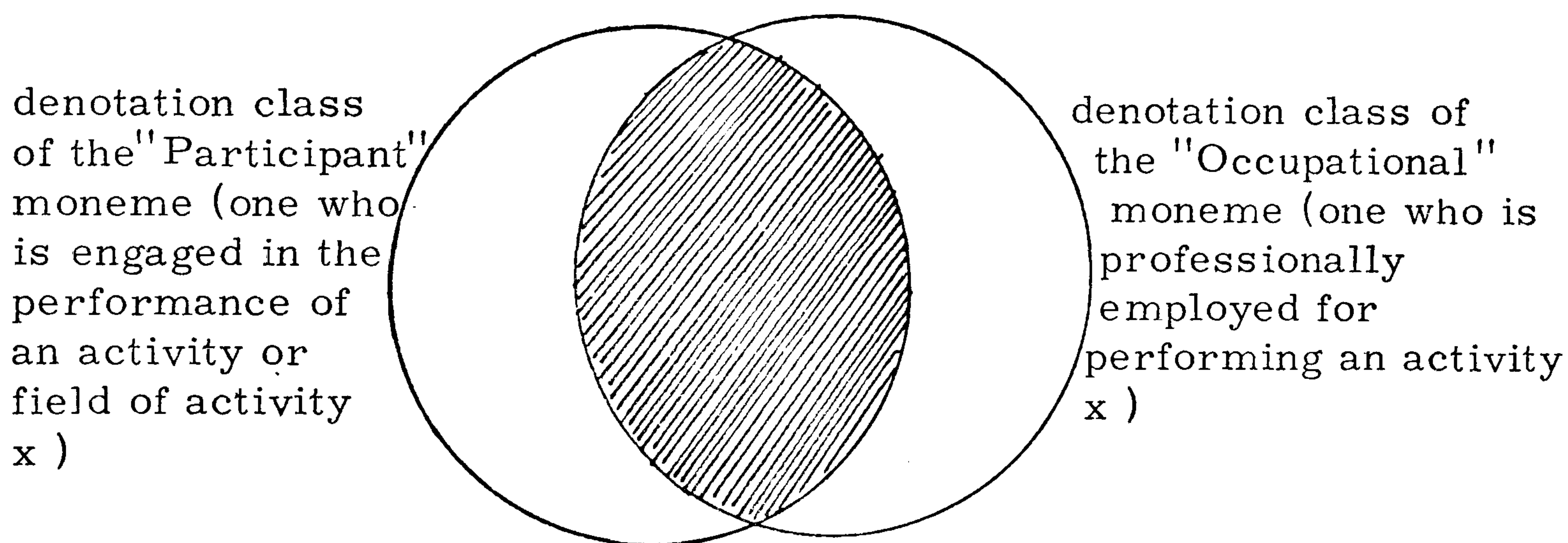
"he is a typer of long letters"

but not

"he is a typist of long letters"

it seems observationally satisfactory to claim that the overall denotation of this complex (roughly, one who is professionally involved in typing) can be recovered only on the hypothesis that the tentative moneme represented by the allomorph "/isT/" (as in "typist") is different from the "Participant"-moneme (as in "typer"). Accordingly, the denotational contribution of the tentative moneme-- which I have labelled the "Occupational"-moneme-- represented by the allomorph "/isT/" may be assumed to be equivalent to that of "one who is professionally employed for performing an activity x".

The commonsense material implication whereby "being employed to do x" entails "doing x" should not be confused with a denotational proper inclusion. In fact, "being employed for (N.B. not in) performing an activity x" is disjunct from "performing an activity x". The fact that the denotation classes of the "Participant" and "Occupational" monemes are disjunct, i.e. they do not overlap with one another, may be represented in the following Venn-diagram:



Analogous arguments, involving an opposition between "tricker" (assuming this form to be attestable, or at least potential in English) and "trickster", support the need to identify in the latter a morphological expansion (though with a limited distribution) different in sign-identity from the "Participant"-moneme. Thus, taking the overall denotation of "trickster" to be more or less equivalent to "one who is in the habit of playing tricks", the denotational contribution of the tentative moneme-- which I have labelled the "Habitual"-moneme-- represented by the allomorph "/sTr/" may be assumed to be equivalent

to the rough paraphrase "one who is in the habit of doing x": e.g. (fib) / "fibster", and (pun) / "punster".

For the time being, I shall refrain from discussing the "Recipient"-moneme presented in Table VII earlier on in this chapter. I shall reserve such discussion until after my remarks on the six "agentive" monemes presented in Tables I-VI have been brought to a conclusion. The reason for doing so may be explained on the understanding that neither "formal" similarity, nor similarity in "meaning" would encourage the identification of the "Recipient"-moneme with any of the six monemes discussed so far. Returning to Tables I-VI, the following observations may be made.

In spite of the semantic specialisation of the "Manipulator", "Author", "Specialist", "Occupational", and "Habitual" monemes relative to the denotation of the "Participant"-moneme-- i.e. the latter simply designates engagement (in general) in an activity or field of activity, the former have more specific denotations-- one may still be tempted to argue in favour of some alternative solution that would preserve the promise of adequacy with regard to testing hypotheses against recoverability of denotations and do so without positing six separate moneme-identities. The argument might take the form that one "agentive" moneme, namely the "Participant"-moneme ("one who is engaged in the performance of an activity or field of activity x"), should be sufficient to cover the whole range of "morphological expansions" in the six sets of complex pleremes

presented in Tables I-VI earlier on in this chapter.

The line of argument would leave certain denotational discrepancies to explain (e.g. "typist" does not designate "one who types", as one would expect it to, if it contains the "Participant"-moneme, but rather "one who is professionally employed for performing the task of typing"). These discrepancies, it might be said, could be eliminated by positing a dynamic "word-formation" relation whereby a change in meaning of certain "plereme-bases" is triggered by the "Participant"-moneme. For instance, assuming each of the complex pleremes "typist" and "fifer" to be a combination of a "plereme-base" and the "Participant"-moneme:

(to type) $R \left[\text{"Participant"-moneme} \right] = \text{"typist"}$

(fife) $R \left[\text{"Participant"-moneme} \right] = \text{"fifer"}$

their semantic connection with the forms "to engage in using a typewriter" and "to play the fife" respectively, would seem intuitively to support the line of thought raised above, namely that

- (a) the "plereme-base" (to type) undergoes a dynamic change of "narrowing" of meaning, i.e. a change from denoting the idea of being engaged in using a typewriter to denoting the fact of being professionally employed for using a typewriter,
- (b) the "plereme-base" (fife) undergoes what may be called a "transfer" of meaning, i.e. a shift from denoting a concrete object (fife) to denoting playing on that object. Note that this would be just one of an indefinite number of such "transfers" and that the various forms of "transfer" in meaning would have to be investigated individually.

If this solution-- probably the only way of preserving recoverability of denotations while identifying the "Participant"-moneme in the complex pleremes "typist" and "fifer" (or for that matter in any member of the sets of complex pleremes presented in Tables II-VI)-- were to be adopted, we would be faced with putative relations of dynamic "narrowing" and "transfer" of meaning that are hard to reconcile with a purely synchronic description. From a diachronic standpoint, of course, it might be possible to claim that in combination with certain "plereme-bases" (though not with others)¹ the "Participant"-moneme is involved in

(a) a dynamic process of "narrowing" of meaning,

OR

(b) a dynamic process of "transfer" of meaning.

Moreover, if this assumption were to be carried through, we would have to say that over and above the synchronic morphological relation of simultaneity holding between

(i) the moneme "to type" and the moneme represented by the allomorph "/isT/" (in "typist"), and

(ii) the moneme "fife" and the moneme represented by the allomorph "/r/" (in "fifer")

there is also a dynamic relation, say, a "word-formation" relation (of "narrowing" or "transfer" of meaning, respectively) in the

¹This in itself would be problematic in that an ad hoc list of such "plereme-bases" would have to be compiled.

complex pleremes "typist" and "fifer". It is my conviction that, if the existence of this relation was posited, it could only be relevant to diachronic morphology. Inasmuch as Axiomatic Functionalism caters for purely synchronic descriptions, the inclusion of diachronic relations/processes for the purpose of preserving the recoverability of denotations would seem to introduce an undesirable element of eclecticism.

From the foregoing, we come to the realization that unless we introduce a synchronically irrelevant relation, the synchronic morphological description itself will be untenable with regard to the assumption of recoverability of denotations. Furthermore, any attempt to patch up a synchronic description by having recourse to synchronically irrelevant explanations is scientifically objectionable, and should in Axiomatic Functionalism, be a priori inadmissible. It is important to remember that Axiomatic Functionalist theory must be adequate in itself for its own purposes¹ and the admission that it can only be made adequate by ad hoc solutions from outside could only be interpreted as an admission of defeat. Furthermore, not only would one have to bring in special "word-formation" relations ad hoc, but one would have also to identify ad hoc, and mark, those "plereme-bases" that, to the exclusion of others, are affected by those relations and that trigger off the "narrowing" or

¹On the adequacy of linguistic theory and linguistic descriptions, see J.W.F. Mulder, "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980), and also Mulder's article: "The Strategy of Linguistics" in the same volume.

the "transfer" of meaning in the "Participant"-moneme. The whole complex solution, a solution for which the literature on Axiomatic Functionalist morphological theory offers no basis, would be an instrumentalist invention and, as such has to be rejected.

For the foregoing reasons, we conclude that dynamic "word-formation" relations/processes should not be used in dealing with any member of the sets of complex pleremes presented in Tables II-VI. Although it is my explicit intention -- by fiat -- to preserve the assumption that the hypotheses under consideration will need to be specifically tested for recoverability of denotations, the dynamic solution is, for theoretical reasons, not open to me. This being the case, I am virtually forced to posit five separate moneme-identities with regard to the sets in question, thus bringing to six the total number of "agentive" monemes identified in the sets of complex pleremes presented in Tables I-VI.

Another angle from which the adequacy of differentiating between the six "agentive" monemes (i.e. "Participant", "Manipulator", "Author", "Specialist", "Occupational", and "Habitual") may be considered is that of "proportionality". This notion plays, for instance, an important part in the adequation of phonological hypotheses, and may do so in grammatical description as well, with the proviso that, whereas phonological correlations should be phonetically plausible, the comparative plausibility of grammatical "proportions" has to be assessed in "semantic" terms. By comparative plausibility I mean that, for instance, a putative correlation like

bad : badly :: true : truly :: fool : foolish :: snob :
snobbish

is to be rejected in favour of two separate correlations

(i) bad : badly :: true : truly :: etc.

(ii) fool : foolish :: snob : snobbish :: etc.

the latter, incidentally, being reflected by the solution of attributing two different identities to the monemes conventionally represented as "-ly" and "-ish" respectively.

Returning to the issue of the six "agentive" monemes under consideration, comparative plausibility would seem to support the setting up of six internally homogeneous correlations as opposed to, say, a single relatively heterogeneous one. Within a set like

working : worker :: cycling : cyclist :: applying :

applicant :: assisting : assistant :: etc.

proportionality holds to a much higher degree than in a set like

working : worker :: fife : fifer :: cycling : cyclist ::

violin : violinist :: etc.

If we compare simply the alternatives

(a) working : worker :: cycling : cyclist

or

fife : fifer :: violin : violinist

(b) working : worker :: fife : fifer

or

cycling : cyclist :: violin : violinist

we find that proportions under alternative (a) are clearly more acceptable than those under (b). In fact, in terms of proportionality it is possible to assign immediately any complex containing an "agentive" moneme to the appropriate correlation-- the set with whose members it forms the most immediately plausible proportions. Thus, for instance, a complex like "novelist" forms relatively poor proportions with "typist", "semanticist", "golfer", "drummer", etc. , but is proportionate with a complex like "fabler". The establishment of six internally highly proportionate sets (which is the result of distinguishing six different "agentive" monemes) as opposed to the setting up of a smaller number of internally less strictly proportionate sets (which would be the corollary of not recognizing six separate "agentive" monemes) is one of the important features in favour of the adequacy of the solution offered in this chapter.

The six "agentive" monemes discussed so far -- namely the monemes labelled "Participant", "Manipulator", "Author", "Specialist", "Occupational", and "Habitual" -- are, formally speaking, partially overlapping in phonological features. It is this fact, together with certain intuitive similarities in "meaning", that places such a heavy onus of justification on a hypothesis distinguishing six separate moneme-identities. I have tried to show how the testing of hypotheses against recoverability of denotations (alongside with commutational, "formal" and distributional criteria of moneme-identity), together with a rejection of an ad hoc dynamism, supports

this hypothesis, and would do so even if the resulting six monemes were formally in total overlap (i.e. were homonymous in the full and total sense). The attention paid to the discreteness of the denotations of the six monemes in question was specifically aimed at guarding against the untenable identification of denotationally overlapping homonyms¹. In spite of intuitive similarities in "meaning", these six monemes can be set up as homonyms with discrete denotations.

Looking back at Tables I-VI listing the allomorphs of the "Participant", "Manipulator", "Author", "Specialist", "Occupational", and "Habitual" monemes, we find that only a minority of the allomorphs of, say, the "Participant"-moneme have corresponding homomorphs among the allomorphs of each of the other monemes and vice versa. That is to say, the six monemes in question are partially homonymous with respect to one another (see diagram below). The extent of this partial homonymy can be seen from the following tabulation:

¹cf. S.G.J. Hervey, Axiomatic Semantics: A Theory of Linguistic Semantics, Scottish Academic Press (1979), especially Chapter VII: "The Identity of Signs".

Phonological form of the allomorph	"Participant"	"Manipulator"	"Author"	"Specialist"	"Occupational"	"Habitual"
/r/	e.g. "worker"	e.g. "fifer"	e.g. "fabler"			
/dr/	e.g. "spalder"					
/isT/	e.g. "cyclist"	e.g. "violinist"	e.g. "novelist"		e.g. "typist"	
/rnisT/		e.g. "lutunist"				
/rnt/	e.g. "assistant"					
/ir/		e.g. "charioteer"				
/sTr/			e.g. "rhymester"		e.g. "spinster"	e.g. "trickster"

Phonological form of the allomorph	"Participant"	"Manipulator"	"Author"	"Specialist"	"Occupational"	"Habitual"
/sT/				e.g. "psychologist"		
/mrn/	e.g. "chairman"	e.g. "boatman"			e.g. "repairman"	
/Smrn/	e.g. "sportsman"	e.g. "swordsman"				
/rnrn/					e.g. "fisherman"	
/zmrn/					e.g. "steersman"	
/i/		e.g. "cabby"				
/ir~r/		e.g. "gondolier"				

Phonological form of the allomorph	"Participant"	"Manipulator"	"Author"	"Specialist"	"Occupational"	"Habitual"
/sɪst ~ ks/			e.g. "lyricist"	e.g. "semanticist"		
/ɪst ~ əɪz/	e.g. "plagiarist"					
/ɪst ~ Ou/		e.g. "cellist"				
/ɪst ~ S/	e.g. "dartist"					
/ɪst ~ r/		e.g. "violinist"				
/t ~ m/			e.g. "poet"			
/ʒn ~ k/	e.g. "musician"			e.g. "logician"		

Phonological form of the allomorph	"Participant"	"Manipulator"	"Author"	"Specialist"	"Occupational"	"Habitual"
/ʃn ~ ks	e.g. "politician"			e.g. "phonetician"		
/r ~ i/	e.g. "sorcerer"			e.g. "geographer"		
/rnt ~ eit/	e.g. "participant"					
/rnt ~ ai/	e.g. "occupant"					
/eiri ~ r/				e.g. "grammarian"		
/õri ~ ri/				e.g. "historian"		
/õr ~ Ri/	e.g. "guarantor"					

Phonological form of the allomorph	"Participant"	"Manipulator"	"Author"	"Specialist"	"Occupational"	"Habitual"
/etɪʒn ~ i/			e.g. "theoretician"			
/ɪr ~ iə...isT ~ Ou/		e.g. "pianist"				
/t ~ ʒ ~ r/	e.g. "admonitor"					
/ɪk ~ aɪ ~ rnt/	e.g. "applicant"					
/es ~ Ri ~ r/	e.g. "successor"					
/ɔ ~ r...r ~ Ou...isT/		e.g. "saxophonist"				
/e ~ Ri... r/	e.g. "lessor"					

Phonological form of the allomorph	"Participant"	"Manipulator"	"Author"	"Specialist"	"Occupational"	"Habitual"
/ɔr ~ Ru... ist/		e.g. "flautist"				
/e ~ Ri... itr/	e.g. "competitor"					
/i ~ ai... rtr/	e.g. "conspirator"					
/i ~ ai... rnt/	e.g. "aspirant"					
/e ~ i... i ~ ai... rnt/	e.g. "resident"					
∅	e.g. "cook"					

Still on the grounds of testing tentative hypotheses against the additional criterion of recoverability of denotations, it seems possible to claim that the tentative moneme represented by the allomorph */Ri/* in the complex plereme "payee", for instance, cannot be said to have a denotational role equatable with any of the six monemes I have set up above. This tentative moneme is found, for instance, to be functionally opposed to the "Participant"-moneme in the same context:

"payee" ~ "payer".

Apart from its opposition to the "Participant"-moneme, the promise of adequacy with regard to the recoverability of the denotation of the complex plereme "payee" seems to support the need to identify in this complex a "morphological expansion" different in sign-identity from any of the other five monemes set up above. Thus, assuming the overall denotation of "payee" to be more or less equivalent to that of "one who is paid", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (to pay), having the normal denotation attributed to this sign in such contexts as, say, "I will pay the bill", and
- (b) the tentative moneme, which I have labelled the "Recipient"-moneme, having a denotational contribution equatable with "one who is on the receiving end of a process x".

The overall denotation emerges, thus, out of an interplay between the denotation of the "Recipient"-moneme and the process designated in the denotation of the appropriate "plereme-base" : e.g. (to pay) / "payee", (to train) / "trainee", (to employ) / "employee", etc.

One might be tempted on purely "formal" grounds to treat, for instance, each of the tentative complex pleremes:

"evacuee", "escapee", "garnishee", "divorcee",

"refugee", "presentee", "loanee", etc.

as a combination of a "plereme-base" and the "Recipient"-moneme.

Taking the overall denotation of the tentative complex plereme "evacuee",

(to evacuate) R $\left[\begin{array}{l} \text{a moneme represented} \\ \text{by the allomorph} \\ \text{"/Ri} \sim \text{eit/"} \end{array} \right] = \text{"evacuee"}$

for instance; to be more or less equivalent to "one who has been forced to leave his/her home, land, etc. in the aftermath of military occupation or natural disaster", we find that the denotational contribution of the tentative moneme represented by the allomorph "/Ri ~ eit/" would be too particular to be considered equivalent to that of the "Recipient"-moneme in other contexts. Furthermore, the tentative moneme under consideration in "evacuee" cannot be identified as having an equivalent "narrow" denotational contribution in other contexts (e.g. "escapee", "loanee", etc.). I shall, therefore, take it that analysis of "evacuee" is not tenable, i.e. "evacuee" is merely a pseudo-composite.

Analogous arguments, involving the absence of a constant denotational function of the element "-ee" in, say,¹

"trustee", "appellee", "devisee", "absentee",
"grantee", "surrenderee", "legatee",
"drawee", etc.

support the need to treat these items as unanalysable pleremes (pseudo-composites).

One might also be tempted to posit a further "agentive" moneme in, for instance, each of the tentative complex pleremes:

"jeweller", "tobacconist", "comedian"
"tragedian", "milkman" and "fish-man".

The hypothesis, for instance, that "jeweller" is a combination of

(a) the plereme-base (jewelry), having the normal denotation

attributed to this sign in such contexts as, say, "he gave the bride two pieces of jewelry as a wedding present", and

(b) some "agentive" moneme, having the tentative denotational

contribution equatable with "one who deals in x",

does not seem to hold the promise of adequacy with regard to full

recoverability of denotations. Thus, if we consider (as we should)

the actual range of objects together with the range of activities

¹The majority of these refer to legal terms which have been borrowed wholesale from French (cf. Hans Marchand, The Categories and Types of Present-Day English Word-Formation, Munchen (1969), and Otto Jespersen, Modern English Grammar on Historical Principles, Vol. VI: Morphology, Copenhagen (1942)). It may also be noted that the form "ee" appears in many American English constructions: e.g. "hold-upee", "tryoutee", "laughee", "congratulee", "squeezee", "invitee", "jokeee", etc. These items, however, did not gain currency even in American English. See, for example, "Among the New words", American Speech,

designated by the overall denotation of the tentative complex "jeweller", we find that this denotation cannot be predicted from the denotations of the equally tentative constituents "jewelry" and "agentive". That is to say, we can neither fully predict the range of objects a jeweller deals in (e.g. watches, clocks, crystal glass-ware, etc.) nor the full range of a jeweller's activities (e.g. selling, making, repairing, etc.) on the basis of the tentative constituents of the sign "jeweller". It may be possible to claim that "jeweller" has its diachronic origin in a morphological complex (one who makes jewelry) which by a process of specialisation has come to denote specifically "one whose business is the cutting, polishing, or setting of gemstones or the selling/making/repairing of gemstones, objects that are worn for personal adornment, watches, clocks, etc.". Under these circumstances, it seems most appropriate to treat "jeweller" as a "fossil".

Analogous arguments, involving "fossilisation", support the need to treat the items "tobacconist", "comedian" and "tragedian" as unanalysable pleremes (pseudo-composites).

In the case of "fish-man", it will be seen that this complex¹ is not a simultaneous bundle of the simple signs "fish" and "man", for, according to the fourth criterion stipulated by Axiomatic Functionalist theory for morphological analysis (cf. Part I, Chapter III),

¹"fish-man" satisfies the first three criteria for morphological analysis stipulated by Axiomatic Functionalist theory. An explanation of these criteria has already been given in Part I, Chapter III.

a morphological complex does not, by requirement, tolerate any potential for relational hierarchy or syntactic positions. By using the technique of commutation with a syntagm, we can demonstrate non-simultaneity within the complex "fish-man". Thus, for instance, a syntagm such as "fish and ice-cream" (with "ice-cream" being subordinated to "and" we may show asymmetry within "fish and ice-cream") validly commutes with "fish" in "fish-man", producing the complex "fish and ice-cream man", i.e. one who has the dual function of delivering "fish and ice-cream" as opposed to a "fish-man" and an "ice-cream man". This means that "fish-man" is a syntactic complex containing the two pleremes "fish" and "man". It is important to note here that the same argument holds for "milkman", as there is no reason to believe that the element "man" in "milkman" is denotationally different from "man" in "fish-man".

DISTRIBUTION

(i) The "Participant"-Moneme

The "Participant"-moneme has a very wide morphological distribution-- it is highly productive in that the range of plereme-bases with which it co-occurs covers almost the whole class of "verbs" in English. This moneme can also occur with "nominal" plereme-bases whose denotations may be assumed to have the designation of an activity or a field of activity.

Allomorphs of the "Participant"-Moneme

Type of Allomorph

Occurs in the context of the plereme-bases

Suffix

"/r/"

(to work), (to play), (to win), (to pay),
(to skate), (to dance), (golf), (cricket), etc.

"/rnt/"

(to assist), (to assail), (to accept),
(to attest), (to complain), etc.

Replacive Proper

"/isT ~ aiz/"

(to plagiarize), (to analyse),
(to exorcize), etc.

"/rnt ~ eit/"

(to emigrate), (to anticipate),
(to abdicate), (to participate),
(to remonstrate) and (to officiate).

(ii) The "Manipulator"-moneme

The "Manipulator"-moneme occurs in the context of plereme-bases whose denotations may be assumed to have the designation of a concrete object. It is interesting to note that the "Manipulator"-moneme occurs in the context of monomonematic plereme-bases.

Allomorphs of the "Manipulator"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/r/"	(fife), (pipe), (bagpipe), (bugle), (drum) (trumpet), <u>etc.</u>
"/isT/"	(trombone), (harp), (organ), (bassoon), (violin), (guitar), (cymbal), (flute), (oboe), (mandolin), (clarinet), (viol), (lute), (banjo), (canoe), (kite), <u>etc.</u> Note that the "/isT/" and the non-contiguous allomorph "/or~Ru... isT/" are in <u>mixed variance</u> in the context (flute). We may also note that there is <u>mixed variance</u> between the suffix "/isT/" and the suffix "/rnisT/" in the context (lute).
"/mrn/"	(boat), (coach), (dray), <u>etc.</u>
"/Smrn/"	(punt), (sword), <u>etc.</u> Note that the suffixes "/Smrn/" and "/r/" are in <u>mixed variance</u> in the context (punt).
"/ir/"	(chariot), (puppet), (engine), <u>etc.</u>

(iii) The "Author"-Moneme

The "Author"-moneme occurs in the context of monomonematic plereme-bases whose denotations may be assumed to have the designation of artistic products.

Allomorphs of the "Author"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/isT/"	(novel), (ballad), (essay), (fiction), <u>etc.</u>

(iv) The "Specialist"-Moneme

The "Specialist"-moneme occurs in the context of monomonematic plereme-bases whose denotations may be assumed to have the designation of a particular subject.

Allomorphs of the "Specialist"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/sT/"	(psychology), (phonology), (morphology), (astrology), (philology), (psychiatry), (anatomy), <u>etc.</u>

Replacive Proper

"/šn ~ kS/" (phonetics), (mathematics), (tactics),
(rhetorics), etc.

"/r ~ i/" (geography), (astronomy), etc.

(v) The "Occupational"-Moneme

The "Occupational"-moneme occurs in the context of monomonematic plereme-bases and has a relatively wide morphological distribution.

Allomorphs of the "Occupational"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
-------------------	--------------------------------------------

Suffix

"/isT/" (to type), (to stock), (to record),
(to copy), etc.

"/mrn/" (to repair), (to shear), (to service), etc.

(vi) The "Habitual"-Moneme

The "Habitual"-moneme, as can be seen from the table below, has a very limited morphological distribution, i.e. it is not productive. It is manifested by a "unique morph":

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/sTr/"	(trick), (fib), and (pun).

(vii) The "Recipient"-Moneme

The "Recipient"-moneme occurs in the context of monomonematic plereme-bases; it has a wide morphological distribution, as can be seen from the table below:

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/Ri/"	(to employ), (to train), (to pay), (to patent), (to petition), (to deport), <u>etc.</u>

CHAPTER III

THE "PROVENANCE", "DWELLER", "IMITATIVE"

AND "ADHERENT" MONEMES

In this chapter, I propose to hypothesise the separate identity of four monemes. These monemes, identified tentatively as different signs and labelled respectively as "Provenance", "Dweller", "Imitative", and "Adherent", are, in advance of discussion, presented (together with their allomorphs) in four separate tables in terms of which my hypothesis is formulated. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations (cf. preceding chapter).

In order to set the scene for the formulation of my hypothesis it may be useful to note that on the grounds of intuitive similarity in "meaning", the most superficially satisfying solution would be to set up one moneme to cover the whole range of "morphological expansions" in the sets of complex pleremes given in Tables I-IV below. The line of argument might be to treat, for instance, "/irn/" (in "Brazilian"), "/r/" (in "Londoner"), "/esk/" (in "Raphaelesque"), and "/sT ~ zm/" (in "socialist") as allomorphic variants of one moneme, having a denotational contribution equatable with "having to do with x". Such line of thought, however, fails to preserve the promise of adequacy with regard to the additional criterion of recoverability of denotations. Thus, for instance, taking

- (a) the denotation of "Brazilian" to be more or less equivalent to "person or thing that comes from Brazil",
- (b) the denotation of "Londoner" to be more or less equivalent to "person who comes from London",
- (c) the denotation of "Raphaelesque" to be more or less equivalent to "in imitation of the style of Raphael", and
- (d) the denotation of "socialist" to be more or less equivalent to "person or thing following the line of socialist ideology",

we find the overall denotation of each of these complex pleremes to be recoverable only on the hypothesis that each of the elements "/irn/", "/r/", "/esk/" and "/sT~zm/" represents a different moneme. For the time being, I shall not spell out the argument supporting my solution of setting up four different monemes; I shall reserve such discussion until after the hypotheses in question have been presented in complete tabulated form.

The tables run as follows:

TABLE I

The identity hypothesis concerning the "Provenance"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "originating from source x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/i:rn/"	(Brazil), <u>etc.</u>	"Brazilian"
"/ri:rn/"	(Shakespeare)	"Shakespearian"
"/ni:rn/"	(Buffalo), <u>etc.</u>	"Buffalonian"
"/vi:rn/"	(Peru)	"Peruvian"
"/r:n/"	(Chile)	"Chilean"
"/n/"	(Syria), <u>etc.</u>	"Syrian"
"/Riz/"	(Ceylon), <u>etc.</u>	"Ceylonese"
"/nRiz/"	(Java)	"Javanese"
"/i/"	(Kuwait), <u>etc.</u>	"Kuwaiti"
"/ri/"	(Qatar), (Kashmir).	"Qatari" "Kashmiri"
"/g/"	(Turkey)	"Turkish"
(b) <u>Staggered Affix</u>		
"/...Ou...i:rn/"	(Bristol), <u>etc.</u>	"Bristolian"
"/...ei...i:rn/"	(Jordan)	"Jordanian"
"/...Ri...i:rn/"	(Spenser), <u>etc.</u>	"Spenserian"

(c) Replacive Proper

"/i:rn ~ Ruz/"	(St Andrews)	"St Andrean"
"/i:rn ~ rs/"	(Olympus)	"Olympian"
"/n ~ r/"	(Africa), <u>etc.</u>	"African"
"/n ~ Ou/"	(Mexico), <u>etc.</u>	"Mexican"
"/n ~ m/"	(Belgium)	"Belgian"
"/Riz ~ r/"	(China), <u>etc.</u>	"Chinese"
"/Riz ~ rn/"	(Lebanon)	"Lebanese"
"/Riz ~ l/"	(Portugal)	"Portuguese"
"/iʃ ~ rnd/"	(England),	"English"
	(Poland).	"Polish"
"/iʃ ~ lrnd/"	(Scotland),	"Scottish"
	(Ireland),	"Irish"
	(Finland).	"Finnish"
"/iʃ ~ n/"	(Sweden),	"Swedish"
	(Britain).	"British"
"/enʃ ~ arns/"	(France)	"French"
"/emiʃ ~ arndrʒ/"	(Flanders)	"Flemmish"
"/s ~ tʃrlrnd/"	(Switzerland)	"Swiss"
"/k ~ s/"	(Greece)	"Greek"

(d) Scattered Replacive

"/ei ~ a...i:rn ~ r/"	(Alabama)	"Alabamian"
"/i ~ ai...i:rt ~ rs/"	(Cyprus)	"Cypriot"
"/r ~ a...Ri ~ ø...i:rn ~ z/"	(Athens)	"Athenian"

"/r ~ a... Rin ~ krs/"	(Damascus)	"Damascene"
"/ϕ ~ i... š ~ z/"	(Wales)	"Welsh"
"/i ~ Ri... irn ~ r/"	(Argentina)	"Argentinian"
"/ei ~ e... iš ~ mark/"	(Denmark)	"Danish"
"/r ~ a... ei ~ r... irn ~ r/"	(Canada)	"Canadian"
(e) <u>Contiguous</u>		
"/r ~ a... z ~ s _V irn/"	(Paris)	"Parisian"
"/Oun ~ Ri _V irn/"	(Dundee)	"Dundonian"
"/Oun ~ frd _V irn/"	(Oxford)	"Oxonian"
"/kiRun ~ tšisTr _V irn/"	(Manchester)	"Mancunian"
"/ð ~ θ _V irn/"	(Wordsworth)	"Wordsworthian"
"/eiv ~ or _V irn/"	(Shaw)	"Shavian"
"/š ~ z _V n/"	(Mars)	"Martian"
"/Ri ~ Ou _V n/"	(Cairo)	"Cairene"
"/Oudš ~ oi _V n/"	(Troy)	"Trojan"
"/Ridš ~ ei _V n)	(Norway)	"Norwegian"
"/uRidš ~ ei _V n/"	(Glasgow)	"Glaswegian"
"/i ~ Ri... š ~ t _V n/"	(Egypt)	"Egyptian"
(f) <u>Non-contiguous</u>		
"/e ~ i... irn/"	(Dickens)	"Dickensian"
"/antr ~ eim... irn/"	(Cambridge)	"Cantabrigian"
"/Ou ~ Ri... irn/"	(Aberdeen)	"Aberdonian"
"/rd ~ Ru... irn/"	(Liverpool)	"Liverpudlian"
"/Ou ~ o... irn/"	(Babylon),	"Babylonian"
	(Capitol).	"Capitolian"

"/i ~ ai... ɪrn/"	(Palestine)	"Palestinian"
"/ei ~ a... ɪrn/"	(Iran)	"Iranian"
"/a ~ r... ɾn/"	(Italy)	"Italian"
"/ei ~ r... ɾn/"	(Hungary)	"Hungarian"
"/r ~ a... Riz/"	(Sudan), (Vietnam).	"Sudanese" "Vietnamese"
"/a ~ r... r ~ a... Riz/"	(Japan)	"Japanese"
"/a ~ ei... i/"	(Bahrain)	"Bahrani"
"/a ~ ei... iʃ/"	(Spain)	"Spanish"
(g) <u>Subtractive</u>		
∅ ~ "/i/"	(Germany)	"German"
∅ ~ "/ir/"	(Yugoslavia)	"Yugoslav"
∅ ~ "/isTan/"	(Afghanistan)	"Afaghan"
∅ ~ "/rreɪbɪr/"	(Saudi Arabia)	"Saudi"
(h) <u>Zero-form</u>		
∅	(Yorkshire), <u>etc.</u>	"Yorkshire"
(i) <u>Amalgamation</u>		
"/drtʃ ~ hoɫrɪnd/"	(Holland)	"Dutch"

TABLE II

The identity hypothesis concerning the "Dweller"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "person of x provenance" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/r/"	(London), <u>etc.</u>	"Londoner"
"/mr̄n/"	(England [<u>ish</u>]), <u>etc.</u>	"Englishman"
(b) <u>Replacive Proper</u>		
"/Smr̄n ~ lr̄nd/"	(Scotland)	"Scotsman"
(c) <u>Scattered Replacive/Subtractive</u>		
"/ei ~ e...ϕ ~ m̄ark/"	(Denmark)	"Dane"
(d) <u>Subtractive</u>		
ϕ ~ "/n/"	(Sweden)	"Swede"
ϕ ~ "/i/"	(Turkey)	"Turk"

TABLE III

The identity hypothesis concerning the "Imitative"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "reminiscent of or in imitation of the style of x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/esk/"	(Raphael), <u>etc.</u>	"Raphaelesque"
"/rɛsk/"	(Turner)	"Turneresque"
"/et/"	(flannel), <u>etc.</u>	"flannelette"
(b) <u>Replacive Proper</u>		
"/esk ~ i/"	(Dante)	"Dantesque"

TABLE IV

The identity hypothesis concerning the "Adherent"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "adhering to x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Replacive Proper</u>		
"/sT ~ zm/"	(socialism), <u>etc.</u>	"socialist"
(b) <u>Subtractive</u>		
∅ ~ "/izm/"	(Mohammedanism)	"Mohammedan"
∅ ~ "/iti/"	(Christianity)	"Christian"

DISCUSSION

The hypothesis tentatively advanced-- identifying four monemes to account for the whole range of "morphological expansions" in the sets of complex pleremes above -- does not conflict with criteria of form and commutation. In the discussion, the criterion of adequacy with respect to semantic factors (recoverability of denotations) will be used as an additional factor in testing the hypotheses

noted in Tables I-IV. The tentative monemes found in these hypotheses are indeed morphological as can be demonstrated by the criteria stipulated by Axiomatic Functionalist theory for the identification of morphological complexes as opposed to syntactic complexes.

The hypothesising of four moneme-identities to account for the "morphological expansions" in the sets of complex pleremes presented above, is based on considerations concerning:

- (a) the type of overall denotation characteristic of members of each set,
- (b) the type of denotational contribution of the respective "plereme-bases", and
- (c) the type of denotational contribution of the respective "morphological expansions".

Thus, for instance, assuming the overall denotation of the complex plereme "Brazilian" to be more or less equivalent to "someone/something originating from Brazil", we find that this denotation is recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (Brazil), having the normal information-value attributed to this signum¹ in such contexts as, say, "Brazil is a country in South America", and

¹The generic term "signum" stands for "sign" or "symbol". I shall refrain from attempting to determine whether "Brazil" is a "symbol" or a "sign" as such a discussion lies outside the scope of this work.

(b) the tentative moneme -- which I have labelled the "Provenance"-moneme -- represented by the allomorph "/irn/".

The denotational contribution of this tentative moneme can be imagined to be equivalent to "originating from source x". In this way, the overall denotation emerges out of an interplay between the denotation of the "Provenance"-moneme and the geographical location designated in the denotation of the appropriate "plereme-base": e.g. (Syria) / "Syrian", (Aberdeen) / "Aberdonian", (Glasgow) / "Glaswegian", etc.

It should be noted at this stage that it is not always necessary for the "plereme-base" with which the "Provenance"-moneme co-occurs to have the designation of a geographical location (as do "Brazil"/ "Brazilian", "Aberdeen"/"Aberdonian", etc.). The type of source involved is entirely a matter determined by the information-value of the "plereme-base". Thus, although, for instance, the complex pleremes "Addisonian" and "Spenserian" contain "plereme-bases" that are proper names ("Addison" and "Spenser", respectively), the denotational contribution of the "morphological expansions" seems to be constant at "originating from source x", i.e. each of the complexes "Addisonian" and "Spenserian" can be seen as a combination of the "plereme-base" (Addison) and (Spenser) plus the "Provenance"-moneme, respectively:

(Addison) R $\boxed{\text{"Provenance"-moneme}}$ = "Addisonian"

and

(Spenser) R $\boxed{\text{"Provenance"-moneme}}$ = "Spenserian"

The implication, however, whereby the occurrence of the "Provenance"-moneme in the context of proper names (e.g. "Spenser", "Addison", etc.) seems to entail the designation of "in the style of/ in accordance with/ in the manner of, etc." should not be confused with a denotational proper inclusion. In other words, the designation of "style/manner" etc. does not constitute the substance of the denotation of the "Provenance"-moneme but is part of the contribution of the denotation of the appropriate "plereme-base". As long as the semantic function of the "plereme-base" can be assumed to be the designation of a geographical location or a proper name, the requisite interplay between the denotation of that "plereme-base" and the denotation of the "Provenance"-moneme can be also assumed to function.

To the superficial glance, it appears possible to identify the elements "/r/" and "/esk/" in "Londoner" and "Raphaelesque", respectively, as allomorphic variants of the "Provenance"-moneme:

(London) R["Provenance"-moneme] = "Londoner"

and

(Raphael) R["Provenance"-moneme] = "Raphaelesque".

Although both complex pleremes denote the fact of "originating from a particular source", namely "London" and "Raphael", respectively, it seems observationally satisfactory to claim that in, say,

(Brazil) R["Provenance"-moneme] = "Brazilian"

the denotational contribution of the "Provenance"-moneme is indeterminate as to species, i.e. the "Provenance"-moneme designates

persons as well as things originating from a particular source:

e.g. "he is a Brazilian" (person whose place of origin is Brazil)

vs

"he likes Brazilian coffee" (he likes coffee that comes from Brazil).

In the case of "Londoner" and "Raphaelesque", however, the denotational contribution of the tentative moneme represented by the allomorphs "/r/" and "/esk/", respectively, seems far more specific than merely designating "originating from source x".

The overall denotation of the complex plereme "Londoner" may be assumed to be the designation of "person who comes from London", while the overall denotation of the complex plereme "Raphaelesque" can be envisaged to be equivalent to "something that is reminiscent of or made in imitation of Raphael's style". Therefore, since we wish to preserve the assumption of recoverability of denotations, we are virtually forced to identify in each of the complex pleremes "Londoner" and "Raphaelesque" a further "morphological expansion" different in sign-identity from the "Provenance"-moneme (and also from each other, as we shall see below).

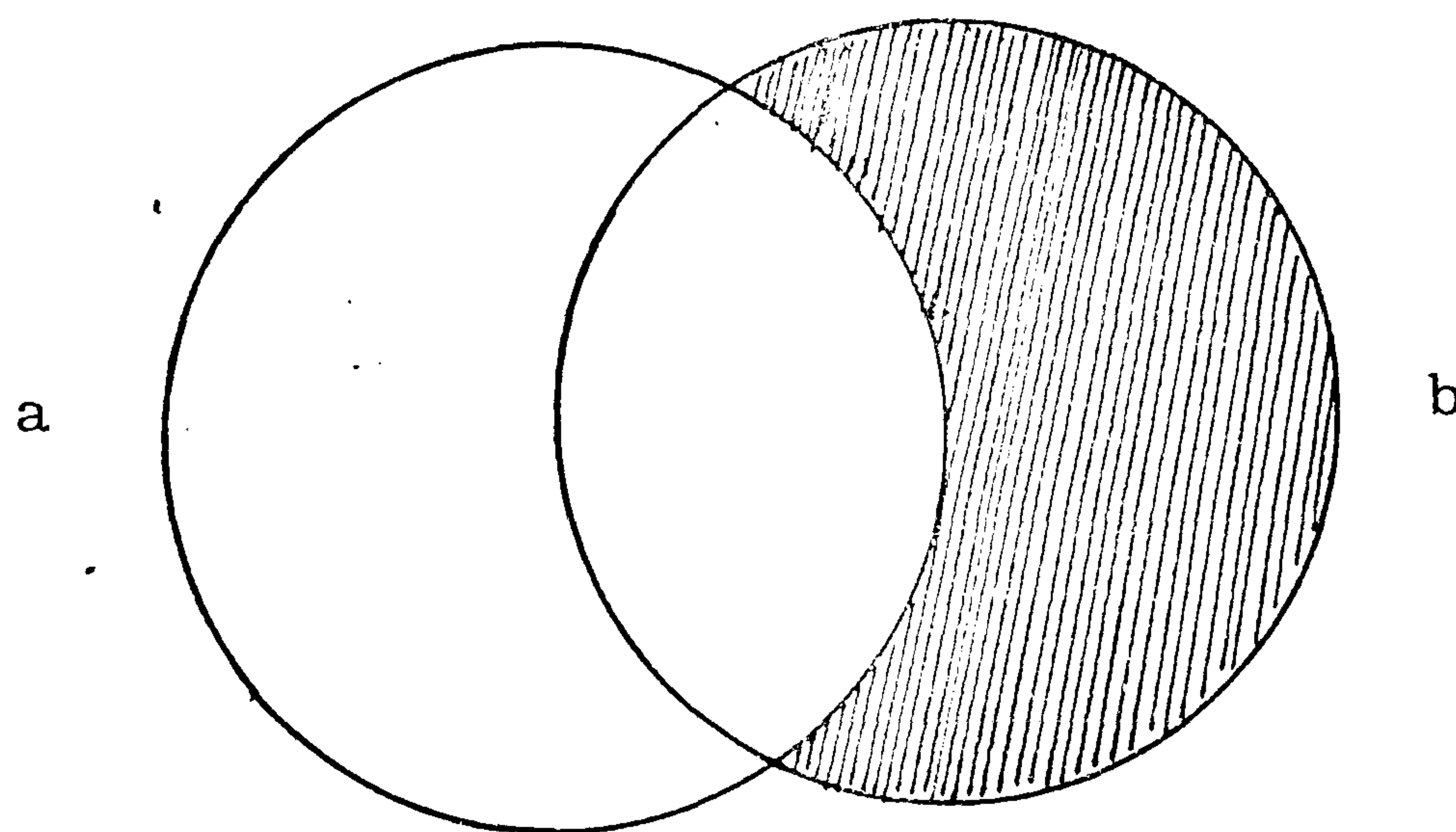
Thus, assuming the overall denotation of "Londoner" to be more or less equivalent to "person who comes from London", and the overall denotation of "Raphaelesque" to be more or less equivalent to "something reminiscent of or made in imitation of Raphael's style", we find that the overall denotation of each of the complexes under consideration is recoverable only on the hypothesis that

- (a) the elements "/r/" in "Londoner" and "/esk/" in "Raphaellesque" represent denotationally different monemes from that of "Provenance" (as in "Brazilian"), and
- (b) "/esk/" in "Raphaellesque" is denotationally different from "/r/" in "Londoner".

Under these circumstances, it seems possible to proceed by positing two different monemes to account for the "morphological expansions" in the complex pleremes "Londoner" and "Raphaellesque". The denotational contribution of these two tentative monemes, which I have labelled "Dweller" (in "Londoner") and "Imitative" (in "Raphaellesque"), may be hypothesised as follows:

- (i) the "Dweller"-moneme, having the denotational contribution equatable with "person of x provenance". Note that the overall denotation emerges, thus, out of an interplay between the denotation of the "Dweller"-moneme and the location designated in the denotation of the appropriate "plereme-base": e.g. (Crail) / "Crailer", (Fife) / "Fifer", (Scotland) / "Scotsman", etc.
- (ii) the "Imitative"-moneme, denotationally equivalent to "reminiscent of or in imitation of the style of x". Attention is drawn to the fact that the denotation of the appropriate "plereme-base" with which the "Imitative"-moneme is in construction is not always the designation of a particular artist (e.g. "Raphael"), but may, for instance, be the designation of a piece of material (cloth): e.g. (flannel) / "flannelette", (satin) / "satinette", etc.

It must be remembered that occurrences of the "Dweller"-moneme in other contexts (e.g. "Londoner", "Fifer", etc.) are clearly not indeterminate as to species (as are occurrences of the "Provenance"-moneme: "Brazilian", "American", "Aberdonian", etc.) but strictly denote persons who come from a particular location. In this way, the denotation contribution of the "Dweller"-moneme is the sole factor determining species (i.e. denotes person but not thing). Semantically speaking, the relation between the "Provenance"-moneme and the "Dweller"-moneme can be pinpointed as a hyperonym-hyponym relation¹ -- a situation that is not objectionable since the two monemes in question are not homonymous with respect to one another:



a : denotation class of the "Provenance"-moneme (originating from source x)

b : denotation class of the "Dweller"-moneme (person of x provenance)

¹For "hyperonym-hyponym" relation, see S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979) and "Postulates for Axiomatic Semantics", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980).

Analogous arguments, involving our attempt at preserving the promise of adequacy with regard to recoverability of denotations, virtually force us to identify in, for instance, the complex plereme "socialist" a further "morphological expansion" different in sign-identity not only from the "Provenance"-moneme but from the "Dweller" and "Imitative" monemes as well. Thus, taking the overall denotation of the complex plereme "socialist" to be more or less equivalent to "person or thing following the line of a particular ideology, namely socialism", we find this overall denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (socialism), having the normal denotation attributed to this sign in such contexts as, say, "socialism is a scheme for regenerating society by an equal distribution of property", and
- (b) the tentative moneme -- which I have labelled the "Adherent"-moneme -- represented by the allomorph $/sT \sim zm/$.

The denotational contribution of this tentative moneme can be imagined to be equivalent to "adhering to x". The overall denotation emerges, thus, out of an interplay between the denotation of the "Adherent"-moneme and the scheme/ideology designated by the denotation of the appropriate "plereme-base": e.g. (communism) / "communist", (Marxism) / "Marxist", (Buddhism) / "Buddhist", etc. We may point out here that if the semantic function of the appropriate "plereme-

base" can be assumed to be the designation of a particular "ideology", the requisite interplay between the denotation of that "plereme-base" and the denotation of the "Adherent"-moneme can also be assumed to function.

Items like "Marxism", "Buddhism", "Calvinism", etc., it should be noted, may be considered to be monomonematic pleremes. I have taken the position that, for instance, the hypothesis that "Marxism" is a combination of the "plereme-base" (Marx) and the tentative moneme conventionally represented as "-ism" does not satisfy the promise of adequacy with regard to full recoverability of denotations. In the first place, the element "Marx" (in "Marxism") does not seem to designate any person who happens to be called by that name (compare, on the other hand, "Spenser" in "Spenserian", i.e. "Spenser" R "Provenance"-moneme-- interpretable as "originating from a person by the name of Spenser"), but strictly designates the German philosopher Karl Marx -- which means that the tentative "plereme-base" (Marx) in

(Marx) R $\boxed{\text{"-ism"}}$ = "Marxism" (the political/economic theory initiated by the one and only Karl Marx)

is not analogous with the "plereme-base" (Spenser) in

(Spenser) R $\boxed{\text{"Provenance"}}$ = "Spenserian" (in the style of any person who happens to be called Spenser).

In the second place, "Marxism" cannot be simply interpreted as "Marx's ideology", but it is interpretable as "an economic and political theory that holds that actions and human institutions are economically determined, that the class struggle is the basic agency of historical change and that capitalism will be superseded by communism". Furthermore, the theory as such is based on the works of Marx and Engel, and has undergone tremendous changes since its inception. It would seem, therefore, that "Marxism" is far too specialised in denotation to allow this plereme to be analysed as though it merely designated "the theory or ideology of Marx". Under the circumstances, it seems most appropriate to treat "Marxism" as a "fossil".

Analogous arguments, involving "fossilisation", support the need to treat "Calvinism", "Buddhism", "Mohammedanism", etc. as unanalysable pleremes (pseudo-composites).

DISTRIBUTION

(i) The "Provenance"-Moneme

The "Provenance"-moneme is highly productive. It co-occurs in the context of plereme-bases whose denotations may be assumed to have the designation of geographical locations or proper names. The reason for the availability of wide range of allomorphs of the "Provenance"-moneme may be explained only from a purely historical

perspective (e.g. the element conventionally represented as -ian is found in derivatives from names of countries which in Medieval or Early Modern Latin ended in -ia -- viz "Aberdonian", "Oxonian", "Etonian", "Glaswegian", etc.)¹.

Allomorphs of the "Provenance"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/i:rn/"	(Brazil), (Europe), (Lancaster), (Virgil), (James), <u>etc.</u>
"/ni:rn/"	(Toronto), (Buffalo), (Cicero), <u>etc.</u>
"/r:n/"	(Burgundy), (Chile), <u>etc.</u>
"/n/"	(Syria), (Austria), (Algeria), (Tunisia), (Australia), <u>etc.</u> We may note that the suffix "/n/" generally occurs in the context of plereme-bases (designating geographical locations) whose phonological forms terminate in the phonemes sequence /ir/.
"/Riz/"	(Ceylon), (Peking), (Senegal), <u>etc.</u>
"/i/"	(Iraq), (Kuwait), (Yemen), (Bengal), <u>etc.</u>

¹ cf. Hans Marchand, "Notes on English Suffixation", Neuphilologische Mitteilungen, 54 (1953). Sometimes the derivatives are formed on the morphological basis of the country of origin (e.g. Semitic, Urdu or Hebrew morphological basis: "Adeni" (Aden), "Kuwaiti" (Kuwait), etc.). For more details, see Hans Marchand, The Categories and Types of mation, Munchen (1969), and Otto

Staggered Affix

"/...Ou...irn/" (Bristol), (Devon), (Boston), (Newton),
(Tennyson), (Addison), etc.

"/...Ri...irn/" (Spenser), (Mulder), (Wagner), etc.

Replacive Proper

"/n ~ r/" (America), (Africa), (Russia), etc.

"/n ~ Ou/" (Mexico), (San Francisco), (Los Cato),
(Puerto-Rico), (San Mateo), etc. We may
note that the replacive proper "/n ~ Ou/"
occurs in the context of plereme-bases
(designating geographical locations) which
are of Romanic origin, and, therefore,
derive on a Romanic basis¹.

"/Riz ~ r/" (China), (Malta), (Siena), (Bologna),
(Burma), etc.

With an eye to distribution and to preserving the promise of
adequacy with regard to recoverability of denotations, it seems
possible to treat, for instance, each of the items "German", "Yorkshire",
"Dutch", etc. as a combination of a plereme-base and the "Provenance"-
moneme:

(Germany) R "Provenance"-moneme = "German"

(Yorkshire) R "Provenance"-moneme = "Yorkshire"

(Holland) R "Provenance"-moneme = "Dutch".

¹ cf. Hans Marchand, "Notes on English Suffixation", Neuphilologisch
Mitteilugen 54 (1953) pp. 246-272., and The Categories and Types of
Present-Day English Word-Formation, Munchen (1969).

It is interesting to note that such treatment of the complexes "German", "Yorkshire", "Dutch", etc. entails describing the allomorphs of the "Provenance"-moneme in those contexts as

- (a) subtractive having the phonological form $\phi \sim "/i/"$ ("Germany"/"German"),
 - (b) zero-form (ϕ), i.e. having no overt phonological form ("Yorkshire"/"Yorkshire"), and
 - (c) amalgamation with the two replacives $"/drt\check{S} \sim holrnd/"$ and $"/drt\check{S}/" \sim "/i\check{S} \sim rnd/"$ manifested at the same place in linear sequence in the same phonological form $/drt\check{S}/$ ("Holland"/"Dutch")¹.
-

(ii) The "Dweller"-Moneme

The "Dweller"-moneme has a wide morphological distribution.

It occurs in the context of monomonematic plereme-bases (e.g.

"London"/"Londoner", "Crail"/"Crailer", etc.) as well as poly-monematic ones. Thus, for instance, taking the complex plereme

"Irishman" to be a simultaneous bundle of

- (a) the moneme "Ireland" represented in other contexts by the allomorph $"/airlrnd/"$,
 - (b) the "Provenance"-moneme represented by the allomorph $"/i\check{S} \sim lrnd/"$, and
 - (c) the "Dweller"-moneme represented by the allomorph $"/mrn/"$
-

¹ Only historical considerations can shed further light on the association of the item "Holland" with the item "Dutch".

entails describing the moneme "Ireland" and the "Provenance"-moneme as the "plereme-base" of the complex plereme "Irishman", in that neither of these two monemes commutes, one at a time, with zero within the complex plereme in question (i.e. within "Irishman"). In this way, the complex plereme "Irishman" may be represented as follows:

"(Ireland ["Provenance"]) + ["Dweller"-moneme]"

Allomorphs of the "Dweller"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/r/"	(London), (Fife), (Crail), (Dublin), (New Haven), (New York), (Berlin), (Pittsburg), <u>etc.</u>
"/mr̩n/"	(England ["Provenance"]) : "English", (Wales ["Provenance"]) : "Welsh", <u>etc.</u>

(iii) The "Imitative"-Moneme

The "Imitative"-moneme occurs in the context of monomonematic plereme-bases whose denotations may be assumed to have the designation of the name of an artist or a piece of material (cloth).

Allomorphs of the "Imitative"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/esk/"	(Raphael), (Rembrandt), (Hemingway), (Gorgon), (London), <u>etc.</u>
"/et/"	(flannel), (satin), (muslin), (linen), <u>etc.</u>

(iv) The "Adherent"-Moneme

The "Adherent"-moneme occurs in the context of monomonematic plereme-bases whose denotations may be assumed to have the designation of a particular ideology or a system of beliefs.

Allomorphs of the "Adherent"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
-------------------	--------------------------------------------

Replacive Proper

"/sT ~ zm/"
(socialism), (communism), (Marxism),
(Buddhism), (Calvinism), (behaviourism),
(fascism), etc.

CHAPTER IV

THE "STATE" AND "BEHAVIOUR" MONEMES

In what follows, I propose to hypothesise the separate identity of two monemes to account for the whole range of morphological expansions in the sets of complex pleremes given below. These monemes, identified tentatively as different signs and labelled respectively as "State", and "Behaviour", are presented (together with their allomorphs) in two separate tables, in terms of which my hypothesis is formulated. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations.

The sets of complex pleremes presented in the tables below satisfy the conditions stipulated by Axiomatic Functionalist theory for the identification of morphological complexes as opposed to syntactic complexes.

The tables run as follows:

TABLE I

The identity hypothesis concerning the "State"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "the condition of being x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/neš/" ¹	(eager), <u>etc.</u>	"eagerness"
"/iti/"	(sensitive), <u>etc.</u>	"sensitivity"
"/iṣiti/"	(simple),	"simplicity"
	(multiple).	"multiplicity"
"/ti/"	(certain),	"certainty"
	(cruel),	"cruelty"
	(safe),	"safety"
	(loyal).	"loyalty"
"/rṣi/"	(prolific)	"prolificacy"
"/idš/"	(vassal)	"vassalage"
"/šip/"	(friend), <u>etc.</u>	"friendship"
"/hud/"	(mother), <u>etc.</u>	"motherhood"

¹The upper limit of distinctive realization seems to be in the range of [ɛ] not [i] , though in fluent speech characteristic under-articulations range between [i̥] and [ə] .

(b) Staggered Affix

"/...i...iti/"	(feasible), <u>etc.</u>	"feasibility"
"/...a...iti/"	(sentimental), <u>etc.</u>	"sentimentality"
"/...ia...iti/"	(potential), <u>etc.</u>	"potentiality"
"/...o...iti/"	(inferior)	"inferiority"

(c) Replacive Proper

"/iti ~ rs/"	(simultaneous), <u>etc.</u>	"simultaneity"
"/ašiti ~ eišrs/"	(vivacious), <u>etc.</u>	"vivacity"
"/ošiti ~ Oušrs/"	(ferocious), <u>etc.</u>	"ferocity"
"/Riti ~ irs/"	(homogeneous),	"homogeneity"
	(heterogeneous).	"heterogeneity"
"/ti ~ s/"	(pious)	"piety"
"/ti ~ rs/"	(salubrious)	"salubrity"
"/si ~ t/"	(obstinate), <u>etc.</u>	"obstinacy"
"/si ~ tik/"	(lunatic)	"lunacy"
"/s ~ t/"	(brilliant), <u>etc.</u>	"brilliance"
"/ešn ~ Rit/"	(discreet)	"discretion"
"/išn ~ ait/"	(erudite)	"erudition"
"/žn ~ s/"	(profuse)	"profusion"
"/ižn ~ ais/"	(precise)	"precision"

(d) Scattered Replacive

"/r ~ e...ai ~ ri...ti ~ s/"	(various)	"variety"
"/a ~ r...ti ~ a/"	(notorious)	"notoriety"
"/o ~ r...si ~ t/"	(hypocrite)	"hypocrisy"

(e) Contiguous

"/s ~ k _V ìti/"	(eccentric), <u>etc.</u>	"eccentricity"
"/as ~ ẹik _V ìti/"	(opaque)	"opacity"
"/zair ~ šrs _V ti/"	(anxious)	"anxiety"

(f) Non-contiguous

"/i ~ ai... ìti/"	(agile), <u>etc.</u>	"agility"
"/e ~ Ri... ìti/"	(sincere),	"sincerity"
	(serene),	"serenity"
	(obscene).	"obscenity"
"/e ~ i...e ~ Ri... ìti/"	(severe)	"severity"
"/a ~ r... ìti/"	(real), <u>etc.</u>	"reality"
"/r ~ a... ìti/"	(valid), <u>etc.</u>	"validity"
"/o ~ r... ìti/"	(curious),	"curiosity"
	(equal).	"equality"
"/o ~ Ou... ìti/"	(mediocre)	"mediocrity"
"/a ~ ẹi... ìti/"	(urbane)	"urbanity"
"/r ~ au... ìti/"	(profound)	"profoundity"
"/r ~ ẹi...i... ìti/"	(able)	"ability"
"/e ~ Ri... rsi/"	(supreme)	"supremacy"
"/e ~ r... ñti/"	(solemn)	"solemnity"

TABLE II

The identity hypothesis concerning the "Behaviour"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "behaviour characteristic of x":

Type of Allomorph	Context	Plereme-base
(a) <u>Suffix</u>		
"/izm/"	(hooligan), <u>etc.</u>	"hooliganism"
"/rri/"	(rogue), <u>etc.</u>	"roguery"
"/ri/"	(bigot),	"bigotry"
	(bandit).	"banditry"

DISCUSSION

The two sets of complex pleremes presented in the tables above differ from one another in

- (a) the type of overall denotation characteristic of members of each set, and
- (b) the type of denotational contribution of the respective "morphological expansions".

I have taken the position that, in the final analysis, the hypothesis that a particular complex plereme is a combination of a "plereme-

base" and "State"-moneme/"Behaviour"-moneme holds on condition that the overall denotation of that complex is recoverable from the denotation of its constituents, plus, of course, from having a relatively clear (though necessarily rather approximate) idea of the semantic role played by the constructional relation between these constituents. Thus, for instance, taking the overall denotation of the complex plereme "eagerness" to be more or less equivalent to "a condition of being eager", we find that this denotation can only be predicted on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (eager), having the normal denotation attributed to this sign in such contexts as, say, "he is eager to see his girl friend tonight", and
- (b) the tentative moneme -- which I have labelled the "State"-moneme-- represented by the allomorph "/nes/".

This tentative moneme can be imagined to have a denotational contribution equatable with "the condition of being x". In this way, the overall denotation emerges out of an interplay between the denotation of the "State"-moneme and the designation of the appropriate "plereme-base": e.g. (bad) / "badness", (sensitive) / "sensitivity", (cruel) / "cruelty", (congruous) / "congruity", etc.

With an eye to testing our hypothesis against recoverability of denotations, it seems possible to treat complex pleremes like "vassalage", "motherhood", "friendship", etc. analogously with

cases like (eager) / "eagerness", (sensitive) / "sensitivity", etc.

In this way, each of the complex pleremes in question will be conceived of as a combination of the "plereme-bases" (vassal), (mother) and (friend) plus the "State"-moneme, respectively.

We may also note that proportionality shows up the adequacy of treating the complex pleremes "vassalage", "motherhood", and "friendship", etc. as complexes containing the "State"-moneme as one of their constituents. The satisfactory nature of the proportions in question can be seen in

eager : eagerness :: sensitive : sensitivity ::

cruel : cruelty :: friend : friendship :: mother :

motherhood :: etc.

In the case of the complex plereme "partnership" (as a combination of the "plereme-base" (partner) and the "State"-moneme) it is important to point out that this complex has a homonym which is not analysable due to its semantic specialisation. Thus, taking the overall denotation of this homonym to be more or less equivalent to "joint business", it seems clear that, if we were to recognize here a tentative "morphological expansion" represented by an allomorph "/šip/", the denotational contribution of this tentative moneme would be too particular for it to be identified in other contexts. Since the tentative moneme in question (in "partnership" / joint business/) cannot be identified as having an equivalent "narrow" denotational contribution in other contexts (e.g. "readership", "studentship", "fellowship", etc.) I shall take it that analysis of

"partnership" (joint business) is not tenable, i.e. "partnership" is merely a pseudo-composite.

Analogous arguments, involving the absence of a constant denotational function of the element "ship" in, say, "readership", "scholarship", "fellowship", "studentship", etc., support the need to treat these items as unanalysable pleremes (pseudo-composites).

It appears possible on the face of it to identify the element "/izm/" in, for instance, the complex plereme "hooliganism" as an allomorphic variant of the "State"-moneme in, say, "friendship". This, however, does not seem to stand the test of adequacy with regard to full recoverability of denotations. Judging from restrictions in the deployment of the complex plereme "hooliganism" in larger complexes, it seems observationally satisfactory to maintain that the complex in question denotes the "behaviour characteristic of a hooligan" rather than the "condition of being a hooligan". Under the circumstances, I shall proceed by identifying a further "morphological expansion" different in sign-identity from the "State"-moneme. The denotational contribution of this tentative "morphological expansion"-- which I have labelled the "Behaviour"-moneme -- can be hypothesised as "behaviour characteristic of x". The overall denotation emerges, thus, out of an interplay between the denotation of the "Behaviour"-moneme and the designation of the appropriate "plereme-base": e.g. (vandal) / "vandalism", (rogue) / "roguery", etc.

DISTRIBUTION

(i) The "State"-Moneme

The "State"-moneme has a very wide morphological distribution-- it is highly productive in that the range of plereme-bases with which it occurs covers almost the whole class of "adjectives" and a substantial number of "substantives".

It is interesting to note that the "State"-moneme occurs in the context of monomonematic plereme-bases (e.g. "eager" / "eagerness", etc.) as well as poly-monematic ones. Thus, for instance, taking the construction "changeability" to be a simultaneous bundle of

(a) the moneme "to change" represented in other contexts by the allomorph $/t\check{S}eind\check{S}/$,

(b) the "Susceptible"-moneme (cf. Chapter VI) represented by the allomorph $/rbl/$, and

(c) the "State"-moneme represented by the allomorph $/...i...iti/$,

entails describing the moneme "change" and the "Susceptible"-moneme as the "plereme-base" of the complex plereme "changeability", in that neither of these two monemes commutes, one at a time, with zero within the complex plereme in question (i.e. within "changeability"). In this way, the complex plereme "changeability" may be represented as follows:

"(to change $\boxed{\text{"Susceptible"}}$) + $\boxed{\text{"State"-moneme}}$ "

Allomorphs of the "State"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
-------------------	--------------------------------------------

Suffix

"/nes/"

(eager), (clever), (bitter), (bad), (sad), (mean), (happy), (idle), etc. The range of the "plereme-bases" in which the suffix "/nes/" occurs covers almost the whole class of "adjectives". The non-occurrence of this suffix in contexts like (hostile), (hypocrite), (agile), etc. can only be explained from a purely historical perspective¹. It must also be remembered that "/nes/" generally occurs in the context of plereme-bases whose phonological forms end in the phoneme sequence /les/ (e.g. "careless"/"carelessness", "fearless"/"fearlessness", etc.) or "plereme-bases" containing the "Privative"-moneme (cf. Chapter XIII) as one of their constituents (e.g. "weightless"/"weightlessness"):

"(weight ["Privative"]) + ["State"-moneme]"

¹ Plereme-bases of foreign origin (French or Romance) tend to select different allomorphs (e.g. "hypocrite"/"hypocrisy")-- cf. Hans Marchand, The Categories and Types of Present-Day English Word-Formation, (1969)

"/iti/"

(absurd), (nude), (sensitive), (livid),
(timid), (rigid), (scarce), (lax), etc.

This suffix does not occur in the context
of plereme-bases whose phonological
forms terminate in the phoneme sequences
/les/ and /frl/ .

"/šip/"

(friend), (partner), (member)¹, etc.

"/hud/"

(mother), (father), (sister)², (maiden),
(brother)³, (girl), etc.

Staggered Affix

"/...i...iti/"

(feasible), (tenable), (compatible),
(visible), (intelligible), (change able), etc.

Note that this allomorph occurs in the
context of plereme-bases whose phonological
forms end in the phoneme sequences /rbl/
or /ibl/ and in plereme-bases containing
the "Susceptible"-moneme (cf. Chapter VI)
as one of their constituents :

e.g. "changeability"

"(to change ["Susceptible"] + ["State"])"

¹Not to be confused with the homonym "membership" (having the normal denotation attributed to this sign in such contexts as, say, "the club has a membership of three thousands") which is not analysable due to its semantic specialisation.

²Setting apart the homonym "sisterhood" (having "sorority" as its synonym) which is not analysable due to its semantic specialisation.

³Not to be confused with the homonym "brotherhood" (roughly "group of men belonging to a close-knit club or society of some sort) which is not specialisation.

"/...a...iti/"

(sentimental), (practical), (legal),
(original), etc.

"/...ia...iti/"

(potential), (partial), (superficial), etc.

Replacive Proper

"/iti ~ rs/"

(simultaneous), (spontaneous),
(extraneous), (congruous), etc.

"/asiti ~ eišrs/"

(vivacious), (tenacious), (mendacious),
(audacious), (sagacious), etc. Note that
in these contexts there is mixed variance
between the suffix "/nes/" and the
replacive "/asiti ~ eišrs/".

"/si ~ t/"

(intimate), (adequate), (intricate), (pliant),
(constant), (consistent), (fluent), (redundant),
(complacent), (adjacent), etc. Note that
there is mixed variance between the
replacive proper "/si ~ t/" and the replacive
proper "/s ~ t/" in the context of the
plereme-bases (redundant) and (complacent).

"/ositi ~ Oušrs/"

(ferocious), (atrocious), (precocious), etc.

"/s ~ t/"

(brilliant), (abundant), (significant),
(deligent), (circumfluent), etc.

Contiguous

"/s ~ k_V iti/"

(eccentric), (egocentric), (rustic),
(toxic), (authentic), etc.

Non-contiguous

"/i ~ ai... iti/" (agile), (hostile), (sublime), (imbecile),
(divine), etc.

"/a ~ r... iti/" (dual), (real), (punctual), (neutral), etc.

"/r ~ a... iti/" (valid), (placid), (arid), etc.

(ii) The "Behaviour"-Moneme

The "Behaviour"-moneme, as can be seen from the table below, is productive. It occurs in the context of monomonematic plereme-bases.

Allomorphs of the "Behaviour"-Moneme

Type of Allomorph

Occurs in the context of the plereme-bases

Suffix

"/izm/" (hooligan), (vandal), (patriot), (despot),
(ruffian), (hoodlum), etc.

"/rri/" (rogue), (snob), (quack), (wag), etc.

CHAPTER V

THE "PROCESSIVE", "RESULTATIVE" AND "PERFORMATIVE" MONEMES

The aim of this chapter is to hypothesise the separate identity of three monemes to account for the whole range of "morphological expansions" in the sets of complex pleremes below. These monemes, identified tentatively as different signs and labelled respectively as "Processive", "Resultative" and "Performative", are, in advance of discussion, presented (together with their allomorphs) in three separate tables in terms of which my hypothesis is formulated. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations.

In order to set the scene for the formulation of my hypothesis the following general observations may be made. One might be tempted, on purely "formal" grounds together with so-called "situation-oriented" considerations (i.e. having recourse to the idea that the context of situation "disambiguates"), to treat, for instance, the element $"/\text{ʒn} \sim \text{T}/$ in such contexts as, say,

"collection 1" (in, say, "the collection of letters was delayed for two hours"),

"collection 2" (in, say, "he always boasts about his collection"),

- "obstruction 1" (in, say, "intentional obstruction of traffic on motor-ways is a crime"), and
- "obstruction 2" (in, say, "the police removed all the obstructions ahead"),

as representing one sign. This line of thought, however, does not seem to hold the promise of adequacy with regard to the additional criterion of recoverability of denotations. Thus, taking the overall denotation of

- (i) "collection 1" to be more or less equivalent to "continued or sustained involvement in collecting",
- (ii) "collection 2" to be more or less equivalent to "agglomeration of collected objects",
- (iii) "obstruction 1" to be more or less equivalent to "continued or sustained involvement in obstructing", and
- (iv) "obstruction 2" to be more or less equivalent to "that which obstructs",

we find the overall denotation of each of the complex pleremes in question to be recoverable only on the hypothesis that

- (a) /ʒn ~ T/ in "collection 1" represents a denotationally (and also qua sign-identity) different moneme from that represented by /ʒn ~ T/ in "collection 2" (in spite of "sameness" of form),
- (b) /ʒn ~ T/ in "obstruction 1" represents a denotationally (and also qua sign-identity) different moneme from that represented by /ʒn ~ T/ in "obstruction 2" (in spite of "sameness" of form),

- (c) /šn ~ T/ in "collection 1" and /šn ~ T/ in "obstruction 1" are denotationally equivalent in their respective contexts, and
- (d) /šn ~ T/ in "collection 2" and /šn ~ T/ in "obstruction 2" are denotationally equivalent in their respective contexts.

For the time being, I shall refrain from giving a detailed argument in support of my solution of setting up three different monemes to account for the whole range of "morphological" expansions" in the sets of complex pleremes presented in the tables below. I shall reserve such discussion until after the hypotheses concerned have been presented in complete tabulated form.

The tables run as follows:

TABLE I

The identity hypothesis concerning the "Processive"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "continued or sustained involvement in x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/eišn/"	(to mobilize), <u>etc.</u>	"mobilization"
"/mrnt/"	(to involve), <u>etc.</u>	"involvement"
"/iŋ/"	(to drive), <u>etc.</u>	"driving"
"/l/"	(to survive), <u>etc.</u>	"survival"

"/ri/"	(to discover), <u>etc.</u>	"discovery"
"/rri/"	(to forge), <u>etc.</u>	"forgery"
"/i/"	(to expire), <u>etc.</u>	"expiry"
"/rns/"	(to interfere), <u>etc.</u>	"interference"
"/idš/"	(to block), <u>etc.</u>	"blockage"
"/šr/"	(to depart)	"departure"
"/ir/"	(to fail)	"failure"
"/šip/"	(to court)	"courtship"

(b) Replacive Proper

"/šn ~ T/"	(to collect), <u>etc.</u>	"collection"
"/šn ~ t/"	(to translate), <u>etc.</u>	"translation"
"/šn ~ s/"	(to suppress), <u>etc.</u>	"suppression"
"/šn ~ d/"	(to extend), <u>etc.</u>	"extension"
"/ešn ~ Rid/"	(to concede),	"concession"
	(to recede),	"recession"
	(to secede),	"secession"
	(to succeed). ¹	"succession"
"/išn ~ aiz/"	(to recognize)	"recognition"
"/rkšn ~ iRus/"	(to produce), <u>etc.</u>	"production"
"/epšn ~ Riv/"	(to perceive), <u>etc.</u>	"perception"

¹Note homonym "to succeed" /gain one's purpose/ which selects the allomorph "/es ~ Rid/" of the "Processive"-moneme ("/srkSRid/" vs. "/srkSes/").

"/akšn ~ ai/"	(to satisfy)	"satisfaction"
"/ipšn ~ aib/"	(to describe)	"description"
"/izišn ~ air/"	(to acquire)	"acquisition"
"/t ~ d/"	(to descend), (to ascend) ¹ .	"descent" "ascent"
"/žn ~ d/"	(to invade), <u>etc.</u>	"invasion"
"/žn ~ z/"	(to confuse), (to diffuse).	"confusion" "diffusion"
"/ižn ~ aiz/"	(to revise), (to supervise).	"revision" "supervision"
"/ižn ~ aid/"	(to collide), (to decide).	"collision" "decision"
"/irrsi ~ air/"	(to conspire)	"conspiracy"
"/i ~ aiz/"	(to apologise)	"apology"
"/es ~ Rid/"	(to succeed)	"success"
"/Ridirns ~ ei/"	(to obey)	"obedience" ¹
"/izm ~ aiz/"	(to baptize)	"baptism"
"/s ~ d/"	(to offend), (to defend).	"offence" "defence"
"/rsi ~ eit/"	(to advocate)	"advocacy"

¹Note that "Ascension" (the departure of Jesus from earth on the fortieth day after the Resurrection) is not analysable due to its semantic specialisation.

(c) Scattered Replacive

"/r ~ a... a ~ r... ɨsɨs ~ aɨz/"	(to analyse)	"analysis"
"/e ~ i... r ~ o... Rušn ~ v/"	(to revolve),	"revolution"
	(to resolve).	"resolution"
"/o ~ r... šn ~ t/"	(to contribute)	"contribution"

(d) Contiguous

"/ik ~ aɨ _v ɨišn/"	(to justify), <u>etc.</u>	"justification"
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(e) Non-contiguous

"/ɔ ~ r... ɨišn/"	(to observe) ¹	"observation"
"/e ~ i... ɨišn/"	(to declare),	"declaration"
	(to refute).	"refutation"
"/i ~ aɨ... ɨišn/"	(to invite)	"invitation"
"/e ~ i... i ~ aɨ... ɨišn/"	(to derive),	"derivation"
	(to deprive),	"deprivation"
	(to recite).	"recitation"
"/a ~ r... i ~ aɨ... ɨišn/"	(to aspire),	"aspiration"
	(to admire).	"admiration"
"/o ~ r... i ~ aɨ... ɨišn/"	(to compile),	"compilation"
	(to combine).	"combination"
"/o ~ r... r ~ Ou... ɨišn/"	(to provoke)	"provocation"
"/e ~ i... i ~ aɨ... ɨišn/"	(to resign)	"resignation"
"/i ~ aɨ... i ɨišn/"	(to reconcile)	"reconciliation"

¹Note that the allomorph representing the "Processive"-moneme in the context of the homonym "to observe" (as in, say, "they observe Christmas") has the phonological form /rns/.

"/o ~ r... neišn/"	(to condemn)	"condemnation"
"/r ~ iRu... šn/"	(to assume), <u>etc.</u>	"assumption"
"/r ~ e... šn/"	(to compel)	"compulsion"
"/e ~ Ri... šn/"	(to redeem)	"redemption"
"/r ~ Qu... išn/"	(to oppose),	"opposition"
	(to impose).	"imposition"
"/r ~ a... išn/"	(to add)	"addition"
"/e ~ i... e ~ Ri... išn/"	(to repeat)	"repetition"
"/e ~ i... i ~ ai... išn/"	(to define)	"definition"
"/o ~ r... r ~ Ri... išn/"	(to compete)	"competition"
"/o ~ r... r ~ Qu... išn/"	(to compose)	"composition"
"/a ~ r... r ~ o... n/"	(to abolish),	"abolition"
	(to admonish).	"admonition"
"/r ~ ei... rns/"	(to maintain)	"maintenance"
"/i ~ ai... rns/"	(to co-incide)	"co-incidence"
"/e ~ i... r ~ i... rns/"	(to revere)	"reverence"
"/e ~ i... i ~ ai... rns/"	(to reside)	"residence" ¹
"/e ~ i... ns/"	(to prefer)	"preference"
	(to refer)	"reference" ²

¹Not to be confused with the homonym "residence" (roughly, "house, flat, etc!") which is not analysable due to its semantic specialisation.

²setting apart the homonym "reference" (roughly, "one willing to make a statement about a person's character or abilities") which is not analysable due to its semantic specialisation.

TABLE II

The identity hypothesis concerning the "Resultative"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "object that emerges as the end result of x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/mɾnt/"	(to assign), <u>etc.</u>	"assignment"
"/iŋ/"	(to undertake), <u>etc.</u>	"undertaking"
"/ri/"	(to discover)	"discovery"
"/rri/"	(to forge)	"forgery"
"/rns/"	(to remit), <u>etc.</u>	"remittance"
"/eišn/"	(to represent), <u>etc.</u>	"representation"
(b) <u>Replacive Proper</u>		
"/šn ~ T/"	(to collect), <u>etc.</u>	"collection"
"/šn ~ t/"	(to donate), <u>etc.</u>	"donation"
"/izišn ~ air/"	(to acquire)	"acquisition"
"/ipšn ~ aib/"	(to describe)	"description"
"/rkšn ~ iRus/"	(to produce)	"production"
(c) <u>Scattered Replacive</u>		
"/o ~ r...šn ~ t/"	(to contribute)	"contribution"
(d) <u>Non-contiguous</u>		
"/o ~ r...i ~ ai... eišn/"	(to compile)	"compilation"
	(to compose)	"composition"

TABLE III

The identity hypothesis concerning the "Performative"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "that which is instrumental in bringing about process x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/eišn/"	(to tempt), <u>etc.</u>	"temptation"
"/rns/"	(to interfere), <u>etc.</u>	"interference"
"/idš/"	(to block)	"blockage"
(b) <u>Replacive Proper</u>		
"/šn ~ T/"	(to obstruct)	"obstruction"
"/žn ~ d/"	(to protrude)	"protrusion"
(c) <u>Non-contiguous</u>		
"/o ~ r...r ~ Ou... eišn/"	(to provoke)	"provocation"

DISCUSSION

The hypothesis tentatively advanced -- identifying three different monemes to account for the whole range of "morphological expansions" in the sets of complex pleremes above -- does not conflict with "formal" criteria. In terms of form, each of the monemes identified has a number of allomorphs and the sets of allomorphs in question give rise to a complex pattern of homomorphy. The principles of commutation are also satisfied by the hypotheses; the tentative monemes found in these hypotheses are indeed morphological as they stand the tests stipulated by Axiomatic Functionalist theory for morphological analysis¹. The remaining question, however, is whether the hypotheses concerned satisfy also conditions of a denotational nature (in particular, for instance, whether the homonyms identified stand the tests imposed on tentative homonyms). In the discussion below, I shall use the criterion of recoverability of denotations as an additional factor in testing the hypotheses under consideration.

¹A detailed explanation of these tests has already been given in Part I, Chapter III of the present work (see also S.G.J. Hervey and J.W.F. Mulder, "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980).

It is important to note that the three sets of complex pleremes presented in the tables above differ from one another in

- (a) the type of overall denotation characteristic of members of each set, and
- (b) the type of denotational contribution of the respective "morphological expansions".

I have taken the position that, in the final analysis, the hypothesis that a particular complex plereme is a combination of

$$\text{"plereme-base"} \left\{ \begin{array}{l} \text{"Processive"-moneme} \\ \text{"Resultative"-moneme} \\ \text{"Performative"-moneme} \end{array} \right.$$

holds on condition that the overall denotation of that complex is recoverable from the denotation of its constituents. Thus, for instance, taking the overall denotation of the complex plereme "mobilization" to be more or less equivalent to "continued or sustained involvement in mobilizing", we find that this denotation can be recovered only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (to mobilize), having the normal denotation attributed to this sign in such contexts as, say, "the government has mobilized all natural resources", and
- (b) the tentative moneme, which I have labelled the "Processive"-moneme, having the phonological form /eiš^vn/ and the denotational contribution equatable with "continued or sustained involvement in x".

In this way, the overall denotation emerges out of an interplay between the denotation of the "Processive"-moneme and the activity designated in the denotation of the appropriate "plereme-base": e.g. (to represent) / "representation", (to survive) / "survival", (to forge) / "forgery", (to collect) / "collection", (to obstruct) / "obstruction", (to interfere) / "interference", (to drive) / "driving", etc.

It should be noted at this stage that in some cases complex pleremes containing the "Processive"-moneme as one of their constituents (e.g. "collection", "obstruction", "assignment", "interference", "forgery", etc.) may be assumed to have bona fide homonyms which are also morphologically complex. Thus, for instance, taking

- (a) the complex plereme "collection 1" (in such contexts as, say, "the collection of letters was delayed") to be a combination of the "plereme-base" (to collect) and the "Processive"-moneme represented by the allomorph "/šn ~ T/", and
- (b) the complex plereme "obstruction 1" (in such contexts as, say, "intentional obstruction of traffic on motor-ways is a crime") to be a combination of the "plereme-base" (to obstruct) and the "Processive"-moneme represented by the allomorph "/šn ~ T/",

it seems possible to assume that

"collection 1" is matched by a morphologically complex homonym "collection 2", having an overall denotation equatable with "agglomeration of collected objects", and

"obstruction 1" is matched by a morphologically complex homonym "obstruction 2", having an overall denotation equatable with "that which obstructs".

The tentative homonymy between "collection 1" and "collection 2", on the one hand, and between "obstruction 1" and "obstruction 2", on the other, seems to stand the conditions imposed on tentative homonyms¹, in particular, in that the denotation classes of the tentative homonyms do not intersect with one another:

- (i) "collection 1" strictly denotes "continued or sustained involvement in collecting" while "collection 2" specifically denotes "an agglomeration of collected objects",
- (ii) "obstruction 1" strictly denotes "continued or sustained involvement in obstructing" while "obstruction 2" specifically denotes "that which obstructs".

Therefore, since we wish to preserve the promise of adequacy with regard to recoverability of denotations (as we have expressly chosen to do), it seems possible to identify in each of the complex pleremes "collection 2" and "obstruction 2" a further "morphological expansion" different in sign-identity from the "Processive"-moneme in "collection 1" and "obstruction 1" (and also from each other, as we shall see below). Thus, taking the overall denotation of "collection 2"

¹cf. Chapter VII: "The Identity of Signs", in S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979).

to be more or less equivalent to "agglomeration of collected objects" and the overall denotation of "obstruction 2" to be more or less equivalent to "that which obstructs", we find the overall denotation of each of the complexes in question to be recoverable only on the hypothesis that

- (a) the element $"/\text{ʒn} \sim \text{T}/$ in "collection 2" represents a denotationally different moneme from that of "Processive" in "collection 1" (despite "sameness" of form),
- (b) the element $"/\text{ʒn} \sim \text{T}/$ in "obstruction 2" represents a denotationally different moneme from that of "Processive" in "obstruction 1", and
- (c) the elements $"/\text{ʒn} \sim \text{T}/$ (in "collection 2") and $"/\text{ʒn} \sim \text{T}/$ (in "obstruction 2") represent different monemes with respect to one another.

Under the circumstances, I shall proceed by positing two different monemes to account for the "morphological expansions" in the complex pleremes "collection 2" and "obstruction 2". The denotational contribution of each of these tentative monemes-- which I have labelled the "Resultative"-moneme (in "collection 2") and the "Performative"-moneme (in "obstruction 2") -- may be hypothesised as follows:

- (a) the "Resultative"-moneme, having the denotational contribution equatable with "object that emerges as the end result of x". Note that the overall denotation emerges, thus,

out of an interplay between the denotation of the "Resultative"-moneme and the activity designated by the appropriate

"plereme-base": e.g. (to select) / "selection", (to assign) / "assignment", (to donate) / "donation", etc.

- (b) the "Performative"-moneme, having the denotational contribution equatable with "that which is instrumental in bringing about process x". Attention is drawn to the fact that the overall denotation emerges, thus, out of an interplay between the denotation of the "Performative"-moneme and the process designated by the denotation of the appropriate "plereme-base": e.g. (to interfere) / "interference", (to hinder) / "hindrance", (to vex) / "vexation", etc.

Attention may be drawn at this stage to the fact that the "Performative"-moneme is functionally opposed to the "Participant"-moneme (roughly, "one who is engaged in the performance of an activity or field of activity x"-- cf. Chapter II: "The So-called "Agentive" Monemes) in identical contexts: e.g.

"interferer" ~ "interference"

"(to interfere) R [Participant],

interpretable as "one who interferes".

"(to interfere) R [Performative],

interpretable as "that which is instrumental in interfering".

The three monemes discussed in this chapter -- namely, the "Processive"-moneme, the "Resultative"-moneme, and the "Performative"-moneme -- are, formally speaking, partially overlapping in phonological features. It is this fact, together with a rejection of so-called "situation-oriented" considerations (i.e. having recourse to the idea that the context of situation "disambiguates"), that places such a heavy onus of justification on a hypothesis distinguishing three separate moneme-identities. I have tried to show how the hypotheses concerned stand the additional test of adequacy with regard to full recoverability of denotations. The attention paid to the discreteness of the denotations of the three monemes in question was specifically aimed at guarding against the untenable identification of denotationally overlapping homonyms¹.

Taking the sets of allomorphs in Tables I-III (presented earlier on in this chapter) to represent, respectively, the "Processive", "Resultative" and "Performative" monemes, entails describing the monemes in question as partially homonymous with respect to one another. The extent of this partial homonymy can be seen from the following tabulation:

¹ cf. Chapter VII: "The Identity of Signs", in S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979).

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/mɪnt/	e.g. "involvement"	e.g. "achievement"	
/l/	e.g. "revival"		
/ɪŋ/	e.g. "undertaking"	e.g. "undertaking"	
/ɪns/	e.g. "interference"	e.g. "remittance"	e.g. "interference"
/ʃr/	e.g. "departure"		
/rɪ/	e.g. "discovery"	e.g. "discovery"	
/ɪ/	e.g. "expiry"		

Phonological form of the allomorpha	"Processive"	"Resultative"	"Performative"
/ʃɪp/	e.g. "courtship"		
/ɪr/	e.g. "failure"		
/rɪ/	e.g. "forgery"	e.g. "forgery"	
/ɪdʒ/	e.g. "blockage"		e.g. "blockage"
/eɪʒn/	e.g. "mobilization"	e.g. "representation"	e.g. "temptation"
/ʒn ~ s/	e.g. "compression"		
/eʒn ~ Rɪd/	e.g. "concession"		

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/iʃn ~ ʔiz/	e.g. "recognition"		
/akʃn ~ ʔi/	e.g. "satisfaction"		
/ipʃn ~ ai/	e.g. "description"	e.g. "description"	
/t ~ d/	e.g. "descent"		
/epʃn ~ Riv/	e.g. "conception"		
/ʃn ~ T/	e.g. "collection"	e.g. "collection"	e.g. "obstruction"
/ʒn ~ d/	e.g. "invasion"		e.g. "protrusion"

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/ʒn ~ z/	e.g. "diffusion"		
/iʒn ~ aiz/	e.g. "supervision"		
/iʒn ~ aid/	e.g. "collision"		
/ʒn ~ t/	e.g. "translation"	e.g. "translation"	
/o ~ r... ʒn ~ t/	e.g. "contribution"	e.g. "contribution"	
/irrsi ~ air/	e.g. "conspiracy"		
/i ~ aiz/	e.g. "apology"		

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/rkʃn ~ iRus/	e.g. "production"	e.g. "production"	
/es ~ Rid/	e.g. "success"		
/Ridirns ~ ei/	e.g. "obedience"		
/izm ~ aiz/	e.g. "baptism"		
/iziʃn ~ air/	e.g. "acquisition"	e.g. "acquisition"	
/s ~ d/	e.g. "defence"		
/rsi ~ eit/	e.g. "advocacy"		

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/e̞.i...rreɪʃn̩ eɪr/	e.g. "declaration"		
/e̞.i...r̩v̩ i...r̩ns/	e.g. "reverence"		
/r̩v̩ a...a̞r̩ r...ɪsɪs̩ ~ aɪz/	e.g. "analysis"		
/e̞.i...r̩v̩ o...Ruʃn̩ ~ v/	e.g. "revolution"		
/ɪk̩ ~ aɪv̩ eɪʃn̩/	e.g. "edification"		
/e̞.i...eɪʃn̩/	e.g. "refutation"		
/ɔ̞ ~ r...eɪʃn̩/	e.g. "observation"		

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/i~əi... eɪʃn/	e.g. "invitation"		
/e~i...i~əi... eɪʃn/	e.g. "deprivation"		
/a~r...i~əi... eɪʃn/	e.g. "aspiration"		
/o~r...i~əi... eɪʃn/	e.g. "compilation"	e.g. "compilation"	
/o~r...r~ʊ... eɪʃn/	e.g. "provocation"		e.g. "provocation"
/e~i...ig~ai... eɪʃn/	e.g. "resignation"		
/i~əi... iɛɪʃn/	e.g. "reconciliation"		

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/o~r... eišn/	e.g. "condemnation"		
/r~iRu... šn/	e.g. "consumption"		
/r~e... šn/	e.g. "compulsion"		
/e~Ri... šn/	e.g. "redemption"		
/r~Qu... išn/	e.g. "imposition"		
/r~a... išn/	e.g. "addition"		
/e~i... e~Ri... išn/	e.g. "repetition"		

Phonological form of the allomorph	"Processive"	"Resultative"	"Performative"
/e~i...i~ai...iʃn/	e.g. "definition"		
/o~r...r~Ri...iʃn/	e.g. "competition"		
/a~r...r~o...n/	e.g. "abolition"		
/o~r...r~Qü...iʃn/	e.g. "composition"	e.g. "composition"	
/r~ei...rns/	e.g. "maintenance"		
/e~i...ns/	e.g. "co- incidence"		
/e~i...i~ai...rns/	e.g. "residence"		

DISTRIBUTION

(i) The "Processive"-Moneme

The "Processive"-moneme has a very wide morphological distribution -- it is productive to a high degree in that the range of "plereme-bases" with which it co-occurs covers almost the whole class of "verbs". It is interesting to note that the "Processive"-moneme may occur in the context of monomonematic "plereme-bases" (e.g. "to mobilize"/"mobilization", "to drive"/"driving", etc.) as well as poly-monematic ones. Thus, for instance, taking the complex plereme "legalization" to be a simultaneous bundle of three monemes, namely

(a) the moneme "legal" represented in other contexts by the allomorph "/lRigl/",

(b) the "Convertive"-moneme (cf. Chapter XII) represented by the allomorph "/aiz/", and

(c) the "Processive"-moneme represented by the allomorph "/eišn/",

entails describing the moneme "legal" and the "Convertive"-moneme as the "plereme-base" of the complex plereme "legalization", in that neither of these two monemes commutes, one at a time, with zero within the complex plereme in question (i.e. within "legalization"). In this way, the complex plereme "legalization" may be represented as follows:

"(legal ["Convertive"] + ["Processive"-moneme])"

With regard to distribution, alternative allomorphs of the "Processive"-moneme may be seen to be in mixed variance, i.e. are in partly free but partly contextual variance: e.g.

"/iŋ/" and "/eišn/" in the context (to mobilize) as in, say, "the mobilization/mobilizing of natural resources was turned down by Parliament",

"/iŋ/" and "/šn ~ T/" in the context (to collect) as in, say, "Rubbish collection/collecting will be twice a week as from next month",

etc.

It is interesting to note that complex pleremes like "mobilization", "collection", etc. (containing the "Processive"-moneme as one of their constituents) are, for stylistic reasons, perhaps, more commonly used than "collecting", "mobilizing", etc. Attention is also drawn to the fact that the free variance element in the mixed variance is perhaps on an unusually large scale.

Allomorphs of the "Processive"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/eišn/"	(to mobilize), (to immunize), (to colonize), (to authorize), (to represent), (to document), <u>etc.</u> The suffix generally occurs in the

context of plereme-bases whose allomorphs have phonological forms terminating in the phoneme sequence /aiz/ or in the context of plereme-bases containing the "Convertive"-moneme (cf. Chapter XII) as one of their constituents: e.g. "legalization":

"(legal ["Convertive"]) + ["Processive"]"
etc.

"/mrnt/"

(to involve), (to achieve), (to arrange),
(to conceal), (to embezzle), (to develop), etc.

"/iŋ/"

(to drive), (to read), (to eat), (to skate),
(to borrow), (to shop), (to part), etc.

"/ri/"

(to discover), (to flatter), and (to deliver).

"/i/"

(to expire) and (to inquire).

"/l/"

(to survive), (to arrive), (to revive),
(to refuse), (to approve), (to deny),
(to remove), (to reverse), (to dismiss),
(to renew), (to acquit)¹, etc.

¹Not to be confused with the homonym "to acquit" (roughly "to discharge a debt") in which the allomorph "/rns/" of the "Processive"-moneme occurs.

"/rri/

(to forge), (to rob), (to bribe), (to drudge),
and (to job).

"/rns/

(to perform), (to resist), (to repent),
(to interfere), (to remit), (to occur),
(to assist), etc. Note that each of the
complex pleremes "remittance" and "interference"

"(to remit) R ["Processive"] "

and

"(to interfere) R ["Processive"] "

is matched by a homonym which is
morphological complex: the homonym
"remittance", containing the "Resultative"-
moneme as one of its constituents:

"(to remit)R ["Resultative"] = "remittance",
and the homonym "interference", containing
the "Performative"-moneme as one of
its constituents:

"(to interfere)R ["Perfomative"] = "interference".

"/idš/

(to drift), (to leak), (to link), (to stop), etc.

Replacive Proper

"/šn ~ s/

(to suppress), (to compress), (to oppress),
(to repress), (to confess), (to digress), etc.

"/šn ~ d/

(to extend), (to comprehend), (to intend),
(to apprehend), etc.

"/šn ~ t/"

(to submit), (to subvert), (to frustrate),
(to intimidate), (to terminate), (to complicate),
etc. This "replacive proper" generally
occurs in the context of plereme-bases
whose allomorphs have phonological forms
terminating in the phoneme sequence /eit/.

"/šn ~ T/"

(to collect), (to select), (to protect),
(to inflict), (to predict), etc. Note that each
of the complex pleremes "collection" and
"selection" :

"(to collect) R "Processive""

and

"(to select) R "Processive""

is matched by a homonym which is morpho-
logically complex: the homonyms "collection"
and "selection" each containing the
"Resultative"-moneme as one of its
constituents:

"(to collect) R "Resultative" = "collection"

and

(to select) R "Resultative" = "selection"

"/žn ~ d/"

(to invade), (to evade), (to erode),
(to intrude), (to obtrude), etc.

"/rkšn ~ iRus/"

(to produce), (to introduce), (to reduce),
(to seduce), etc. This "replacive proper"
occurs in the context of plereme-bases
whose allomorphs have phonological forms
terminating in the phoneme sequence /diRus/.

We may also note that the complex plereme
"production":

"(to produce) R "Processive""

may be assumed to be matched by a homonym
which is morphologically complex containing
the "Resultative"-moneme as one of its
constituents:

"(to produce)R "Resultative"="production".

"/epšn ~ Riv/"

(to perceive), (to conceive), (to deceive),
(to apperceive), etc.

Contiguous

"/ik ~ ai_v eišn/"

(to modify), (to justify), (to edify), (to imply),
(to classify), etc. This allomorph generally
occurs in the context of plereme-bases whose
allomorphs have phonological forms terminating
in the phoneme sequences /fai/ and /plai/.

It also occurs in the context of plereme-bases
containing the "Convertive"-moneme (cf.

Chapter XII) as one of their constituents: e.g.

"falsification":

"(false ["Convertive"] + ["Processive"])"

"nullification":

"(null ["Convertive"] + ["Processive"])"

etc.

Non-contiguous

"/r ~ iRu... šn/"

(to assume), (to resume), (to presume),
(to consume), and (to subsume).

(ii) The "Resultative"-Moneme

The "Resultative"-moneme, as can be seen from the table below, has a limited morphological distribution-- it is not productive.

Allomorphs of the "Resultative"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
-------------------	--------------------------------------------

Suffix

"/mrnt/" (to achieve) and (to assign).

"/rns/" (to inherit) and (to remit).

"/iŋ/" (to undertake)

"/ri/" (to discover) and (to deliver)

"/rri/"	(to forge).
"/eišn/"	(to represent) and (to formulize).
<u>Replacive Proper</u>	
"/šn ~ T/"	(to collect), (to select) and (to reflect).
"/šn ~ t/"	(to donate), (to translate), and (to omit).
"/izišn ~ air/"	(to acquire)
"/ipšn ~ aib/"	(to describe)
"/rkšn ~ iRus/"	(to produce)

Scattered Replacive

"/o ~ r...šn ~ t/"	(to contribute)
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Non-contiguous

"/o ~ r...i ~ ai... eišn/"	(to compile).
"/o ~ r...r ~ Ou...išn/"	(to compose)

(iii) The "Performative"-Moneme

The "Performative"-moneme, as can be seen from the table below, has a very limited morphological distribution -- it is not productive.

Allomorphs of the "Performative"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/rns/"	(to interfere) and (to hinder).
"/eišn/"	(to vex) and (to tempt).
"/idš/"	(to block)
<u>Replacive Proper</u>	
"/šn ~ T/"	(to obstruct)
"/žn ~ d/"	(to protrude)
<u>Non-contiguous</u>	
"/o ~ r...r ~ Ou... eišn/" (to provoke)	

CHAPTER VI

THE "CHARACTERIZER", "MEASURE" AND "SUSCEPTIBLE" MONEMES

In what follows, I propose to hypothesise the separate identity of three monemes, identified tentatively as different signs and labelled respectively as "Characterizer", "Measure", and "Susceptible", to account for the whole range of "morphological expansions" in the sets of complex pleremes given below. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations.

The tables run as follows:

TABLE I

The identity hypothesis concerning the "Characterizer"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "having the property of conforming to behaviour, or state associated with x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/iʃ/"	(fool), <u>etc.</u>	"foolish"
"/li/"	(coward), <u>etc.</u>	"cowardly"
"/iŋ/"	(to confuse), <u>etc.</u>	"confusing"

"/iv/"	(to suppress), <u>etc.</u>	"suppressive"
"/rtiv/"	(to denote), <u>etc.</u>	"denotative"
"/rri/"	(to designate), <u>etc.</u>	"designatory"
"/l/"	(tradition), <u>etc.</u>	"traditional"
"/frl/"	(power), <u>etc.</u>	"powerful"
"/rbl/"	(fashion), <u>etc.</u>	"fashionable"
"/Surl/"	(fact), <u>etc.</u>	"factual"
"/iulr/"	(gland), <u>etc.</u>	"glandular"
"/ikl/"	(farce), <u>etc.</u>	"farcical"
"/ik/"	(hygiene), <u>etc.</u>	"hygienic"
"/atik/"	(emblem), <u>etc.</u>	"emblematic"
"/rs/"	(villain), <u>etc.</u>	"villainous"
"/s/"	(nausea)	"nauseous"
"/rt/"	(passion),	"passionate"
	(compassion),	"compassionate"
	(affection)	"affectionate"
"/id/"	(bigot)	"bigoted"
 (b) <u>Staggered Affix</u>		
"/...kiu...r/"	(muscle)	"muscular"
"/...iu...r/"	(rectangle)	"rectangular"
"/...Ri...irl/"	(minister),	"ministerial"
	(manager).	"managerial"
"/...or...irl/"	(senator), <u>etc.</u>	"senatorial"
"/...or...rl/"	(territory),	"territorial"
	(inventory).	"inventorial"

"/...er...rl/"	(secretary)	"secretarial"
"/...ai...k/"	(elegy)	"elegiac"
"/...a...ik/"	(organ) ¹ , <u>etc.</u>	"organic"
"/...o...ik/"	(parson), <u>etc.</u>	"parsonic"
"/...to...ik/"	(apostle)	"apostolic"
"/...ia...ik/"	(ocean)	"oceanic"

(c) Replacive Proper

"/l ~ S/"	(tactics), <u>etc.</u>	"tactical"
"/l ~ i/"	(puberty)	"pubertal"
"/siv ~ šn/"	(aggression)	"aggressive"
"/ikl ~ ri/"	(surgery) ²	"surgical"
"/ikl ~ sin/"	(medicine)	"medical"
"/k ~ r/"	(anaemia), <u>etc.</u>	"anaemic"
"/atik ~ r/"	(enigma), <u>etc.</u>	"enigmatic"
"/rs ~ n/"	(sedition), <u>etc.</u>	"seditious"
"/rs ~ i/"	(mutiny)	"mutinous"
"/s ~ m/"	(odium)	"odious"
"/rri ~ eišn/"	(sanitation)	"sanitary"

¹Note that this allomorph does not occur in the context of the homonym "organ" (roughly, "a complex musical keyboard instrument").

²The "replacive proper" "/ikl ~ ri/" of the "Characterizer"-moneme does not occur in the context of the homonym "surgery" (roughly, "place where a doctor, dentist, etc. can be consulted").

(d) Scattered Replacive

"/r ~ o...l ~ S/"	(politics)	"political"
"/e ~ r...ik(1) ~ ri/"	(poetry)	"poetic(al)"
"/e ~ Ri...kl ~ r/"	(hysteria)	"hysterical"
"/i ~ e...k ~ siti/"	(electricity)	"electric"
"/a ~ ei...ik ~ Ou/"	(volcano)	"volcanic"
"/r ~ a...atik(1) ~ r/"	(grammar)	"grammatic(al)"
"/e ~ i...r ~ o...s ~ m/"	(decorum)	"decorous"

(e) Contiguous

"/ei ~ r _V ik/"	(stanza)	"stanzaic"
"/dš ~ g _V ik/"	(dialogue)	"dialogic"
"/t ~ S _V ik(1)/"	(syntax),	"syntactic(al)"
	(climax).	"climactic(al)"
"/et ~ i _V ik1/"	(theory)	"theoretical"
"/š ~ s _V l/"	(race) ¹	"racial"
	(face),	"facial"
	(prejudice),	"prejudicial"
	(finance).	"financial"
"/e ~ r...š ~ t _V l/"	(president)	"presidential"
"/e ~ r...š ~ s _V l/"	(prudence)	"prudential"
"/r ~ a...š ~ s _V rs/"	(malice),	"malicious"
	(avarice).	"avaricious"

¹Not to be confused with the homonym "race" (roughly, "contest or competition in speed") which does not select the contiguous allomorph "/š ~ s_V l/".

"/v ~ f _V rs/"	(mischief)	"mischievous"
"/rkT ~ iRus _V iv/"	(to produce), <u>etc.</u>	"productive"
"/ik ~ ai _V rtiv/"	(to multiply)	"multiplicative"
"/rkT ~ oi _V iv/"	(to destroy)	"destructive"
"/s ~ d _V iv/"	(to persuade), <u>etc.</u>	"persuasive"
"/s ~ t _V iv/"	(to subvert)	"subversive"
"/rkT ~ iRus _V rri/"	(to introduce)	"introductory"
"/akT ~ ai _V rri/"	(to satisfy)	"satisfactory"
"/s ~ nd _V rri/"	(to rescind)	"rescissory"

(f) Non-contiguous

"/r ~ ei... iv/"	(to imitate), <u>etc.</u>	"imitative"
"/a ~ ei... rtrri/"	(to explain)	"explanatory"
"/r ~ au... irtrri/"	(to renounce)	"renunciatory"
"/ei ~ Ou... l/"	(nose)	"nasal"
"/a ~ ei... l/"	(nature), (nation).	"natural" "national"
"/o ~ r... i ~ r... l/"	(abdomen)	"abdominal"
"/r ~ o... Šurl/"	(concept)	"conceptual"
"/Ou ~ r... rl/"	(matrimony)	"matrimonial"
"/r ~ a... irl/"	(adverb)	"adverbial"
"/r ~ a... Ou... irl/"	(baron)	"baronial"
"/r ~ o... o ~ r... kl/"	(psychology), <u>etc.</u>	"psychological"
"/o ~ r... kl/"	(astronomy), (irony).	"astronomical" "ironical"

"/r ~ a...o ~ r... kl/"	(anatomy)	"anatomical"
"/a ~ r... kl/"	(geography), <u>etc.</u>	"geographical"
"/i ~ ai... ikl/"	(bible),	"biblical"
	(satire).	"satirical"
"/i ~ ai... ik/"	(parasite),	"parasitic"
	(pantomime).	"pantomimic"
"/o ~ Ru... ik/"	(typhoon)	"typhonic"
"/o ~ r... ik/"	(idiot),	"idiotic"
	(patriot).	"patriotic"
"/a ~ r... ik/"	(seraph)	"seraphic"
"/a ~ ei...e... ik/"	(angel)	"angelic"
"/r ~ ei...a... ik/"	(Satan)	"Satanic"
"/a ~ r...r ~ a...o ~ r... k/"	(catastrophy)	"catastrophic"
"/r ~ a... atik/"	(epigram)	"epigramatic"
"/O ~ u ~ r... rs/"	(harmony), <u>etc.</u>	"harmonious"
"/r ~ a...ei ~ i... rs/"	(advantage)	"advantageous"
"/ei ~ i... rs/"	(courage)	"courageous"
"/Ru ~ r... rs/"	(usury)	"usurious"
"/a ~ r...iu... rs/"	(miracle)	"miraculous"

(g) Subtractive

φ ~ "/S/"	(semantics), <u>etc.</u>	"semantic"
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TABLE II

The identity hypothesis concerning the "Measure"-moneme, having the formal variant listed below and being denotationally equivalent to the rough paraphrase "amount filling x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/frl/"	(pipe), <u>etc.</u>	"pipeful"

TABLE III

The identity hypothesis concerning the "Susceptible"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "capable of being subject to process x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/ṛbl/"	(to accept), <u>etc.</u>	"acceptable"
"/ibl/"	(to discern), <u>etc.</u>	"discernible"
(b) <u>Replacive Proper</u>		
"/ṛbl ~ ɛit/"	(to negotiate), <u>etc.</u>	"negotiable"
(c) <u>Contiguous</u>		
"/ik ~ ai _V ṛbl/"	(to apply),	"applicable"
	(to multiply).	"multiplicable"
"/s ~ t _V ibl/"	(to remit),	"remissible"
	(to permit),	"permissible"
	(to admit).	"admissible"
"/s ~ d _V ibl/"	(to comprehend), <u>etc.</u>	"comprehensible"
"/iz ~ ai _d _V ibl/"	(to divide)	"divisible"
(d) <u>Non-contiguous</u>		
"/o ~ Ou... ṛbl/"	(to revoke)	"revocable"
"/ei ~ e... ṛbl/"	(to sell)	"saleable"

DISCUSSION

The hypothesising of three moneme-identities to account for the whole range of "morphological expansions" in the sets of complex pleremes presented above, is partly motivated by the assumption that the hypotheses concerned will need to be specifically tested for recoverability of denotations. It should also be noted that the three sets of complex pleremes under consideration differ from one another in

- (a) the type of overall denotation characteristic of members of each set,
- (b) the type of denotational contribution of the respective "plereme-bases", and
- (c) the type of denotational contribution of the respective "morphological expansions".

Thus, for instance, assuming the overall denotation of the complex plereme "foolish" to be more or less equivalent to "having the property of being appropriate to a fool", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (fool), having the normal denotation attributed to this sign in such contexts as "he is a fool", and
- (b) the tentative moneme -- which I have labelled the "Characterizer"-moneme -- represented by the allomorph "/iʃ/" and having the denotational contribution equatable with "having the property of conforming to behaviour or state associated with x".

In this way, the overall denotation emerges out of an interplay between the denotation of the "Characterizer"-moneme and the behaviour/state designated by the appropriate "plereme-base": e.g. (snob) / "snobbish", (power) / "powerful", (fashion) / "fashionable", (farce) / "farcical", etc.

We may also note that it is not always necessary for the "plereme-base" in which the "Characterizer"-moneme occurs to have a "nominal" counterpart (as do "fool" / "foolish", "fashion" / "fashionable", "power" / "powerful", etc.). Thus, although, for instance, the complex pleremes "confusing" (as in, say, "confusing reports") and "suppressive" (as in, say, "suppressive measures") contain "plereme-bases" that have "verbal" designations ("to confuse", and "to suppress", respectively) the denotational contribution of the "morphological expansions" in both complex pleremes seems to be constant at "having the property of conforming to behaviour or state associated with x". That is to say, each of the complex pleremes "confusing" and "suppressive" can be seen as a combination of a "plereme-base" and the "Characterizer"-moneme:

"(to confuse) R $\boxed{\text{"Characterizer"}}$ = "confusing"

and

"(to suppress) R $\boxed{\text{"Characterizer"}}$ = "suppressive"

The implication whereby the occurrence of the "Characterizer"-moneme in the context of "plereme-bases" having "verbal"

designations (e.g. "to confuse", "to suppress", etc.) seems to entail the designation of "tending to/serving to/causing, etc.", whereas in the case of "nominal" plereme-bases this does not hold, should not be confused with denotational discreteness. In other words, the designation "tending to/serving to/causing, etc.", does not constitute the substance of the denotation of the "Characterizer"-moneme but is part of the contribution of the denotation of the appropriate "plereme-base".

Another angle from which the adequacy of treating each member of the set of complex pleremes presented in Table I as a combination of a "plereme-base" and the "Characterizer"-moneme may be considered is that of proportionality. The satisfactory nature of the proportions can be seen in

fool	:	foolish	::	coward	:	cowardly	::
(x)		(conforming		(y)		(conforming	
		with property				with property	
		associated with x)				associated with y)	
power:		powerful	::	confuse	:	confusing	::
(z)		(conforming		(a)		(conforming	
		with property				with property	
		associated with z)				associated with a)	
suppress:		suppressive	::	fashion	:	fashionable	::
(b)		(conforming		(c)		(conforming	
		with property				with property	
		associated with b)				associated with c)	
							etc.

On purely "formal" grounds, one might be tempted to treat, for instance, complex pleremes like "pipeful" and "acceptable" analogously with cases like:

(power) R $\boxed{\text{"Characterizer"}}$ = "powerful"

and

(fashion) R $\boxed{\text{"Characterizer"}}$ = "fashionable"

suggesting that

- (a) the complex plereme "pipeful" is a combination of the "plereme-base" (pipe) and the "Characterizer"-moneme represented by the allomorph "/frl/", and
- (b) the complex plereme "acceptable" is a combination of the "plereme-base" (to accept) and the "Characterizer"-moneme represented by the allomorph "/rbl/".

Such a line of thought, however, fails to stand the test of adequacy with regard to full recoverability of denotations in that "pipeful" (an analogous consideration would hold for "acceptable") cannot be interpreted as "having the property of being appropriate to a pipe" (compare, on the other hand, "powerful" interpretable as "having the property of being appropriate to power"). Judging from restrictions in the deployment of "pipeful" and "acceptable" in larger complexes, it seems observationally satisfactory to interpret (a) "pipeful" as "amount filling a pipe", and (b) "acceptable" as "that can be accepted. Therefore, since we wish to preserve the promise of adequacy with regard to recoverability of denotations (as we have expressly chosen to do), I shall take the hypothesis of positing in each of the complex pleremes "pipeful" and "acceptable" a further "morphological

expansion" different in sign-identity from the "Characterizer"-moneme (and also from each other, as we shall see below).

Thus, taking

- (i) the overall denotation of the complex plereme "pipeful" to be more or less equivalent to "amount filling x", and
- (ii) the overall denotation of the complex plereme "acceptable" to be more or less equivalent to "capable of being accepted",

we find that the overall denotation of each of the complex pleremes in question is recoverable only on the hypothesis that

- (a) the elements "/frl/" in "pipeful" and "/rbl/" in "acceptable" represent denotationally different monemes from the "Characterizer"-moneme (in "powerful" and "fashionable", respectively), and
- (b) "/frl/" in "pipeful" is denotationally different from "/rbl/" in "acceptable".

Under these circumstances, it seems possible to identify two different monemes to account for the "morphological expansions" in the complex pleremes "pipeful" and "acceptable". The denotational contribution of these two tentative monemes -- which I have labelled the "Measure"-moneme (in "pipeful") and the "Susceptible"-moneme (in "acceptable") -- may be hypothesised as follows:

(a) the "Measure"-moneme, having the denotational contribution equatable with "amount filling x". The overall denotation emerges, thus, out of an interplay between the denotation of the "Measure"-moneme and the object designated by the denotation of the appropriate "plereme-base": e.g. (spoon) / "spoonful", (bag) / "bagful", (can) / "canful", etc.

(b) the "Susceptible"-moneme, having the denotational contribution equatable with "capable of being subject to process x". In this way, the overall denotation emerges out of an interplay between the denotation of the "Susceptible"-moneme and the activity designated by the denotation of the appropriate "plereme-base": e.g. (to convert) / "convertible", (to apply) / "applicable", (to negotiate) / "negotiable", (to revoke) / "revocable", etc.

It must be remembered at this point that the unique morph "/frl/" of the "Measure"-moneme (cf Table II) and the allomorph "/rbl/" of the "Susceptible"-moneme (cf. Table III) are each homomorphic with one of the allomorphs of the "Characterizer"-moneme, namely "/frl/" (in "powerful") and "/rbl/" (in "fashionable"), respectively.

We may also note that

- (a) the allomorph "/inj/" of the "Characterizer"-moneme in the context "confusing" (as in "confusing reports"),
 - (b) the allomorph "/inj/" of the "Processive"-moneme (cf. preceding chapter) in the context "driving" (as in "driving is fun"), and
 - (c) the allomorph ^w"/inj/" of the "Resultative"-moneme (cf. preceding chapter) in the context "undertaking" (as in "a risky undertaking"),
- are homomorphs with respect to one another.

DISTRIBUTION

(i) The "Characterizer"-Moneme

The "Characterizer"-moneme, as can be seen from the table below, has a very wide morphological distribution -- it is highly productive. It is interesting to note that this moneme may occur in the context of monomonematic "plereme-bases" (e.g. "fool"/"foolish", "fashion"/"fashionable", "to confuse"/"confusing", etc.) as well as poly-monematic ones. Thus, for instance, taking the complex plereme "derivational" to be a simultaneous bundle of three monemes, namely

- (a) the moneme "to derive" represented in other contexts by the allomorph "/diraiv/",
- (b) the "Processive"-moneme (cf. preceding chapter) represented by the allomorph "/e~i...i~ai...eišn/", and
- (c) the "Characterizer"-moneme represented by the allomorph "/l/", entails describing the moneme "to derive" and the "Processive"-moneme as the "plereme-base" of the complex plereme "derivational", in that neither of these two monemes commutes, one at a time, with zero within the complex plereme in question (i.e. within "derivational"). In this way, the complex plereme "derivational" may be represented as follows:

$$"(to\ derive\ \boxed{"Processive"}) + \boxed{"Characterizer"-moneme}$$

Allomorphs of the "Characterizer"-Moneme¹

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/iʃ/"	(fool), (snob), (oaf), (tale), (owl), (wag), (quack), (elf), <u>etc.</u>
"/frl/"	(power), (lust), (revenge), (guile), <u>etc.</u>
"/rbl/"	(fashion), (comfort), (pleasure), <u>etc.</u>
"/li/"	(coward), (friend), (king), <u>etc.</u>
"/l/"	(logic), (magic), (tribe), (fiction), (segment), (department), (constitution), <u>etc.</u>
"/ʃurl/"	(fact), (spirit), <u>etc.</u>
"/iulr/"	(gland), (valve), <u>etc.</u>
"/ikl/"	(farce), (nonsense), (rhythm), <u>etc.</u>
"/iŋ/"	(to confuse), (to scheme), (to amuse), (to sweep), (to fly), <u>etc.</u>
"/iv/"	(to suppress), (to deflect), (to restrict), <u>etc.</u>
"/rtiv/"	(to denote), (to connote), (to exploit), (to augment), <u>etc.</u>
"/rri/"	(planet), (legend), (ablution), <u>etc.</u>
"/atik/"	(emblem), (axiom), (idiom), <u>etc.</u>
"/rs/"	(villain), (hazard), (scandal), (poison), (peril), (danger), (fibre), (disaster), <u>etc.</u>

¹Allomorphs occurring in the context of plereme-bases which are listed in Table I are not included here.

"/ik/" (Koran), (hygiene), (cube), (nomad),
(alcohol)¹, etc.

Staggered Affix

"/...a...ik/" (organ), (metal), (balsam), etc.

"/...o...ik/" (parson), (mason), (meteor), etc.

"/...iu...r/" (rectangle), (triangle), (octangle), etc.

"/...or...irl/" (rector), (orator), (senator), etc.

Replacive Proper

"/l~S/" (mathematics), (geophysics), etc.

"/k~r/" (anaemia), (hydrophobia), (amnesia), etc.

"/atik~r/" (enigma), (dogma), (trauma), etc.

"/rs~n/" (sedition), (faction), (ambition), etc.

Contiguous

"/s~d_viv/" (to evade), (to corrode), (to dissuade),
(to persuade), etc.

"/rkT~iRus_viv/" (to produce), (to deduce), (to induce), etc.

Non-contiguous

"/r~ei...iv/" (to imitate), (to manipulate), (to speculate),
(to explicate), (to implicate), etc.

"/r~o...o~r...kl/" (psychology), (philology), (archaeology),
(philosophy), (taxonomy), etc.

¹"alcoholic" as a combination of the plereme-base (alcohol) and the "Characterizer"-moneme has a homonym "alcoholic (roughly "one addicted to alcohol) which is not analysable due to its semantic specialisation.

"/a ~ r... kl/" (geography), (calligraphy), (pornography), etc.

This allomorph generally occurs in the context of plereme-bases whose allomorphs have phonological forms terminating in the phoneme sequence /gr̥fi/.

"/O̥u ~ r... rs/" (harmony), (parsimony), (euphony), etc.

With an eye to distribution and to preserving the promise of adequacy with regard to full recoverability of denotations, it seems possible to treat, for instance, the items "semantic", (semiotic", "phonetic", etc. as complex pleremes on the hypothesis that each is a combination of a plereme-base and the "Characterizer"-moneme. Thus, for instance, taking the complex plereme "semantic" to be a combination of

(a) the "plereme-base" (semantics), and

(b) the "Characterizer"-moneme,

entails describing the allomorph representing the "Characterizer"-moneme in this context as a subtractive having the phonological form $\phi \sim "/S/"$.

As a further remark to the distribution of the allomorphs of the "Characterizer"-moneme, it is interesting to note that these allomorphs are not in "perfect" contextual variance. Thus for instance, taking "/iŋ/" and "/iv/" to be combinatory (contextual) variants of the "Characterizer"-moneme in the context (to confuse)

and (to suppress), respectively, we are still confronted with pairs like "suppressing" and "suppressive" in such contexts as, say, "suppressing measures/"suppressive measures". This seems to entail describing the two alternative allomorphs "/iŋ/" and "/iv/" in the context (to suppress) as being in mixed variance, while noting that these two allomorphs are in other contexts (e.g. in the context "to confuse", "to amuse", etc.) in contextual variance. The extent of mixed variance between alternative allomorphs of the "Characterizer"-moneme may be seen from the following tabulation:

between the alternative allomorphs	in the context of the plereme-bases
"/iŋ/" and "/iv/"	(to suppress), (to deflect), (to restrict), <u>etc.</u>
"/iŋ/" and "/rtiv/"	(to denote), (to connote), <u>etc.</u>
"/iŋ/" and "/frl/"	(to trust)
"/iŋ/" and "/akT~ ai _v rri/"	(to satisfy).
"/ik/" and "/ikl/" ¹	(rhythm)
<u>etc.</u>	

¹See also Table I at the beginning of this chapter.

(ii) The "Measure"-Moneme

The "Measure"-moneme has a wide morphological distribution. It generally occurs in the context of "substantives" whose denotations may be assumed to be the designation of objects capable of or used for holding a certain volume of substances.

The "Measure"-moneme is realized by a unique morph "/frl/"

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/frl/"	(pipe), (spoon), (can), (bag), (spade), (cup), (sack), <u>etc.</u>

(iii) The "Susceptible"-Moneme

The "Susceptible"-moneme is productive to a high degree in that the range of "plereme-bases" with which it co-occurs covers almost the whole class of "transitive verbs". This moneme may occur in the context of monomonematic plereme-bases (e.g. "to accept/" "acceptable") as well as poly-monematic ones. Thus, for instance, taking the complex plereme "falsifiable" to be a simultaneous bundle of three monemes, namely

- (a) the moneme "false" represented in other contexts by the allomorph "/forls/",
- (b) the "Convertive"-moneme (cf. Chapter XII) represented by the allomorph "/ifai/", and
- (c) the "Susceptible"-moneme represented by the allomorph "/rbl/", entails describing the moneme "false" and the "Convertive"-moneme as the "plereme-base" of the complex plereme "falsifiable", in that neither of these two monemes commutes, one at a time, with zero within the complex plereme in question (i.e. within "falsifiable"). In this way, the complex plereme "falsifiable" may be represented as follows:

$$"(\text{false } \boxed{\text{"Convertive"}}) + \boxed{\text{"Susceptible"}}"$$

The allomorphs of the "Susceptible"-moneme -- as can be seen from the table below -- are not, with regard to distribution, in "perfect" contextual variance.

Allomorphs of the "Susceptible"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/rbl/"	(to accept), (to change), (to pass) ¹ , (to manoeuvre), (to measure), <u>etc.</u>

¹Not to be confused with the homonym "passable" (roughly, "adequate and fair") which is not analysable due to its semantic specialisation.

"/ibl/"

(to convert), (to discern), (to invert),
(to corrupt), (to divide), etc. Note that
the suffix "/ibl/" and the contiguous
allomorph "/iz ~ aid_V ibl/" are in
mixed variance in the context (to divide).

Replacive Proper

"/rbl ~ eit/"

(to negotiate), (to navigate), (to expiate),
(to explicate), etc. This replacive proper
generally occurs in the context of plereme-
bases whose allomorphs have phonological
forms terminating in the phoneme sequence
/eit/. We may also note that in the context
(to navigate) there is mixed variance
between the suffix "/rbl/" and the replacive
proper "/rbl ~ eit/".

Contiguous

"/s ~ d_V ibl/"

(to comprehend), (to apprehend),
(to defend), etc. Note that in the context
(to defend) there is mixed variance
between the suffix "/rbl/" and the
contiguous allomorph "/s ~ d_V ibl/".

CHAPTER VII

THE "DIMINUTIVE" AND "YOUNG"

1

MONEMES

In this chapter, I propose to hypothesise the separate identity of two monemes, identified tentatively as different signs and labelled as "Diminutive" and "Young", to account for the whole range of "morphological expansions" in the sets of complex pleremes presented in the tables below. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations.

The tables, in terms of which my hypothesis is formulated, run as follows:

TABLE I

The identity hypothesis concerning the "Diminutive"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "petty/insignificant in actual physical size or in importance":

¹Pleremes like "doggie", "birdie", etc. have been excluded from the present discussion on the understanding that they are generally put into use by children or by adults speaking "baby-talk" which may suggest that these pleremes (i.e. "doggie", "birdie", etc.) are stylistic variants of "dog" and "bird", respectively, i.e. "doggie" and "birdie" may be treated as synonyms of "dog" and "bird", respectively.

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/liŋ/"	(prince), <u>etc.</u>	"princeling"
"/lit/"	(brook), <u>etc.</u>	"brooklet"
"/et/"	(novel), (kitchen).	"novelette" "kitchenette"
"/it/"	(rill), (bugle).	"rillet" "buglet"
"/ret/"	(banner), (leader). ¹	"bannerette" "leaderette"
"/rk/"	(hill)	"hillock"
(b) <u>Contiguous</u>		
"/i _u ~ r _v lit/"	(river)	"rivulet"

¹Not to be confused with the homonym "leader" which may be assumed to be morphologically complex on the hypothesis that it is a combination of the "plereme-base" (to lead) and the "Participant"-moneme (for the "Participant"-moneme, see Chapter II: "The So-called "Agentive" Monemes").

TABLE II

The identity hypothesis concerning the "Young"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "baby x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/liŋ/"	(duck),	"duckling"
	(goat),	"goatling"
	(cod).	"codling"
"/it/"	(owl)	"owlet"
	(pig),	"piglet"
	(trout).	"troutlet"
(b) <u>Contiguous</u>		
"/oz ~ Rus _v liŋ/"	(goose)	"gosling"

DISCUSSION

The hypothesis tentatively advanced -- identifying two different monemes to account for the whole range of "morphological expansions" in the sets of complex pleremes above -- does not conflict with "formal" criteria. In terms of form, each of the two monemes identified has a number of allomorphs and the sets of allomorphs in question give rise to a certain pattern of homomorphy. The principles of commutation are satisfied by the hypotheses; the tentative monemes found in these hypotheses are indeed morphological as they stand the tests stipulated by Axiomatic Functionalist theory for morphological analysis. The remaining question, however, is whether these hypotheses satisfy also conditions of a denotational nature (in particular, for instance, whether the homonyms identified stand the tests imposed on tentative homonyms). I shall also use the criterion of recoverability of denotations as an additional factor in testing the hypotheses under consideration.

The two sets of complex pleremes presented in the tables above differ from one another in

- (a) the type of overall denotation characteristic of members of each set, and
- (b) the type of denotational contribution of the respective "morphological expansions".

I have taken the position that, in the final analysis, the hypothesis that a particular complex plereme is a combination of a "plereme-base" and the "Diminutive"/"Young" moneme holds only on condition that the overall denotation of that complex is recoverable from the denotation of its constituents. Thus, for instance, assuming the overall denotation of the complex plereme "princeling" to be more or less equivalent to "petty or minor prince", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (prince), having the normal denotation attributed to this sign in such contexts as "the prince attended the banquet as a guest of honour", and
- (b) the tentative moneme -- which I have labelled the "Diminutive"-moneme -- represented by the allomorph "/liŋ/" and having the denotational contribution equatable with "petty/insignificant in actual physical size or in importance".

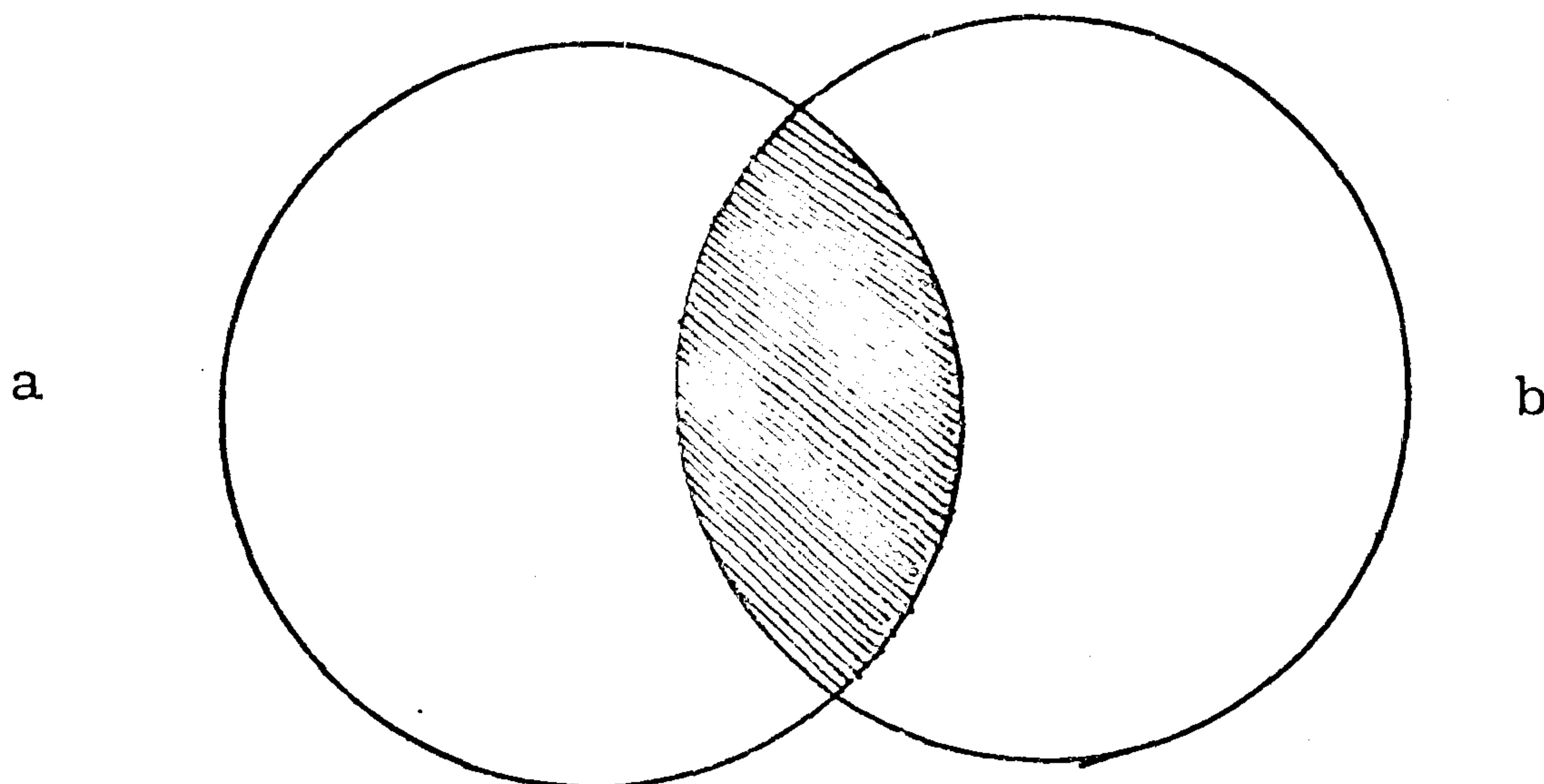
The overall denotation emerges, thus, out of an interplay between the denotation of the "Diminutive"-moneme and the designation of the appropriate "plereme-base": e.g. (lord) / "lordling", (brook) / "brooklet", (novel) / "novelette", etc.

On the grounds of "form", together with certain intuitive similarity in "meaning", one might be tempted to consider the element "/liŋ/" in, say, "duckling" and "/liŋ/" in "princeling" as representing one and the same moneme, namely the "Diminutive"-moneme. This line of thought, however, does not seem to satisfy

the promise of adequacy with regard to the additional criterion of recoverability of denotations. Judging from restrictions in the deployment of the complex plereme "duckling" in larger complexes, it seems observationally satisfactory to maintain that this complex is interpretable as "a baby duck" (compare, on the other hand, "princeling" interpretable as "petty/insignificant prince"). The overall denotation of "duckling" (roughly, "a baby duck") seems to be recoverable only on the hypothesis that the tentative moneme represented by the allomorph "/lin/" (as in "duckling") is denotationally different from the "Diminutive"-moneme as in "princeling" (in spite of "sameness" of form). Accordingly, the denotational contribution of this tentative moneme -- which I have labelled the "Young"-moneme (as in "duckling") -- may be assumed to be equivalent to that of "baby x". The overall denotation emerges, thus, out of an interplay between the denotation of the "Young"-moneme and the designation of the appropriate "plereme-base": e.g. (goat) / "goatling", (owl) / "owlet", (pig) / "piglet", etc.

It must be remembered that the commonsense material implication whereby being "a baby x" seems to entail the idea of being "small in actual physical size" should not be confused with a denotational proper inclusion. In fact, being "baby x" is disjunct from being "petty/insignificant in actual physical size or in importance". In this way, the disjunctness of the denotation classes of the "Diminutive"-moneme ("petty/insignificant in actual physical size or

in importance") and the "Young"-moneme ("baby x") may be represented in the following Venn-diagram:



- a : denotation class of the "Diminutive"-moneme (petty/ insignificant in actual physical size or in importance)
- b : denotation class of the "Young"-moneme (baby x)

Another angle from which the adequacy of differentiating between two monemes (i.e. the "Diminutive"-moneme and the "Young"-moneme) may be considered is that of proportionality. Thus, for instance, within a set like

prince : princeling :: brook : brooklet ::
(neutral) (minor) (neutral) (minor).

novel : novelette :: hill : hillock :: etc.
(neutral) (minor) (neutral) (minor)

OR

duck : duckling :: pig : piglet :: etc.
(neutral) (non-adult) (neutral) (non-adult)

proportionality holds to a much higher degree than in a set like

prince : princeling :: duck : duckling ::
(neutral) (minor) (neutral) (non-adult)

brook : brooklet :: pig : piglet :: etc.
(neutral) (minor) (neutral) (non-adult)

If we compare simply the alternatives

(a) prince : princeling :: brook : brooklet
(neutral) (minor) (neutral) (minor)

OR

duck : duckling :: pig : piglet
(neutral) (non-adult) (neutral) (nonadult)

(b) prince : princeling :: duck : duckling
(neutral) (minor) (neutral) (non-adult)

OR

brook : brooklet :: pig : piglet
(neutral) (minor) (neutral) (non-adult)

we find that proportions under alternative (a) are clearly more acceptable than those under (b).

The establishment of two internally proportionate sets (which is the result of distinguishing two different moneme-identities) as opposed to the setting up of one internally less strictly proportionate set (which would be the corollary of not recognizing two separate moneme identities in the sets of complex pleremes presented at the

beginning of this chapter) is one of the important features in favour of the adequacy of the solution offered in this chapter.

It is worthwhile noting that the "Diminutive" - moneme and the "Young" - moneme are, formally speaking, partially overlapping in phonological features. It is this fact, together with certain intuitive similarities in "meaning", that places such a heavy onus of identification on a hypothesis distinguishing two separate moneme-identities. The attention paid to the discreteness of the denotations of the two monemes in question was specifically aimed at guarding against the untenable identification of denotationally overlapping homonyms¹.

Looking back at Tables I and II listing the allomorphs of the "Diminutive" and "Young" monemes, we find that these monemes are partially homonymous with respect to one another. The extent of this partial homonymy can be seen from the following tabulation:

¹cf. Chapter VII: "The Identity of Signs", in S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979).

phonological form of the allomorph	"Diminutive" Moneme	"Young" Moneme
/liŋ/	e.g. "princeling"	e.g. "duckling"
/lit/	e.g. "brooklet"	e.g. "piglet"
/et/	e.g. "novelette"	
/it/	e.g. "rillet"	e.g. "owlet"
/rɛt/	e.g. "bannerette"	
/rɪk/	e.g. "hillock"	
/oz ~ Rus _v liŋ/		e.g. "gosling"
/iɹ ~ r _v lit/	e.g. "rivulet"	

DISTRIBUTION

(i) The "Diminutive"-Moneme

The "Diminutive"-moneme, as can be seen from the table below, has a limited morphological distribution -- it is not productive.

Allomorphs of the "Diminutive"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/liŋ/"	(prince), (king), (lord), (fop), (priest), and (squire).
"/lit/"	(brook), (cloud), (crown), (orb), (pond), (lake), (spring), (stream), (ray), (fort), and (star).
"/et/"	(novel) and (kitchen) .
"/it/"	(rill), and (bugle).
"/reŋ/"	(banner) and (leader).
"/rk/"	(hill).
<u>Contiguous</u>	
"/iu ~ r _v lit/"	(river).

(ii) The "Young"-Moneme

The "Young"-moneme, as can be seen from the table below, has a very limited morphological distribution -- it is not productive.

Allomorphs of the "Young"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/liŋ/"	(duck), (goat), and (cod).
"/it/"	(owl)
"/lit/"	(trout) and (pig).
<u>Contiguous</u>	
"/oz ~ Rus _v liŋ/"	(goose).

CHAPTER VIII

THE "FEMALE"-MONEME

The aim of this chapter is to hypothesise the identity of the "Female"-moneme. The hypothesis tentatively advanced takes the form that each member of the set of complex pleremes presented in the table below is a combination of a "plereme-base" and the tentative "Female"-moneme.

TABLE

The identity hypothesis concerning the "Female"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "female x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/ɛs/" ¹	(lion), <u>etc.</u>	"lioness"
"/rɛs/"	(archer), <u>etc.</u>	"archeress"
"/ikS/"	(prosecutor), <u>etc.</u>	"prosecutrix"

¹The upper limit of distinctive realization seems to be in the range of [ɛ] not [i], though in fluent speech characteristic under articulations range between [ɪ] and [ə].

"/ret/"	(usher),	"usherette"
	(major) ¹ .	"majorette"

(b) Replacive Proper

"/es ~ r/"	(sorcerer), <u>etc.</u>	"sorceress"
"/es ~ Qu/"	(negro)	"negress"
"/res ~ rnt/"	(inhabitant)	"inhabitress"
"/e ~ r/"	(comedian),	"comedienne"
	(tragedian),	"tragedienne"
	(equestrian).	"equestrienne"

(c) Non-contiguous

"/e ~ Ri... in/"	(hero)	"heroine"
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¹Not to be confused with the sign "major" (roughly, "officer ranking next below lieutenant-colonel") which does not select the allomorph "/ret/" of the "Female"-moneme. It is interesting to note that complex pleremes containing the "Female"-moneme (represented by the allomorph "/ret/") as one of their constituents are generally found in American English: e.g. "sailorette", "chaufferette", "officerette", etc. These coinages, however, did not gain currency and only few are in common use (e.g. "usherette" and "majorette"). For more details, the reader is referred to H.L. Mencken, The American Language, Supplements I and II, New York: 1945, 1948, respectively, and M. Meredith, "Be a Cabette", American Speech. 27 (1952) 74-76.

DISCUSSION

The hypothesis tentatively advanced in the table above is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations. I have taken the position that, in the final analysis, the hypothesis that a particular complex plereme is a combination of a plereme-base and the "Female"-moneme holds only on condition that the overall denotation of that complex is recoverable from the denotation of its constituents. Thus, for instance, taking the overall denotation of the complex plereme "lioness" to be more or less equivalent to "female lion", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (lion), having the normal denotation attributed to this sign in such contexts as "a lion is an animal of the carnivorous mammal family", and
- (b) the tentative moneme -- which I have labelled the "Female"-moneme -- represented by the allomorph "/es/" and having a denotational contribution equatable with "female x".

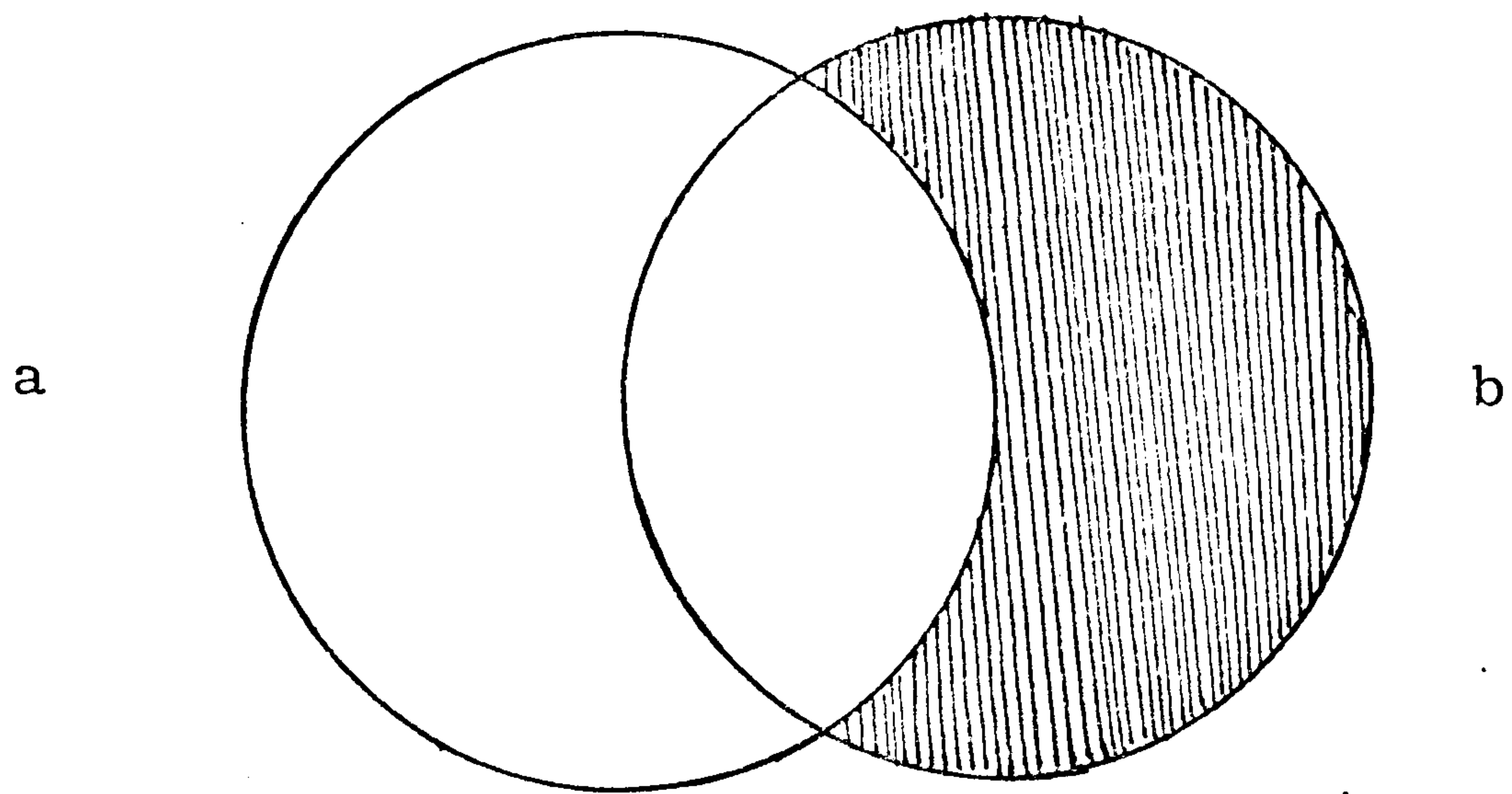
The overall denotation emerges, thus, out of an interplay between the denotation of the "Female"-moneme and the designation of the appropriate "plereme-base": e.g. (leopard) / "leopardess", (tiger) / "tigress", (sorcerer) / "sorceress", etc.

Attention must be paid to the fact that the plereme "lion" and the moneme "lion" (both as in "lion" and as in "lioness", respectively) must be attributed the same denotation, i.e. the sign "lion" (whether moneme or plereme in grammatical status) must have a denotation determinate only to species, but indeterminate as to sex. In this way, the plereme "lion" (containing as its sole constituent the moneme "lion-") is also indeterminate as to sex, whereas in the plereme "lioness" the denotational contribution of the "Female"-moneme is the sole factor determining sex. Consequently, the opposition between "lion" and "lioness" can be accounted for as an opposition between zero and the "Female"-moneme:

$$\begin{array}{l} \text{"lion"} \quad R \quad \emptyset \quad = \quad \text{"lion"} \\ \text{"lion"} \quad R \quad \text{"Female"-moneme} \quad = \quad \text{"lioness"} \end{array}$$

Semantically speaking, the relation holding between the sign "lion" and the sign "lioness" is a hyperonym-hyponym relation¹. This is tantamount to saying that the denotation class of the sign "lioness" (hyponym) is properly included in the denotation class of the sign "lion" (hyperonym). This being the case, the proper inclusion of the two denotation classes in question may be represented as follows:

¹For more details about hyperonym-hyponym relation, the reader is referred to S.G.J. Hervey, Axiomatic Semantics, Scottish Academic Press (1979) and "Postulates for Axiomatic Semantics" in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press(1980).



a : denotation class of "lion"

b : denotation class of "lioness"

Analogous arguments involving hyperonym-hyponym relations seem to hold in cases like "actor"/"actress", "inventor" / "inventress", etc. Thus, for instance, assuming the complex plereme "actress" to be a simultaneous bundle of three monemes, namely,

(a) the moneme "to act" represented in other contexts by the allomorph "/akT/",

(b) the "Participant"-moneme (cf. Chapter II) represented by the allomorph "/r/", and

(c) the "Female"-moneme represented by the allomorph "/es/",

we find that the plereme-base of the complex plereme in question-- namely (actor) -- contains as its constituents the moneme "to act" and the "Participant"-moneme (note that neither of these monemes commutes, one at a time, with zero within the complex plereme

"actress"). Furthermore, the plereme-base (to act^["Participant"]) -- in "actress" -- is analogous with monomonematic plereme -bases such as "lion", "tiger", "author", "poet", etc. (in "lioness", "tigress", "authoress", "poetess", respectively) in that its denotation is also indeterminate as to sex. The denotational contribution of the "Female"-moneme in "actress" can be seen as the sole factor determining sex. Accordingly, the opposition between the plereme "actor" and the plereme "actress" can be accounted for as an opposition between zero and the "Female"-moneme. In semantic terms, "actor" is the hyperonym of "actress" and the latter is a hyponym of the former.

Proportionality also shows up the adequacy of treating "actress", etc. by analogy with "lioness". The satisfactory nature of the proportions in question can be seen in

actor	:	actress	::	lion	:	lioness	::
(indet.)		(female)		(indet.)		(female)	
hunter	:	huntress	::	author	:	authoress	:: etc.
(indet.)		(female)		(indet.)		(female)	

Particular problems arise with pleremes designating titles: e.g. "countess", "baroness", "duchess", "marchioness", etc.

These pleremes cannot be treated analogously with cases like

"lion" ~ "lioness"

"tiger" ~ "tigress"

"actor" ~ "actress"

"hunter" ~ "huntress"

etc.

In the first place, occurrences of "count", "baron", "duke", "marquis", etc. in other contexts do not seem to be indeterminate to sex (as are occurrences of "lion", "tiger", "actor", "hunter", etc.) but strictly denote persons of the male sex -- which means that, whereas

"lion" (of indeterminate sex) R \emptyset

can be interpreted as a hyperonym of

"lion" R "Female"-moneme (i.e. female lion),

such a hyperonym-hyponym relation cannot be posited between, say, "count" (male) and "countess" (wife of a count or female holder of the title "countess"). This situation is not consistent with interpreting the opposition "count" ~ "countess" as

"count" (male) R \emptyset ~ "count" (indet.) R "Female"-moneme.

In the second place, "countess" cannot be interpreted as "member of the female subset of the class of counts" (compare, on the other hand, "lioness" interpretable as "member of the female subset of the class of lions"). While "lioness" constitutes an antonym¹ of the sign "male lion", "countess" is not an antonym of "male count" -- the latter in any case being nonsensically tautological. If anything, "countess" designates the female "equivalent" or "counterpart" to "count" -- a person of female sex holding the title in question either by marriage or by birth.

Proportionality also shows up the inadequacies of treating "countess", "baroness", "duchess", "marchioness", etc. by analogy with "lioness", "tigress", "actress", etc. (i.e. by identifying in the former the same "Female"-moneme as one identifies in the latter). The unsatisfactory nature of the proportions in question can be seen in

lion	:	lioness	::	count	:	countess
(indet.)		(female)		(male)		(female)

Under these circumstances, one could at best suggest that "countess" etc. may be analysed by hypothesising a moneme different in sign-identity and in denotational contribution from the normal "Female"-moneme. One would, in this event, need to

¹For the notion of "antonym", see S.G.J. Hervey, "Semantics in Axiomatic Functionalist Linguistics", Actes du Deuxieme Colloque International de Linguistique Fonctionnelle, Clermont-Ferrand(1975), and Chapter V: "Semantic Features" in Axiomatic Semantics, Scottish Academic Press (1979).

imagine the denotation of this additional tentative moneme as being something like "female equivalent/ counterpart of a particular male x (by marriage or by birth)". Such a solution would not, however, obviate the problem that, for instance, "countess" does not designate the female holder of the title of "count", but the holder of a title "countess" which happens to be restricted to females. It would seem, therefore, that "countess" is far too specialised in denotation -- the cultural/social/historical factors governing the acquisition of the title being, themselves, rather specialised¹ -- to allow this plereme to be analysed as though it merely designated "the female version of a count". With this in mind, it seems preferable to classify "countess", "baroness", "duchess", "marchioness", etc. as unanalysable pleremes (pseudo-composites).

¹ Pleremes like "countess", "baroness", "duchess", etc. have come into English as a result of wholesale borrowing from French and Latin (cf. Hans Marchand, The Categories and Types of Present-Day English Word-Formation, Munchen, 1969, and Otto Jespersen, A Modern English Grammar on Historical Principles, Vol. VI, Morphology, Copenhagen, 1942).

DISTRIBUTION

Generally speaking, the "Female"-moneme is not frequently used. This may, perhaps, be due to the fact that indeterminate reference is socially preferred : e.g. "doctor", "author", "poet", etc. The "Female"-moneme may occur in the context of monomonematic plereme-bases (e.g. "lion"/"lioness", "author" /"authoress", etc.) as well as poly-monematic ones (e.g. "actor" / "actress", etc.). The complex plereme "actress", for instance, may be represented as follows:

"(to act "Participant") + "Female"-moneme"

As can be seen from the table below, the allomorphs of the "Female"-moneme are not, with regard to distribution, in "perfect" contextual variance.

Type of Allomorph	Occurs in the context of the plereme-bases
<p><u>Suffix</u></p> <p>"/es/"</p>	<p>(tiger), (leopard), (lion), (dragon), (host), (poet), (author), (priest), (heir), (arbiter), (proprietor), (spectator), (ambassador), (act "Participant"), (invent "Participant"), etc. We may also note that the suffix "/es/" and the suffix "/ikS/" are in <u>mixed variance</u> in the context of the plereme- bases (arbiter), (proprietor), and (spectator).</p>

"/rēs/"

(doctor), (millionaire), (tutor), (tailor),
(huckster), etc.

"/ikS/"

(coadjutor), (testator), (executor),
(inherit ["Participant"]), etc.

Replacive Proper

"/es ~ r/"

(adulterer), (emperor), (fruiterer),
(sorcerer), (adventurer), (procurer), etc.

CHAPTER IX

THE "PLURAL" MONEME

In what follows, I propose to hypothesise the identity of the "Plural"-moneme. The hypothesis tentatively advanced takes the form that each member of the set of complex pleremes presented in the table below is a combination of a "plereme-base" and the tentative "Plural"-moneme.

TABLE

The identity hypothesis concerning the "Plural"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "more than one":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/z/"	(eye), <u>etc.</u>	"eyes"
"/s/"	(bank), <u>etc.</u>	"banks"
"/iz/"	(horse), <u>etc.</u>	"horses"
"/n/"	(ox)	"oxen"

(b) Replacive Proper

"/z ~ d/" ¹	(band), <u>etc.</u>	"bands"
"/s ~ t/"	(tent), <u>etc.</u>	"tents"
"/s ~ P/"	(stamp), <u>etc.</u>	"stamps"
"/i ~ u/"	(mouse),	"mice"
	(titmouse),	"titmice"
	(goose),	"geese"
	(tooth).	"teeth"
"/e ~ r/"	(footman), <u>etc.</u>	"footmen"
"/ai ~ rs/"	(alumnus), <u>etc.</u>	"alumni"
"/Ri ~ r/"	(larva), <u>etc.</u>	"larvae"
"/Riz ~ is/"	(hypothesis), <u>etc.</u>	"hypotheses"
"/r ~ on/"	(phenomenon)	"phenomena"
"/e ~ a/"	(man)	"men"
"/Ri ~ u/"	(foot)	"feet"
"/isRiz ~ ekS/"	(index)	"indices"
"/sRiz ~ kS/"	(appendix)	"appendices"

(c) Scattered Replacive

"/...i ~ u...i ~ r.../"	(woman)	"women"
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¹The complex plereme "bands" ("band" R "Plural") -- phonetically represented as [bandz] -- may be represented phonologically as "/banz/" owing to the fact that in the environment [n - z] the phonetic form [d] becomes parasitic. This entails describing the allomorph representing the "Plural"-moneme in the context "band" as a replacive proper having the phonological form /z ~ d/ (this point will be discussed in detail in the course of this chapter).

(d) Contiguous

"/v~ f _V S/"	(knife), <u>etc.</u>	"knives"
"/ʒ~ θ _V S/"	(mouth)	"mouths"
"/z~ s _V iz/"	(house)	"houses"

(e) Non-contiguous

"/i~ ai...rn/"	(child)	"children"
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(f) Subtractive

ϕ ~ "/n/"	(criterion)	"criteria"
ϕ ~ "/m/"	(momentum), <u>etc.</u>	"momenta"

(g) Zero-form

ϕ	(sheep), <u>etc.</u>	"sheep"
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DISCUSSION

The hypothesis tentatively advanced -- identifying the "Plural"-moneme in each member of the set of complex pleremes above -- can be said to hold the promise of adequacy with regard to the additional criterion of full recoverability. Thus, for instance, assuming the overall denotation of the complex plereme "horses" to be more or less equivalent to "more than one horse", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (horse), having the normal denotation attributed to this sign in such contexts as "he has bought a brown horse", and
- (b) the tentative "Plural"-moneme represented by the allomorph "/iz/" and having a denotational contribution equatable with "more than one".

The overall denotation emerges, thus, out of an interplay between the denotation of the "Plural"-moneme and the designation of the appropriate "plereme-base": e.g. (eye) / "eyes", (bank) / "banks", (man) / "men", (tooth) / "teeth", etc. It is, incidentally, not necessary for the appropriate "plereme-base" with which the "Plural"-moneme is in construction to be constituted by one moneme, i.e. to be monomonematic (as do "eye" / "eyes", "bank" / "banks", etc.). Attention may be drawn here to the occurrence of the "Plural"-moneme with poly-monematic "plereme-bases", i.e. "plereme-bases" constituted by two or more monemes. Thus, for instance, taking the complex plereme "workers" to be a simultaneous bundle of three monemes, namely

- (a) the moneme "to work" represented in other contexts by the allomorph "/urrk/",
- (b) the "Participant"-moneme (cf. Chapter II) represented by the allomorph "/r/", and
- (c) the "Plural"-moneme represented by the allomorph "/z/",

we find that the "plereme-base" of the complex in question -- namely (worker) -- contains as its constituents the moneme "to work" and the "Participant"-moneme, in which case neither of these monemes commutes, one at a time, with zero within the complex plereme "workers".

DISTRIBUTION

Generally speaking (but with certain reservations that will be explained below), the allomorphs of the "Plural"-moneme may, with regard to distribution, be said to be phonologically conditioned. Thus, for instance, a phonological rule concerning the occurrence of the allomorph (suffix) "/iz/" may be formulated as follows:

"only if a plereme-base has a form whose final phoneme is a hissing or a hushing one may "/iz/" be the appropriate allomorph (suffix) of the "Plural"-moneme in that context".

Although this necessary condition holds in all cases (e.g. "horse" / "horses", "box" / "boxes", "peach" / "peaches", etc.), we lack a sufficient condition for predicting in purely phonological terms the precise set of contexts in which the "Plural"-moneme is represented by "/iz/" (e.g. "ox" is not one of these contexts). That is to say, although "ox" ("/okS/") has a form whose final phoneme is a hissing one, the appropriate allomorph of the "Plural"-moneme in that context is "/n/" ("oxen" and not "/iz/" (*oxes). In this way,

we may say that "/iz/" presupposes the presence of a "plereme-base" whose phonological form ends in a hissing or hushing phoneme but not vice versa. In fact, the sign identity of the "plereme-base" is always a relevant factor in determining the appropriate allomorph of the "Plural"-moneme in that context. This underlies the essentially grammatical (as opposed to phonological) status of the distribution of the allomorphs of the "Plural"-moneme. If we choose to set aside "special cases" like "oxen", "men", "mice", "feet", etc., we may still speak -- informally, that is -- of the allomorphs of the "Plural"-moneme as being phonologically conditioned, although, in actual fact, such phonological conditioning is, even so, only one-sided (i.e. enables one to formulate necessary conditions, but not sufficient ones). Thus, once the "special cases" are set aside, for the remaining cases, phonologically conditioned rules may be formulated. These rules may be summed up as follows:

(i) If and only if a "plereme-base" has a form whose final phoneme is a hissing or a hushing one, the appropriate allomorph of the "Plural"-moneme in that context is "/iz/" :e.g. "fox"/"foxes", "prize"/"prizes", "ditch"/"ditches", "torch"/"torches", "cage"/"cages", etc.

(ii) If and only if a "plereme-base" has a form whose final phoneme/archiphoneme belongs to the nasal correlation (i.e. n, m, ŋ), or is a vowel or a semi-vowel, or /l/ immediately preceded by a vowel or a semi-vowel, the appropriate allomorph of the "Plural"-

moneme in that context is "/z/": e.g. "sin"/"sins", "ram"/"rams", "eye"/"eyes", "boy"/"boys", "butcher"/"butchers", "mole"/"moles", "pole"/"poles", etc.

(iii) If and only if a "plereme-base" has a form whose final phoneme is one of the voiced-unvoiced correlation or an archiphoneme whose terms belong to that correlation, the appropriate allomorph of the "Plural"-moneme in that context is "/S/": e.g. "wig"/"wigs", "pig"/"pigs", "roads", "cab"/"cabs", "tap"/"taps", "rat"/"rats", "bank"/"banks", etc. Taking, for instance, the complex plereme "banks" to be a simultaneous bundle of

- (a) the moneme "bank" represented by the allomorph "/bank/", and
- (b) the "Plural"-moneme,

entails describing the allomorph of the "Plural"-moneme in that context (i.e. in the context "bank") as having the phonological form /S/ and not /z/. In this way, the allomorph of the "Plural"-moneme in context with "bank" is represented by the archiphoneme /S/ which results from the suspension of opposition (neutralization) between /s/ and /z/ in the context /k/ (of the correlation voiced-unvoiced). Note that archiphoneme is a phoneme resulting from the regular suspension (neutralization) of a specific opposition between two or more phonemes that have a particular set of distinctive features in common. Thus, for instance, the opposition of voiced-unvoiced in English is neutralized in phonemes occurring after voiced or unvoiced phonemes. In this way, occurring after /s/

(an unvoiced phoneme) the opposition between (voiced) /b/ and (unvoiced) /p/ is suspended. The resulting element is an archi-phoneme /P/ (with the features /labial/, /occlusive/), viz. /sPir/, /lisP/, etc.

In the case of representing the allomorph of the "Plural"-moneme in context with "band", "tent", etc. as a replacive proper, the following observations may be made.

It is interesting to note that occlusives, when immediately preceded by a nasal and immediately succeeded by a hissing or hushing phoneme, lose their distinctive function (i.e. they become "parasitic"). This entails describing the allomorph representing the "Plural"-moneme in context with "plereme-bases" whose form, when occurring in isolation, terminates in a nasal succeeded by an occlusive, as a replacive proper: e.g.

"/band/" R "Plural" = "/banz/" (i.e. the allomorph representing the "Plural"-moneme in that context has the phonological form /z ~ d/),

"/tent/" R "Plural" = "/tens/" (i.e. the allomorph representing the "Plural"-moneme in that context has the phonological form /t ~ s/),

"/sTaNP/" R "Plural" = "/sTams/" (i.e. the allomorph representing the "Plural"-moneme in that context has the phonological form /s ~ P/),

etc.

It must be remembered that the allomorphs of the "Plural"-moneme are not, with regard to distribution, in "perfect" contextual variance. Thus, for instance, taking "/iz/" and "/ai ~ rs/" to be combinatory (contextual) variants of the "Plural"-moneme in context with "horse" and "alumnus", respectively, we find that these two allomorphs are in mixed variance in, say, the context "cactus" (e.g. "I have planted some cactuses / cacti in my garden"). We may also note that the form /ai ~ rs/ is the result of wholesale borrowing from Latin.

CHAPTER X

THE "PAST"-MONEME

The aim of this chapter is to hypothesise the identity of the "Past"-moneme. The hypothesis tentatively advanced takes the form that each member of the set of complex pleremes presented in the table below is a combination of a plereme-base and the tentative "Past"-moneme.

TABLE

The identity hypothesis concerning the "Past"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "past occurrence of x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/id/"	(to fold), <u>etc.</u>	"folded"
"/d/"	(to supply), <u>etc.</u>	"supplied"
"/T/"	(to skip), <u>etc.</u>	"skipped"
"/t/"	(to dwell),	"dwelt"
	(to burn),	"burnt"
	(to smell),	"smelt"
	(to spell),	"spelt"
	(to spoil).	"spoilt"

(b) Replacive Proper

"/t ~ P/"	(to stamp), <u>etc.</u>	"stamped"
"/t ~ d/"	(to bend),	"bent"
	(to spend),	"spent"
	(to blend),	"blent"
	(to build),	"built"
	(to lend),	"lent"
	(to send),	"sent"
	(to rend).	"rent"
"/i ~ ai/"	(to bite),	"bit"
	(to slide),	"slid"
	(to chide),	"chid"
	(to backbite),	"backbit"
	(to hide).	"hid"
"/R ~ O/"	(to grow),	"grew"
	(to blow),	"blew"
	(to outgrow),	"outgrew"
	(to throw),	"threw"
	(to overthrow)	"overthrew"
"/O ~ R/"	(to choose)	"chose"
"/Ru ~ ɔr/"	(to draw),	"drew"
	(to withdraw),	"withdrew"
	(to overdraw).	"overdrew"

"/ei ~ i/"

(to give), "gave"
(to forgive), "forgave"
(to misgive), "misgave"
(to forbid), "forbade"

"/r ~ i/"

(to cling), "clung"
(to dig), "dug"
(to fling), "flung"
(to sling), "slung"
(to slink), "slunk"
(to sting), "stung"
(to swing), "swung"
(to win), "won"
(to wring), "wrung"

"/a ~ i/"

(to swim), "swam"
(to drink), "drank"
(to sing), "sang"
(to sit), "sat"
(to shrink), "shrank"
(to spin), "span"
(to spring), "sprang"
(to ring), "rang"
(to sink), "sank"
(to spit), "spat"

"/o ~ e/"

(to get),	"got"
(to forget),	"forgot"
(to beget),	"begot"
(to tread),	"trod"
(to bear),	"bore"
(to tear),	"tore"
(to wear),	"wore"
(to forbear),	"forbore"
(to forswear)	"forsook"
(to swear)	"swore"
(to overbear),	"overbore"
(to outbear).	"outbore"

"/e ~ Ri/"

(to feed),	"fed"
(to bleed),	"bled"
(to lead),	"led"
(to breed),	"bred"
(to mislead),	"misled"
(to meet),	"met"
(to eat),	"ate"
(to read),	"read"
(to speed).	"sped"

"/Qu ~ ai/"

(to drive),	"drove"
(to arise),	"arose"
(to rise),	"rose"
(to ride),	"rode"

	(to smite),	"smote"
	(to stride),	"strode"
	(to thrive),	"throve"
	(to override),	"overrode"
	(to strive),	"strove"
	(to write),	"wrote"
	(to underwrite),	"underwrote"
	(to shrive),	"shrove"
	(to abide).	"abode"
"/O <u>u</u> ~ e <u>i</u> /"	(to break),	"broke"
	(to wake),	"woke"
	(to awake),	"awoke"
"/O <u>u</u> ~ R <u>i</u> /"	(to speak),	"spoke"
	(to bespeak),	"bespoke"
	(to steal),	"stole"
	(to freeze),	"froze"
	(to weave),	"wove"
	(to cleave).	"clove"
"/u ~ i/"	(to find),	"found"
	(to wind),	"wound"
	(to bind),	"bound"
	(to grind).	"ground"

"/u ~ ɛi/"	(to take),	"took"
	(to overtake),	"overtook"
	(to partake),	"partook"
	(to undertake),	"undertook"
	(to betake),	"betook"
	(to mistake),	"mistook"
	(to forsake),	"forsook"
	(to shake).	"shook"
"/d ~ i/"	(to say),	"said"
	(to gainsay).	"gainsaid"
"/d ~ k/"	(to make)	"made"
"/Ru ~ ɹai/"	(to fly)	"flew"
"/Ru ~ ɛi/"	(to slay)	"slew"
"/or ~ Ri/"	(to see),	"saw"
	(to oversee),	"oversaw"
	(to foresee).	"foresaw"
"/or ~ ai/"	(to fight)	"fought"
"/ɛi ~ ɹai/"	(to lie) ¹	"lay"
"/ɛi ~ r/"	(to come),	"came"
	(to become),	"became"
	(to overcome).	"overcame"

¹Not to be confused with the homonym "to lie" (roughly, "to tell a falsehood") which selects the suffix "/d/"

"/d ~ v _U z/" ¹	(have/has)	"had"
"/iR ~ O/"	(to know)	"knew"
"/r ~ ai/"	(to strike)	"struck"
"/r ~ a/"	(to hang) ² ,	"hung"
	(to overhang).	"overhung"
"/a ~ r/"	(to run),	"ran"
	(to overrun).	"overran"
"/o ~ Ru/"	(to shoot),	"shot"
	(to overshoot).	"overshot"
"/o ~ ai/"	(to shine),	"shone"
	(to outshine).	"outshone"
"/e ~ or/"	(to fall),	"fell"
	(to befall).	"befell"
"/e ~ Ou/"	(to hold),	"held"
	(to behold),	"beheld"
	(to withhold).	"withheld"
"/u ~ an/"	(to understand),	"understood"
	(to stand),	"stood"
	(to withstand),	"withstood"
	(to misunderstand).	"misunderstood"

¹The sign "U" is to be read as "either or"

²Not to be confused with the homonym "to hang" (roughly, "to suspend or be suspended by the neck until dead") which selects the suffix "/T/".

(c) Scattered Replacive/Subtractive

"/or ~ Ri...ϕ ~ Š/"	(to teach),	"taught"
	(to beseech).	"besought"
"/or ~ a...ϕ ~ Š/"	(to catch)	"caught"

(d) Contiguous

"/i ~ Ru _V d/"	(to do), <u>etc.</u>	"did"
"/e ~ Ei _V d/"	(to flee)	"fled"
"/o ~ Ru _V d/"	(to shoe)	"shod"
"/os ~ Ruz _V T/"	(to lose)	"lost"
"/ef ~ Riv _V T/"	(to leave)	"left"
"/or ~ Ri _V t/"	(to seek)	"sought"
"/or ~ ai _V t/"	(to buy)	"bought"
"/or ~ in _V t/"	(to bring)	"brought"
"/or ~ iNK _V t/"	(to think),	"thought"
	(to bethink).	"bethought"

(e) Non-contiguous

"/e ~ Ri... T/"	(to sleep),	"slept"
	(to oversleep),	"overslept"
	(to sweep),	"swept"
	(to keep),	"kept"
	(to weep),	"wept"
	(to creep),	"crept"
	(to leap)	"leapt"
	(to overleap).	"overleapt"

"/e ~ Ri... t/"	(to feel),	"felt"
	(to deal),	"dealt"
	(to kneel),	"knelt"
	(to misdeal),	"misdealt"
	(to mean),	"meant"
	(to lean),	"leant"
	(to dream).	"dreamt"
"/r ~ i... d/"	(to hear),	"heard"
	(to overhear).	"overheard"
"/O _u ~ e... d/"	(to tell),	"told"
	(to foretell),	"foretold"
	(to sell),	"sold"
	(to undersell).	"undersold"

(f) Zero-form

∅

(to put),	"put"
(to beat),	"beat"
(to cut),	"cut"
<u>etc.</u>	

(g) Amalgamation

"/uent ~ gO _u /"	(to go)	"went"
"/urr ~ ar/"	(are)	"were"
"/uoz ~ iz _U am/"	(is/am)	"was"

DISCUSSION

The hypothesis tentatively advanced -- identifying the "Past"-moneme in the set of complex pleremes in the table above-- seems to hold the promise of adequacy with regard to the additional criterion of full recoverability of denotations. Thus, for instance, taking the overall denotation of the complex plereme "folded" to be more or less equivalent to "past performance of the act of folding", we find that this denotation is recoverable only on the hypothesis that the complex in question is a combination of (a) the "plereme-base" (to fold), having the normal denotation attributed to this sign in such contexts as "she folds the napkins after every meal", and (b) the tentative "Past"-moneme represented by the allomorph "/id/" and having a denotational contribution equatable with "past occurrence of x".

In this way, the overall denotation emerges out of an interplay between the denotation of the "Past"-moneme and the activity designated by the appropriate "plereme-base": e.g. (to supply) / "supplied", (to bite) / "bit", (to give) / "gave", (to go) / "went", (is) / "was", (are) / "were", etc. In the case of complex pleremes like "went", "were", etc., the following observations may be made.

Taking the complex plereme "went" to be a simultaneous bundle of the moneme "to go" (represented in other contexts by the allomorph "/gOu/") and the "Past"-moneme (represented in other

contexts by the allomorph "/d/"), we might say that

- (a) the allomorph of moneme "to go" in context with the "Past"-moneme is represented by a replacive having the phonological form /uent ~ gOu/, and
- (b) the allomorph of the "Past"-moneme is represented by a replacive having the phonological form /uent ~ d/.

But in the context "went" ("/uent/") the realization of the signs "to go" and "Past" co-incide in one phonological form /uent/, in which case we cannot separate out the discrete correlates of "to go" from those of "Past" -- viz. "amalgamation" -- simply because the two replacives (i.e. /uent ~ gOu/ and /uent ~ d/) are manifested at the same place in linear sequence in the same phonological form /uent/.

The sign "to be" in English is conceived of as a class of four allomorphs having the phonological forms /bRi/, /am/, /iz/, and /ar/ in such contexts as

- (i) Our visitors will be here soon
- (ii) I am ready to go
- (iii) Susan is in the kitchen
- (iv) The boys are in the garden .

Taking, for instance, the complex plereme "was" (in, say, "Susan was in the kitchen" as opposed to "Susan is in the kitchen") to be a simultaneous bundle of

- (a) the moneme "to be" represented in other contexts by the allomorph "/iz/", and

(b) the "Past"-moneme represented in other contexts by the allomorph "/T/",

we might describe the complex plereme in question (i.e. "was") as the amalgamated realization of the sign "to be" ("/iz/") and the sign "Past" ("/T/"). In this way, the allomorph of the sign "to be" ("/iz/") in context with "Past" may be said to manifest itself as a differential between /iz/ and /uoz/, while the allomorph of the sign "Past" may be conceived of as the replacement of /T/ by /uoz/. This boils down to saying that

(a) the allomorph of the sign "to be" in context with "Past" is represented as a replacive having the phonological form /uoz ~ iz/, and

(b) the allomorph of "Past" is represented as a replacive, having the phonological form /uoz ~ T/.

But in the context "was" ("/uoz/") the realization of the signs "to be" and "Past" co-incide in one phonological form /uoz/. A similar solution holds for "were" vs. "are" (e.g. "the boys were in the garden" as opposed to "the boys are in the garden"). For the sake of convenience, however, the allomorphs of the "Past"-moneme in context with "to be" may be represented as follows (with the sign "U" to be read as "either or"):

"/uoz ~ iz_U am/"
"/urr ~ ar/".

In the case of "have" vs. "had", on the one hand, and "has" vs. "had", on the other, a different consideration holds. The sign

"to have" is conceived of as a class of two allomorphs, namely "/hav/" and "/haz/". The "Past"-moneme in context with "to have" may be described as a replacive having the phonological form /d ~ v_U z/, i.e. "/d ~ v/" (have/had) and "/d ~ z/" (has/had).

It is interesting to note that the "Past"-moneme may occur in the context of monomonematic "plereme-bases" (e.g. "to fold"/"folded", "to skip"/"skipped", etc.) as well as poly-monematic ones. Thus, for instance, taking the complex plereme "falsified" to be a simultaneous bundle of three moneme, namely

(a) the moneme "false" represented by the allomorph "/forls/",

(b) the "Convertive"-moneme (cf. Chapter XII) represented by the allomorph "/ifai/", and

(c) the "Past"-moneme represented by the allomorph "/d/", entails describing the plereme-base of the complex in question as constituted by the moneme "false" and the "Convertive"-moneme, in which case neither of these two moneme commutes, one at a time, with zero within the complex plereme "falsified". In this way, the complex plereme "falsified" may be represented as follows:

"(false "Convertive") + "Past"-moneme"

DISTRIBUTION

With regard to distribution, the allomorphs of the "Past"-moneme (like those of the "Plural"-moneme discussed in the preceding chapter) may be said to be partially phonologically

conditioned in that such phonological conditioning enables one to formulate necessary conditions but not sufficient ones. Thus, for instance, although the necessary condition

"only if a plereme-base has a form whose final phoneme is /d/, /t/ or /T/ may "/id/" be the appropriate allomorph of the "Past"-moneme in that context"

holds in all cases (e.g. "to fold" / "folded", "to melt" / "melted", etc.)

we lack a sufficient condition for predicting in purely phonological

terms the precise set of contexts in which the "Past"-moneme

is represented by "/id/" (e.g. "to feed" is not one of these contexts).

If we choose to set aside "special cases" like "fed", "grew", "bit", etc.,

for the remaining cases phonologically conditioned rules may be

formulated. These rules may be formulated as follows:

(i) If and only if a plereme-base has a form whose final phoneme is /d/, /t/ or /T/, the appropriate allomorph of the "Past"-moneme in that context is "/id/": e.g. (to scold) / "scolded", (to melt) / "melted", (to drift) / "drifted", etc.

(ii) If and only if a plereme-base has a form whose final phoneme/archiphoneme is of the nasal correlation (i.e. n, m, ŋ), a vowel, a semi-vowel, or /l/ immediately preceded by a vowel or a semi-vowel, the appropriate allomorph of the "Past"-moneme in that context is "/d/": e.g. (to fine) / "fined", (to try) / "tried", (to till) / "tilled", etc. Note the similarity in the conditioning for "/d/" (Past) and "/z/" (Plural). Another similarity in

conditioning may also be noted between "/T/" (Past) and "/S/" (Plural) -- see below.

(iii) if and only if a plereme-base has a form whose final phoneme is one of the voiced-unvoiced correlation or an archi-phoneme whose terms belong to that correlation, the appropriate allomorph of the "Past"-moneme in that context is "/T/": e.g.

(to skip) / "skipped", (to rob) / "robbed", (to shriek) / "shrieked", (to mix) / "mixed", (to brush) / "brushed", etc.

(iv) If and only if a plereme-base has a form ending in the phoneme sequence /NP/, the appropriate allomorph of the "Past"-moneme in that context is "/t ~ P/": e.g.

(to camp) . "/kaNP/" vs "/kamt/"

(to stamp) "/sTaNP/" vs "/sTamt/"

etc.

As a further remark to the distribution of the allomorphs of the "Past"-moneme, it is interesting to note that these allomorphs are not in "perfect" contextual variance. Thus, for instance, taking "/id/" and "/t ~ d/" to be combinatory (contextual) variants of the "Past"-moneme in the context (to fold) and (to spend), respectively, we find that these two allomorphs are in mixed variance in the context (to blend), i.e. "blended"/"blent". The extent of mixed variance between alternative allomorphs of the "Past"-moneme may be seen from the following tabulation:

between the alternative allomorphs	in the context
"/i ~ ai/" and "/id/"	(to chide) and (to light).
"/d/" and "/t/"	(to burn), (to smell), (to spell), and (to spoil).
"/a ~ i/" and "/ei ~ i/"	(to forbid).
"/r ~ i/" and "/a ~ i/"	(to stink), (to spin), and (to shrink).
"/e ~ Ri/" and "/id/"	(to speed).
"/Ou ~ ai/" and "/T/"	(to thrive) and (to shrive).
"/Ou ~ ai/" and "/id/"	(to abide).
"/e ~ Ri... t/" and "/d/"	(to dream) and (to lean).
"/id/" and \emptyset	(to broadcast), (to bet), and (to forecast).

CHAPTER XI

THE "PERFECTIVE"-MONEME

In what follows, I propose to hypothesise the identity of the "Perfective"-moneme. The hypothesis tentatively advanced takes the form that each member of the set of complex pleremes presented in the table below is a combination of a plereme-base and the tentative "Perfective"-moneme.

TABLE

The identity hypothesis concerning the "Perfective"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "being in state resulting from having undergone x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/id/"	(to import), <u>etc.</u>	"imported"
"/d/"	(to confuse), <u>etc.</u>	"confused"
"/T/"	(to brush), <u>etc.</u>	"brushed"
"/n/"	(to beat), <u>etc.</u>	"beaten"
"/t/"	(to burn),	"burnt"
	(to spoil),	"spoilt"

	(to spell),	"spelt"
	(to spill),	"spilt"
	(to learn).	"learnt"
 (b) <u>Replacive Proper</u>		
"/t ~ d/"	(to build), <u>etc.</u>	"built"
"/t ~ P/"	(to stamp), <u>etc.</u>	"stamped"
"/r ~ i/"	(to spin), <u>etc.</u>	"spun"
"/e ~ Ri/"	(to breed), <u>etc.</u>	"bred"
"/d ~ k/"	(to make)	"made"
"/d ~ i/"	(to say)	"said"
"/r ~ ai/"	(to strike)	"struck"
"/r ~ a/"	(to hang),	"hung"
	(to overhang).	"overhung"
"/i ~ ai/"	(to light)	"lit"
"/o ~ Ru/"	(to shoot)	"shot"
"/o ~ ai/"	(to shine),	"shone"
	(to outshine)	"outshone"
"/e ~ Ou/"	(to hold),	"held"
	(to behold),	"beheld"
	(to withhold).	"withheld"
"/u ~ i/"	(to grind),	"ground"
	(to wind),	"wound"
	(to find),	"found"
	(to bind).	"bound"

"/or ~ ai/"	(to fight)	"fought"
"/u ~ an/"	(to understand),	"understood"
	(to stand),	"stood"
	(to withstand),	"withstood"
	(to misunderstand).	"misunderstood"

(c) Scattered Replacive/Subtractive

"/or ~ Ri...ϕ ~ Š/"	(to teach),	"taught"
	(to catch),	"caught"
	(to beseech).	"besought"

(d) Contiguous

"/ou ~ ai _v n/"	(to fly)	"flown"
"/ei ~ ai _v n/"	(to lie)	"lain"
"/r ~ Ru _v n/"	(to do)	"done"
"/or ~ ai _v t/"	(to buy)	"bought"
"/or ~ Ri _k /"	(to seek)	"sought"
"/or ~ in _v t/"	(to bring)	"brought"
"/or ~ iNK _v t/"	(to think),	"thought"
	(to bethink).	"bethought"
"/e ~ Ri _v d/"	(to flee)	"fled"
"/o ~ Ru _v d/"	(to shoe)	"shod"
"/os ~ Ru _v T/"	(to lose)	"lost"
"/ef ~ Ri _v T/"	(to leave),	"left"
	(to bereave),	"bereft"
	(to cleave).	"cleft"

(e) Non-contiguous

"/i ~ ai... n/"	(to drive), <u>etc.</u>	"driven"
"/o ~ e... n/"	(to tear), <u>etc.</u>	"torn"
"/r ~ i... d/"	(to hear),	"heard"
	(to overhear).	"overheard"
"/O <u>u</u> ~ e... d/"	(to sell),	"sold"
	(to tell),	"told"
	(to foretell),	"foretold"
	(to undersell).	"undersold"
"/e ~ Ri... T/"	(to sweep),	"swept"
	(to keep).	"kept"
	(to sleep),	"slept"
	(to oversleep),	"overslept"
	(to weep),	"wept"
	(to creep),	"crept"
	(to leap),	"leapt"
	(to overleap).	"overleapt"
"/e ~ Ri... t/"	(to feel),	"felt"
	(to deal),	"dealt"
	(to misdeal),	"misdealt"
	(to kneel),	"knelt"
	(to mean),	"meant"
	(to lean),	"leant"
	(to dream).	"dreamt"

"/Ou ~ Ru... n/"	(to choose)	"chosen"
"/Ou ~ Ri... n/"	(to steal),	"stolen"
	(to speak),	"spoken"
	(to bespeak),	"bespoken"
	(to freeze),	"frozen"
	(to weave),	"woven"
	(to cleave).	"cloven"
"/Ou ~ e... n/"	(to swell)	"swollen"
"/Ou ~ ei... n/"	(to break),	"broken"
	(to wake).	"woken"
 (f) <u>Zero-form</u>		
∅	(to split), <u>etc.</u>	"split"

DISCUSSION

The hypothesis that each member of the set of complex pleremes presented in the table above is a combination of a plereme-base and the tentative "Perfective"-moneme seems to hold the promise of adequacy with regard to the additional criterion of recoverability of denotations. Thus, for instance, taking the overall denotation of the complex plereme "imported" (in such contexts as

"imported goods") to be more or less equivalent to "goods that have been imported", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (to import), having the normal denotation attributed to this sign in such contexts as "the government imports huge amounts of wheat every year", and
- (b) the tentative "Perfective"-moneme represented by the allomorph "/id/" and having a denotational contribution equatable with "being in state resulting from having undergone x".

In this way, the overall denotation emerges out of an interplay between the denotation of the "Perfective"-moneme and the process designated by the denotation of the appropriate "plereme-base": e.g. (to confuse) / "confused", (to sweep) / "swept", (to brush) / "brushed", etc.

Attention may be drawn here to the occurrence of the "Perfective"-moneme with poly-monematic plereme-bases. Thus, for instance, taking the complex plereme "falsified" (as in, say, "falsified reports") to be a simultaneous bundle of three monemes, namely

- (a) the moneme "false" represented by the allomorph "/forls/",
- (b) the "Convertive"-moneme (cf. next chapter) represented by the allomorph "/ifai/", and
- (c) the "Perfective"-moneme represented by the allomorph "/d/".

we find that the plereme-base of the complex in question, namely (falsify), contains as its constituents the moneme "false" and the "Convertive"-moneme, in which case neither of these two monemes commutes, one at a time, with zero within the complex plereme "falsified". In other words, the moneme "false" and the "Convertive"-moneme may be conceived of as the plereme-base of the complex plereme "falsified". In this way, the complex plereme in question may be represented as follows:

"(false $\boxed{\text{"Convertive"}}$) + $\boxed{\text{"Perfective"-moneme}}$ ".

DISTRIBUTION

The allomorphs of the "Perfective"-moneme (like those of the "Plural" and "Past" monemes), may, with regard to distribution, be said to be partially phonologically conditioned. It is interesting to note that the phonologically conditioned rules formulated for the allomorphs of the "Past"-moneme -- namely the suffixes "/id/", "/d/" and "/T/" and the replacive proper "/t ~ P/" -- also hold with regard to the distribution of the allomorphs "/id/", "/d/", "/T/" and "/t ~ P/" of the "Perfective"-moneme. I shall, therefore, refrain from spelling out these "rules" as their inclusion would be repetitious.

CHAPTER XII

THE "CONVERTIVE"-MONEME

In this chapter, I propose to hypothesise the identity of the "Convertive"-moneme to account for the whole range of "morphological expansions" in the set of complex pleremes presented in the table below. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations.

The table, in terms of which my hypothesis is formulated, runs as follows:

TABLE

The identity hypothesis concerning the "Convertive"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "change to a state of being x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/aiz/"	(legal), <u>etc.</u>	"legalize"
"/isaiz/"	(myth)	"mythicize"
"/ifai/"	(false), <u>etc.</u>	"falsify"
"/n/"	(sweet), <u>etc.</u>	"sweeten"

(b) Prefix

"/in/"	(large), <u>etc.</u>	"enlarge"
"/bi/"	(numb)	"benumb"

(c) Replacive Proper

"/aiz ~ izm/"	(Mohammedanism", <u>etc.</u> "Mohammedanize"	
"/aiz ~ it/"	(legitimate)	"legitimize"
"/aiz ~ iti/"	(Christianity)	"Christianize"
"/faid ~ d/"	(tepid)	"tepefy"
"/ai ~ l/"	(beautiful)	"beautify"
"/n ~ t/"	(moist),	"moisten"
	(soft).	"soften"

(d) Non-contiguous

"/r ~ ar... aiz/"	(Islam)	"Islamize"
"/r ~ o... ifai/"	(solid)	"solidify"
"/e ~ o... e/"	(strong),	"strengthen"
	(long).	"lengthen"
"/φ ~ r... taiz/"	(drama)	"dramatize" ¹

(e) Subtractive

φ ~ "/r/"	(perfect)	"perfect"
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¹Not to be confused with the homonym "dramatize" (roughly, "to express something in an exaggerated way") which is not analysable due to its semantic specialisation.

DISCUSSION

The hypothesis tentatively advanced -- identifying the "Convertive"-moneme in each member of the set of complex pleremes in the table above -- seems to hold the promise of adequacy with regard to the additional criterion of recoverability of denotations. Thus, for instance, taking the overall denotation of the complex plereme "legalize" to be more or less equivalent to "make legal", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (legal), having the normal denotation attributed to this sign in such contexts as "he is a legal emigrant", and
- (b) the tentative moneme -- which I have labelled the "Convertive"-moneme -- represented by the allomorph "/aiz/" and having a denotational contribution equatable with "change to a state of being x".

The overall denotation emerges, thus, out of an interplay between the denotation of the "Convertive"-moneme and the designation of the appropriate "plereme-base": e.g. (myth) / "mythicize", (sweet) / "sweeten", (large) / "enlarge", etc.

It is interesting to note that the treatment, for instance, of the complex plereme "enlarge" as a combination of

- (a) the "plereme-base" (large), represented by the allomorph "/lardʒ/", and

(b) the "Convertive"-moneme,

entails describing the allomorph representing the "Convertive"-moneme in that context as a prefix having the phonological form /in/ .

Attention may be drawn at this point to the fact that the absence of a constant denotation of the element conventionally represented as en- (/in/) in pleremes like "encase", "enfold", "enmesh", "ensnare", "enthrone", etc. entails describing these pleremes as unanalysable (pseudo-composites).

DISTRIBUTION

The "Convertive"-moneme has a relatively a limited morphological distribution.

Allomorphs of the "Convertive"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/aiz/"	(legal), (urban), (commercial), (novel), (serial), (standard), (fossil), <u>etc.</u>
"/ifai/"	(false), (intense), (diverse), (simple), (null), (rare), (pure), and (humid).
"/n/"	(sweet), (short), (sharp), (weak), (damp), (wide), (broad), (deep), (mad), (mild),

(hard), (black), (deaf), (stiff), (fresh),
(slack), (thick), (quick), (dark), (coarse),
(cheap), (hoarse), (loose), (less), (tight),
(bright), (smart)¹, (fat), and (smooth).

Prefix

"/in/"

(large), (able), (feeble), and (rich)².

Replacive Proper

"/aiz ~ izm/"

(Mohammedanism), (Catholicism),
(Judaism), (Puritanism), (euphemism), etc.

¹Not to be confused with the homonym "smart" (clever) which does not select the suffix "/n/".

²Note that the prefix "/in/" cannot occur in the context of the homonym "rich" (roughly, "well supplied with wealth or property").

CHAPTER XIII

THE "PRIVATIVE"-MONEME

The aim of this chapter is to hypothesise the identity of the "Privative"-moneme to account for the whole range of "morphological expansions" in the set of complex pleremes presented in the table below. The hypothesis tentatively advanced is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotations.

TABLE

The identity hypothesis concerning the "Privative"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "lacking x":

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/les/" ¹	(hat), <u>etc.</u>	"hatless"
(b) <u>Replacive Proper</u>		
"/les ~ z/"	(scissors),	"scissorless"
	(trousers).	"trouserless"

¹The upper limit of distinctive realization seems to be in the range of [ɛ] not [i], though in fluent speech characteristic under-articulations [i] and [ə].

DISCUSSION

The hypothesis tentatively advanced in the table above seems to satisfy the promise of adequacy with regard to the additional criterion of recoverability of denotations. Thus, for instance, taking the overall denotation of the complex plereme "hatless" to be more or less equivalent to "without a hat", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (hat), having the normal denotation attributed to this sign in such contexts as "he is wearing a hat", and
- (b) the tentative moneme -- which I have labelled the "Privative"-moneme -- represented by the allomorph "/les/" and having a denotational contribution equatable with "lacking x".

In this way, the overall denotation emerges out of an interplay between the denotation of the "Privative"-moneme and the designation of the appropriate "plereme-base": e.g. (father) / "fatherless", (mother) / "motherless", (tree) / "treeless", etc.

DISTRIBUTION

The "Privative"-moneme, as can be seen from the table below, has a wide morphological distribution -- it is highly productive in that the range of plereme-bases with which it occurs covers a

substantial part of the class of "substantives". It is interesting to note that the "Privative"-moneme may occur in the context of monomonematic "plereme-bases" (e.g. "hat"/"hatless", "father"/"fatherless", etc.) as well as poly-monematic ones. Thus, for instance, taking the complex plereme "actorless" to be a simultaneous bundle of three monemes, namely

- (a) the moneme "to act" represented in other contexts by the allomorph "/akT/",
- (b) the "Participant"-moneme (cf. Chapter II) represented by the allomorph "/r/"; and
- (c) the "Privative"-moneme represented by the allomorph "/les/".

entails describing the moneme "to act" and the "Participant"-moneme as the "plereme-base" of the complex plereme "actorless", in that neither of these two pleremes commutes, one at a time, with zero within the complex plereme in question (i.e. within "actorless"). In this way, the complex plereme "actorless" may be represented as follows:

"(to act $\boxed{\text{"Participant"}}$) + $\boxed{\text{"Privative"-moneme}}$ ".

Attention is drawn to the fact that the "Privative"-moneme does not occur in the context of "plereme-bases" containing the "State"-moneme (represented by the allomorphs "/nes/" and "/iti/")¹ as one of their constituents: e.g.

¹Note that the allomorph "/les/" of the "Privative"-moneme may occur in the context of plereme-bases whose allomorphs have phonological forms terminating in the phoneme sequence /nes/: e.g. (witness) / "witnessless", etc.

"(happy) R["State"] = "happiness" but not *"happinessless"

"(stable) R["State"] = "stability" but not *"stabilityless"

etc.

Allomorphs of the "Privative"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/les/"	(hat), (hood), (gate), (hair), (father), (mother), (act [or]), <u>etc.</u>
<u>Replacive Proper</u>	
"/les ~ z/"	(scissors) and (trousers).

CHAPTER XIV

THE "MANNER"-MONEME

I what follows, I propose to hypothesise the identity of the "Manner"-moneme to account for the whole range of "morphological expansions" in the set of complex pleremes presented in the table below.

TABLES

The identity hypothesis concerning the "Manner"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "in manner x":

Type of Allomorph	Context	Complex Plereme
<hr/>		
(a) <u>Suffix</u>		
"/li/"	(slow), <u>etc.</u>	"slowly"
"/i/"	(favourable), <u>etc.</u>	"favourably"
(b) <u>Zero-form</u>		
∅	(fast), <u>etc.</u>	"fast"
(c) <u>Amalgamation</u>		
"/uel ~ gud/"	(good)	"well"

DISCUSSION

The hypothesis tentatively advanced in the table above hardly requires any justification. In general linguistic terms, the treatment of constructions like "slowly", "quickly", etc. as morphologically complex seems to be an orthodox solution¹. As it is my explicit intention -- by fiat -- to place additional emphasis on considerations of adequation with regard to recoverability of denotations alongside with commutational, formal and distributional criteria for moneme-identity, the orthodox solution of treating "slowly", "quickly", etc. as morphologically complex constructions also recommends itself to the present description. In this way, I have taken the position that, for instance, the complex plereme "slowly" is a combination of the "plereme-base" (slow) and the tentative moneme which I have labelled the "Manner"-moneme. The denotational contribution of this tentative moneme may be imagined to be equivalent to "in manner x". The overall denotation emerges, thus, out of an interplay between the denotation of the "Manner"-moneme and the quality designated by the appropriate "plereme-base": e.g. (bad) / "badly", (eager) / "eagerly", etc.

¹It may be suggested that items containing the form "-ly" like "slowly" "quickly", etc. are allomorphic contextual/positional variants of the signs "slow", "quick", etc., respectively. In the present description, however, I have taken the position that, in the final analysis, the items in question are morphologically complex on the understanding that there is a denotational difference between, say, "slow" and "slowly" which, at the same time, is accompanied by a commutationally isolatable form, namely "-ly" -- this correlation between a "constant" form and a "constant" denotation suggests that priority should be given to treating "-ly" as a sign and not as part of an allomorph.

Attention may be drawn at this point to the fact that the "Manner"-moneme occurs in the context of monomonematic plereme-bases (e.g. "bad" / "badly", "slow" / "slowly", etc.) as well as poly-monematic ones. Thus, for instance, taking the complex plereme "traditionally" to be a simultaneous bundle of three monemes, namely

- (a) the moneme "tradition" represented by the allomorph "/trɔ̃diʃn/",
- (b) the "Characterizer"-moneme (cf. Chapter VI) represented by the allomorph "/l/", and

(c) the "Manner"-moneme represented by the allomorph "/i/", entails describing the moneme "tradition" and the "Characterizer"-moneme as constituting the plereme-base of the complex plereme in question, in that neither of these two monemes commutes, one at a time, with zero within the complex plereme "traditionally". In this way, the complex plereme "traditionally" may be represented as follows:

$$\text{"(tradition } \boxed{\text{"Characterizer"}} \text{) + } \boxed{\text{"Manner"-moneme}} \text{"}$$

DISTRIBUTION

The "Manner"-moneme has a very wide morphological distribution -- it is highly productive. The range of plereme-bases with which the "Manner"-moneme occurs covers almost the whole class of "adjectives".

Allomorphs of the "Manner"-Moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/li/"	(quick), (slow), (bad), (false), (vivid), (soft), (quiet), (vague), (foo [ish]), <u>etc.</u>
"/i/"	(favourable), (incredible), (compatible), (power [ful]), (tradition[al]), <u>etc.</u>

With an eye to distribution and to preserving the promise of adequacy with regard to the additional criterion of recoverability of denotations, it seems possible to treat, for instance, each of the constructions "well" (in, say, "he dresses well") and "fast" (in, say, "he runs fast"), etc. as a simultaneous bundle of two monemes:

$$\begin{aligned} & \text{"(good) R [\"Manner\"-moneme]} = \text{"well"} \\ & \text{and} \\ & \text{"(fast) R [\"Manner\"-moneme]} = \text{"fast"}. \end{aligned}$$

Such a treatment entails describing the allomorph representing the "Manner"-moneme in context with (good) as having the phonological form /uel ~ gud/, i.e. as an amalgamation allomorph. In the case of

$$\text{"(fast) R [\"Manner\"-moneme]} = \text{"fast"}$$

we may describe the allomorph representing the "Manner"-moneme in that context (i.e. in the context "fast") as having no overt phonological form, i.e. \emptyset .

CHAPTER XV

THE "ABODE"-MONEME

The aim of this chapter is to hypothesise the identity of the "Abode"-moneme to account for the whole range of "morphological expansions" in the set of complex pleremes presented in the table below.

TABLE

The identity hypothesis concerning the "Abode"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "place meant for being inhabited by x" :

Type of Allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/idʂ/"	(parson), <u>etc.</u>	"parsonage"
"/rri/"	(swan), <u>etc.</u>	"swannery"
"/srri/"	(lama)	"lamasery"
"/ri/"	(friar), <u>etc.</u>	"friary"

DISCUSSION

The hypothesis tentatively advanced in the table above satisfies formal, commutational and distributional criteria of moneme-identity alongside considerations of adequation with regard to the additional criterion of recoverability of denotations. Thus, for instance, taking the overall denotation of the complex plereme "parsonage" to be more or less equivalent to "the residence of a parson", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (parson), having the normal denotation attributed to this sign in such contexts as "our next-door neighbour is a parson", and
- (b) the tentative moneme -- which I have labelled the "Abode"-moneme -- represented by the allomorph "/idš/" and having a denotational contribution equatable with "place meant for being inhabited by x".

In this way, the overall denotation emerges out of an interplay between the denotation of the "Abode"-moneme and the designation of the appropriate "plereme-base": e.g. (vicar) / "vicarage", (hermit) / "hermitage", (friar) / "friary", etc.

DISTRIBUTION

As can be seen from the table below, the "Abode"-moneme has a limited morphological distribution -- it is not productive.

It is interesting to note that complex pleremes containing the "Abode"-moneme as one of their constituents (e.g. "parsonage", "vicarage", etc.) have attracted the coining of "teacherage" (residence of a teacher) in American English, but the plereme has not gained currency¹.

Allomorphs of the "Abode"-moneme

Type of Allomorph	Occurs in the context of the plereme-bases
<u>Suffix</u>	
"/idʒ/"	(parson), (hermit), (vicar), and (orphan).
"/rri/"	(nun), (swan), (owl), (frog), and (pig).
"/srri/"	(lama).
"/ri/"	(friar), (prior) and (rector).

¹ cf. Hugh Sebastian, "Teacherage", American Speech, 11 (1939) 271.

CHAPTER XVI

THE "DIRECTIONAL"-MONEME

In this chapter, I propose to hypothesise the identity of the moneme which, for reasons of convenience, I have labelled the "Directional"-moneme. The hypothesis tentatively advanced takes the form that each of the complex pleremes listed below is a combination of a plereme-base and the tentative "Directional"-moneme.

TABLE

The identity hypothesis concerning the "Directional"-moneme, having the formal variants listed below and being denotationally equivalent to the rough paraphrase "in direction x":

Type of allomorph	Context	Complex Plereme
(a) <u>Suffix</u>		
"/uṛd/"	(east), <u>etc.</u>	"eastward"
"/uṛdS/"	(home), <u>etc.</u>	"homewards"

DISCUSSION

The hypothesis tentatively advanced in the table above is partly motivated by the assumption that it will need to be specifically tested for recoverability of denotation. Thus, for instance, taking the overall denotation of the complex plereme "eastward" to be more or less equivalent to "towards the east", we find this denotation to be recoverable only on the hypothesis that the complex in question is a combination of

- (a) the "plereme-base" (east), having the normal denotation attributed to this sign in such contexts as "he wants to go east", and
- (b) the tentative moneme -- which I have labelled the "Directional"-moneme -- represented by the allomorph "/urđ/" and having a denotational contribution equivalent to that of "in direction x".

The overall denotation emerges, thus, out of an interplay between the denotation of the "Directional"-moneme and the designation of the appropriate "plereme-base": e.g. (sea) / "seaward", (down) / "downward", (home) / "homeward", etc.

DISTRIBUTION

The "Directional"-moneme is productive to a high degree, in that the range of plereme-bases with which it co-occurs covers a substantial part of the class of "substantives" and the whole class

of "locative particles" and "cardinal points": e.g.

"(sea) R ["Directional"-moneme] = "seaward"
"(home) R ["Directional"-moneme] = "homeward"
"(down) R ["Directional"-moneme] = "downward"
"(up) R ["Directional"-moneme] = "upward"
"(out) R ["Directional"-moneme] = "outward"
"(west) R ["Directional"-moneme] = "westward"
etc.

The allomorphs "/urd/" and "/urdS/" of the "Directional"-moneme are not, with regard to distribution, in "perfect" contextual variance. It is interesting to note that when a complex plereme containing the "Directional"-moneme as one of its constituents stands in the adjective position, the allomorph representing the "Directional"-moneme in that context may be described as having the phonological form /urd/ : e.g. "eastward wind" but not *"eastwards wind". On the other hand, when the complex plereme "eastward" occurs in the adverb position, the allomorph representing the "Directional"-moneme in that context may be either "/urd/" or "/urdS/" : e.g.

"he travels eastward"

OR

"he travels eastwards".

APPENDIX

The phonemic notation used throughout the text to represent the phonological manifestations of allomorphs is based on an Axiomatic Functionalist description of the phoneme system of English¹. To assist the reader in giving a phonetic interpretation to allomorphic statements throughout the thesis, this appendix gives tables listing the phonemes of English, together with their major phonetic realizations and examples from the data.

VOWELS

phonemes	phonetic realizations	examples
/a/	[a]	/kau/ ("cow")
	[æ]	/man/ ("man")
/e/	[ɛ]	/per/ ("pair")
	[e]	/seil/ ("sail")
/o/	[ɔ]	/pot/ ("pot")

¹ cf. J.W.F. Mulder, Sets and Relations in Phonology: an Axiomatic Approach to the Description of Speech, Oxford: Clarendon Press (1968), "Phoneme-tables and the Functional Principle" in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press (1980), and Mulder and Hurren, "The English Vowel Phonemes from a Functional Point of View and a Statement of their Distribution", La Linguistique 4 (1968). See also F. El-Shakfeh, The Phonotactics of English, St Andrews: Ph.D. Thesis (forthcoming).

SEMI-VOWELS

phonemes	phonetic realizations	examples
/r/	[ʌ]	/krt/ ("cut")
	[ə]	/bitr/ ("bitter")
	[ɹ]	/rod/ ("rod")
/i/	[i]	/pil/ ("pill")
	[j]	/iel/ ("yell")
/u/	[u]	/buk/ ("book")
	[w]	/uel/ ("well")

VOCALIC ARCHIPHONEMES

archiphonemes	context of neutralization	phonetic realizations	examples
/R/	(representing suspension of opposition between /i/, /u/ and /r/)	in nuclear position followed by semi-vowel /i/	[i] /sRit/ ("seat")
		OR /u/	[u] /fRuI/ ("fool")
/O/	(representing suspension of opposition between /o/	in nuclear position followed by semi-vowel /u/	[o] /kOut/ ("coat")

CONSONANTS

phonemes	phonetic realizations	examples
/b/	[b]	/bit/ ("bit")
/p/	[p]	/top/ ("top")
	[p ^h]	/put/ ("put")
/d/	[d]	/din/ ("din")
/t/	[t]	/trap/ ("trap")
	[t ^h]	/tin/ ("tin")
/g/	[g]	/gOu/ ("go")
/k/	[k]	/krak/ ("crack")
	[k ^h]	/kot/ ("cot")
/θ/	[θ]	/θin/ ("thin")
/ð/	[ð]	/ðat/ ("that")
/s/	[s]	/sin/ ("sin")
/ʃ/	[ʃ]	/ʃin/ ("shin")
/z/	[z]	/zOun/ ("zone")
/ʒ/	[ʒ]	/rRuʒ/ ("rouge")
/f/	[f]	/fan/ ("fan")
/v/	[v]	/van/ ("van")
/m/	[m]	/mOut/ ("moat")
/n/	[n]	/nOut/ ("note")
/ŋ/	[ŋ]	/siŋ/ ("sing")

/h/	[h]	/hat/ ("hat")
/l/	[l]	/leis/ ("lace")
	[ʎ]	/luk/ ("look")
/x/	[x]	/lox/ ("loch")
/tʃ/ ¹	[tʃ]	/tʃap/ ("chap")
/dʒ/	[dʒ]	/dʒam/ ("jam")

¹It should be noted that each of /tʃ/ and /dʒ/ is conceived of by Mulder as a semi-cluster, i.e. one phoneme, when standing in the pre-nuclear position. Standing in the post nuclear position /tʃ/ (the same also holds for /dʒ/) is looked upon as consisting of two phonemes, namely /t/ and /ʃ/ (cf. J.W.F. Mulder, Sets and Relations in Phonology: an Axiomatic Approach to the Description of Speech, Oxford: Clarendon Press (1968), and "Phoneme-tables and the Functional Principle" in Mulder and Hervey, The Strategy of Linguistics, Edinburgh: Scottish Academic Press (1980)).

CONSONANTAL ARCHIPHONEMES

archiphonemes	context of neutralization	phonetic realizations	examples
Representing neutralization of the opposition /voiced/~/unvoiced:	a preceding phoneme of the voiced-unvoiced correlation		
/F/	OR an archiphoneme	[f]	/niNF/ ("nymph")
/K/	whose terms belong to that correlation	[k]	/sKeit/ ("skate")
/P/	OR	[p]	/sPir/ ("spear")
/T/	a preceding nasal archiphoneme	[t]	/pakT/ ("packed")
		[d]	/begT/ ("begged")
/S/		[s]	/bukS/ ("books")
		[z]	/bagS/ ("bags")
/š/		[ʃ]	/tšaild/ ("child")
		[ž]	/badš/ ("badge")
/θ/		[e]	/eitθ/ ("eighth")
Representing neutralization of the opposition /labial/~/apical/~/dorsal/ in nasal phonemes:	a succeeding labial, dorsal, or hushing element		
/N/		[n]	/liNK/ ("link")
		[m]	/kaNP/ ("camp")
		[ŋ]	/siNK/ ("sink")

BIBLIOGRAPHY

- ADAMS, Valerie (1973), An Introduction to Modern English Word-Formation, London: Longman Group Limited.
- ALLERTON, D.J. with FRENCH, M.A. (1975), "Morphology: The Forms of English", in W.F. Bolton, ed., The English Language, London: Barrie and Jenkins, pp. 79-134.
- ARONOF, Mark (1976), Word Formation in Generative Grammar, Mass. and London: The M.I.T. Press.
- BALDON, R.A.W. (1968), "Selecting the to- or -ing Nominal after like, love, hate, dislike, and prefer", English Studies, 49, pp. 203-214.
- BEARD, R. (1976), "Once More on the Analysis of ed-Adjectives", Linguistics, 12, pp. 155-157.
- BERG, Paul C. (1953), A Dictionary of New Words in English, London.
- BERKO, Jean (1958), "The Child's Learning of English Morphology", Word, 14, pp. 150-177.
- BLOCH, B., and TRAGER, G.L. (1942), Outline of English Analysis, Baltimore: The Waverly Press, Inc.
- BLOOMFIELD, L. (1926), "A Set of Postulates for the Science of Language", Language, 2, pp. 153-164.
- _____, (1976), Language, London: George Allen and Unwin Ltd.
- BOLINGER, D.L.B. (1941), "Among the New Words", American Speech, 16, pp. 306-309.
- BRADLEY, H. (1904), The Making of English, London.
- BROWN, R.W. (1927), Materials for Word-Study: A Manual of Roots Prefixes, Suffixes, and Derivatives in the English Language, New Haven.
- CARROLL, J.M. and TANENHAUS, M. (1975), "Prolegomena to a Functional Theory of Word-Formation", Chicago Linguistic Society, II (Para. Vol.), pp. 47-62.

- CHAPIN, Paul G. (1970), "On Affixation in English", in M. Bierwisch and K.E. Heidolph, eds., Progress in Linguistics, The Hague: Mouton, pp. 51-63.
- COATES, J. (1971), "Denominal Adjectives: A Study in Syntactic Relationships between Modifier and Head", Lingua, 27, pp. 160-69.
- Concise Oxford Dictionary of Current English, Oxford: At the Clarendon Press (1976).
- CULLER, J. (1976), Saussure, New York: Fontana/Collins.
- DEARMOND, R.C. (1969), "The Concept of Word Formation", Lingua, 22, pp. 229-361.
- DELACK, J.B. (1971), "English Morphology and Linguistic Universals", Glossa, 5: 2, pp. 202-221.
- DIK, S.C. (1967), "Some Critical Remarks on the Treatment of Morphological Structure in Transformational Generative Grammar", Lingua, 18, pp. 352-383.
- EMENEAU, M.B. (1947), "Some Neologisms in '-ize'", American Speech, 22, pp. 71-72.
- FOWLER, H.W. (1961), A Dictionary of Modern English Usage, Oxford: At the Clarendon Press.
- GERHARD, E.S. (1938), "A Few 'isms'", Word Study, 13, pp. 5-6.
- GRADY, M. (1967), "On the Essential Nominalizing Function of English -ing", Linguistics, 34, pp. 5-11.
- HALL, Robert A. Jr. (1964), "To Hyphenate or not to Hyphenate", English Journal, 53, pp. 662-665.
- HALLE, M. (1973), "Prolegomena to a Theory of Word Formation", Linguistic Inquiry, 4:1, pp. 3-16.
- HANKS, Patrick, ed., (1979), Collins Dictionary of the English Language, London and Glasgow: Collins.
- HARRIS, Zellig S. (1942), "Morpheme Alternants in Linguistic Analysis", Language, 18, pp. 169-180.
- _____, (1945), "Discontinuous Morphemes", Language, 21, pp. 121-27.
- _____, (1969), Structural Linguistics, Chicago: University of Chicago Press.

- HIRTLE, W.H. (1970), "Ed-Adjectives like 'Verandahed' and 'Blue-eyed'", Journal of Linguistics, 6, pp. 19-36.
- HJELMSLEV, L. (1969), Prolegomena to a Theory of Language, University of Wisconsin Press.
- _____, (1972), "Structural Analysis of Language", in Bertil Malmberg, ed., Readings in Modern Linguistics, The Hague: Mouton.
- HOCKETT, Charles F. (1947), "Problems of Morphemic Analysis", Language, 23, pp. 321-343.
- _____, (1961), "Linguistic Elements and their Relation", Language, 37, pp. 29-53.
- _____, (1954), "Two Models of Grammatical Description", Word, 10, pp. 210-234.
- _____, (1958), A Course in Modern Linguistics, New York: The Macmillan Company.
- HUDSON, R.A. (1975), "Problems in the Analysis of ed-Adjectives", Journal of Linguistics, 11, pp. 69-72.
- JESPERSEN, Otto (1917), "Negation in English and Other Languages", Historisk-filologiske Meddelelser, I, No.5, especially the chapters on 'Negative Prefixes' and 'The Meaning of Negation'.
- _____, (1939), "The History of a Suffix", Acta Linguistica, I, pp.48-56.
- _____, (1942), A Modern English Grammar on Historical Principles, Vol. VI, Morphology, Copenhagen: Ejnar Munksgaard.
- JONES, D. (1969), Everyman's English Pronouncing Dictionary, London: J. M. Dent and Sons Ltd.
- JOOS, Martin (1964), The English Verb: Form and Meanings, Madison and Milwaukee: The University Press of Wisconsin.
- _____, ed., (1966), Readings in Linguistics I: The Development of Descriptive Linguistics in America, Chicago and London: The University of Chicago Press.
- KLEIN, E. (1966), A Comparative Etymological Dictionary of the English Language, London/New York.
- LANDAR, Herbert J. (1961), "Reduplication and Morphology", Language, 37, pp. 239-246.

- LANGENDOEN, D.T. (1970), Essentials of English Grammar, New York: Holt, Rinehart and Winston, Inc.
- LA PALOMBARA, Lynda E. (1976), An Introduction to Grammar: Traditional, Structural, Transformational, Cambridge Massachusetts: Winthrop Publishers, Inc.
- LEECH, Geoffrey N. (1972), English in Advertizing: A Linguistic Study of Advertizing in Great Britain, London: Longman.
- LEJNIEKS, Valdis (1967), "The System of English Suffixes", Linguistics, 29, pp. 80-104.
- LJUNG, M. (1976), "ed-Adjectives Re-visited", Journal of Linguistics, 12, pp. 159-167.
- LUBBERS, K. (1965), "The Development of -ster in Modern British and American English", English Studies, 46, pp. 449-470.
- MAGEE, Bryan (1975), Popper, New York: Fontana/Collins.
- MALKIEL, Y. (1966), "Genetic Analysis of Word Formation", in T.A. Sebeok, ed., Current Trends in Linguistics III: Theoretical Foundations, The Hague: Mouton, pp. 305-364.
- MALMBERG, B. (1972), Readings in Modern Linguistics, The Hague: Mouton.
- MARCHAND, Hans (1951), "Phonology, Morphology and Word Formation", Neuphilologische Mitteilungen, 52, pp. 87-95.
- _____, (1953), "Notes on English Suffixation", Neuphilologische Mitteilungen, 54, pp. 246-272.
- _____, (1954), "Notes on English Prefixation", Neuphilologische Mitteilungen, 55, pp. 294-304.
- _____, (1963), "On A Question of Contrary Analysis with Derivationally Connected but Morphologically Uncharacterized Words", English Studies, 44, pp. 176-187.
- _____, (1965), "On the Analysis of Substantive Compounds and Suffixal Derivatives Not Containing a Verbal Element", Indogermanische Forschungen, 70, pp. 117-145.
- _____, (1967), "Expansion, Transposition, and Derivation", La Linguistique, I, pp. 25-26.
- _____, (1969), The Categories and Types of Present-Day English Word-Formation: A Synchronic-Diachronic Approach, Munchen.

- MARTINET, André (1960), Elements of General Linguistics, Translated by Elizabeth Palmer, London: Faber and Faber Ltd.
- _____, (1962), A Functional View of Language, Oxford: At the Clarendon Press.
- _____, (1973), "Morphophonemics", in E.C. Fudge, ed., Phonology, Harmondsworth: Penguin Books Ltd., pp. 91-100.
- _____, (1977), "Some Basic Principles of Functional Linguistics", La Linguistique, 13, pp. 7-13.
- MATHEWS, Milford M. (1951), A Dictionary of Americanism, Chicago: The University of Chicago Press.
- MATTHEWS, P.H. (1965), "Some Concepts in Word- and - Paradigm Morphology", Foundations of Language, 1, pp. 268-289.
- _____, (1965), "The Inflectional Component of a Word-and-Paradigm Grammar", Journal of Linguistics, 1, pp. 139-171.
- _____, (1972), Inflectional Morphology: A Theoretical Study Based on Aspects of Latin Verb Conjugation, London: Cambridge University Press.
- _____, (1974), Morphology: An Introduction to the Theory of Word-Structure, London: Cambridge University Press.
- _____, (1975), "Recent Developments in Morphology", in John Lyons, e.d., New Horizons in Linguistics, Harmondsworth: Penguin Books Ltd.
- MAUTNER, F.H. (1944), "Word-Formation by Shortening and Affixation", American Speech, 18, pp. 200-207.
- MENCKEN, H.L. (1949), "The Birth of New Words", in T.A. Kirby and H. Bosley Woolf, eds., Philologica: The Malone Anniversary Studies, Baltimore: The John Hopkins Press, pp. 313-319.
- _____, The American Language, Supplements I and II, New York (1945, 1948, respectively).
- MEREDITH, M. (1952), "Be a Cabette", American Speech, 27, pp. 74-76.
- MEYERS, L.M. (1966), The Roots of Modern English, Boston: Little and Brown.

- NEWMAN, Stanley S. (1948), "English Suffixation: A Descriptive Approach", Word, 4, pp. 24-36.
- NEWMEYER, Frederick J. (1970), "The Derivation of the English Action Nominalization", Chicago Linguistic Society, pp. 408-15.
- _____, (1971), "The Source of Derived Nominals in English", Language, 47, pp. 786-796.
- NIDA, Eugene A. (1948), "The Identification of Morphemes", Language, 24, pp. 414-441.
- _____, (1967), Morphology: The Descriptive Analysis of Words, Ann Arbor: The University of Michigan Press.
- NORMAN, Arthur M.A. (1958), "An Outline of the Sub-classes of the English Nominal", American Speech, 33, pp. 83-89.
- O'BRYAN, Margie (1974), "The Interaction of Morphological and Phonological Processes in Historical Change", Linguistics, 137, pp. 49-62.
- OLU TOMORI, S.H. (1977), The Morphology and Syntax of Present-Day English, London: Heineman.
- PALMER, Frank (1975), Grammar, Harmondsworth: Penguin Books Ltd.
- PETERSEN, Walter (1928), "Suffixes, Determinatives and Words", Language, 4, pp. 7-17.
- PIERCE, Joe E. (1969), "The Morphemes of English: Unbound and Minor Morphemes", Linguistics, 47, pp. 41-73.
- _____, (1969), "A Look at the So-called -ing Forms of English Verbs", Linguistics, 50, pp. 70-74.
- PIKE, K.L. (1949), "A Problem in Morphology-Syntax Division", Acta Linguistica, 5, pp. 125-136.
- POPPER, K.R. (1965), The Logic of Scientific Discovery, London.
- QUIRK, R. (1962), The Use of English, London: Longmans.
- _____, and GREENBAUM, S., eds., (1977), A University Grammar of English, London: Longman Group Ltd.
- _____, GREENBAUM, S., LEECH, G., and SVARTVIK, J. (1972), A Grammar of Contemporary English, London: Longmans.

- REIFER, M. (1955), A Dictionary of New Words, New York.
- ROBERTS, Paul (1968), Modern Grammar, New York: Harcourt, Brace, and World, Inc.
- ROBINS, R.H. (1959), "In Defence of WP", Transactions of the Philological Society, pp. 116-144.
- ROEY, Jan V. (1964), "A Note on Noun and Noun Combinations in Modern English", English Studies, 45, pp. 48-52.
- SAUSSURE, Ferdinand de (1974), Course in General Linguistics, Translated by Wade Baskin, Fontana/Collins.
- ŠČERBAK, (1964), "Concerning the Methods for the Morphological Description of Language", Linguistics, 8, pp. 72-83.
- SCHANE, S.A. (1970), "Phonological and Morphological Markedness", in M. Bierwisch and K.E. Heidolph, eds., Progress in Linguistics: A Collection of Papers, The Hague: Mouton, pp. 286-294.
- SEBASTIAN, Hugh (1939), "Teacherage", American Speech, 11, p.271.
- Shorter Oxford English Dictionary on Historical Principles, Vols. I and II, Oxford: At the Clarendon Press(1978).
- SKOUSEN, R. (1974), "An Explanatory Theory of Morphology", Chicago Linguistic Society, 4, pp. 318-337.
- SLOAT, C. and HOARD, J.E. (1971), "The Inflectional Morphology of English", Glossa, 5:1, pp. 47-56.
- STRAUSS, S.L. (1980), "How Abstract is English Morphology", Glossa, 14:1.
- UHLENBECK, E.M. (1962), "Limitations of Morphological Processes", Lingua, 11, pp. 426-432.
- URDANG, Laurence (1979), The Synonymy Finder, Bucks:Rodale Press.
- VOEGELIN, C.F. (1947), "A Problem in Morpheme Alternants and Their Distribution", Language, 23, pp. 245-254.
- WALKER, J. (1936), Walker's Rhyming Dictionary, revised and enlarged by L.H. Dawson, New York: Dutton.
- WENTWORTH, H. (1941), "The Alledged Dead Suffix -dom in Modern English", Publications of the Modern Language Association, 56, pp. 280-306.

WINTER, W. (1964), "Form and Meaning in Morphological Analysis", Linguistics, 3, pp. 5-18.

ZANDVOORT, R.W. (1967), A Handbook of English Grammar, London: Longmans, Green and Co. Ltd.

ZIMMER, K.E. (1964), "Affixal Negation in English and Other Languages", Word, 20, Supplement No.2, Monograph No.5.

BIBLIOGRAPHY OF AXIOMATIC FUNCTIONALISM

ASHKURI, I.N.Y. (1979), A Morphological Description of the Verb in Formal Arabic, St Andrews: M.Litt. Thesis.

HAI-MOHAMED, S. (1980), Predicative-based Syntagms in Kamali Arabic Compared with Similar Patterns in English, St Andrews: Ph.D. Thesis.

HERVEY, S.G.J. (1971), "Notions in the Manipulation on Non-denotational Meaning in Speech", La Linguistique, 7, pp.31-40.

_____, (1972), "Mulder's 'Axiomatic Linguistics'", Lingua, 28, pp. 348-379.

_____, (1973), "Reflections on J.J. Katz, 'The Semantic Component of a Linguistic Description'", Lingua, 31, pp. 297-329.

_____, (1975), "Grammar and Semantics in Axiomatic Functionalist Linguistics", Lingua, 36, pp. 47-67 (re-printed in J.W.F. Mulder and S.G.J. Hervey, The Strategy of Linguistics: Papers on the Theory and Methodology of Axiomatic Functionalism, Edinburgh: Scottish Academic Press, 1980).

_____, (1975), "Semantics in Axiomatic Functionalist Linguistics", Actes du Deuxième Colloque International de Linguistique Fonctionnelle, Clermont-Ferrand.

_____, (1976), "Is Deep Structure Really Necessary?", Lingua, 39, pp. 227-239.

_____, (1978), "On the Extrapolation of Phonological Forms", Lingua, 45, pp. 37-63.

_____, (1979), Axiomatic Semantics: A Theory of Linguistic Semantics, Edinburgh: Scottish Academic Press.

- _____, (1980), "Postulates for Axiomatic Semantics", in Mulder and Hervey, The Strategy of Linguistics, Edinburgh: Scottish Academic Press.
- _____, (1980), "Axiomatic-Deductive Linguistics", in Mulder and Hervey, The Strategy of Linguistics, Edinburgh: Scottish Academic Press.
- _____, "Scientific Explanation in Axiomatic Functionalism", Unpublished paper.
- _____, and MULDER, J.W.F., (1973), "Pseudo-composites and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", La Linguistique, 9, pp. 41-69 (revised version printed in Mulder and Hervey, The Strategy of Linguistics)
- HOWKINS, A.M. (1977), Syntactic Relations in San Martin Quechua, St Andrews: Ph.D. Thesis.
- MULDER, J.W.F. (1965), "Some Operations with Sets in Language", Foundations of Language, 1.
- _____, (1968), "Classificatory Calculus and Ordering Relations in Phonology", Linguistics, 41, pp. 75-101.
- _____, (1968), "The Form of the Facts", Linguistics, 42, pp. 29-43.
- _____, (1968), Sets and Relations in Phonology: An Axiomatic Approach to the Description of Speech, Oxford: The Clarendon Press.
- _____, (1969), "On the Art of Definition, the Double Articulation of Language and Some of the Consequences", Forum For Modern Language Studies, 5, No.2, pp. 103-117.
- _____, (1971), "Linguistic Sign, Word and Grammateme", La Linguistique, 7,
- _____, (1973), "From Sound to Denotation", Folia Linguistica, 4, pp. 167-176 (re-printed in Mulder and Hervey, The Strategy of Linguistics, Edinburgh: Scottish Academic Press, 1980).
- _____, (1974), "Postulates for Axiomatic Functionalism", Actes du Premier Colloque International de Linguistique Fonctionnelle, Groningue (revised version in Mulder and Hervey, The Strategy of Linguistics).

- _____, (1974), "Descriptive Adequacy in Phonology, and the Vowel Phonemes of the Scottish Dialects of Angus and Perthshire Compared with the Southern English System", La Linguistique, 10, pp. 71-91.
- _____, (1975), "Linguistic Theory, Linguistic Descriptions and the Speech-phenomena", La Linguistique, 11, pp. 87-104 (re-printed in Mulder and Hervey, The Strategy of Linguistics, Edinburgh: Scottish Academic Press, 1980).
- _____, (1975), "Syntax in Axiomatic Functionalist Linguistics", Actes du Deuxième Colloque International de Linguistique Fonctionnelle, (also in Mulder and Hervey, The Strategy of Linguistics)
- _____, (1976), "Is Functional Semantics Feasible?", Actes du Troisième Colloque International de Linguistique Fonctionnelle.
- _____, (1976), "The Limits of the Applicability of the Notion Moneme", Actes du Troisième Colloque International de Linguistique Fonctionnelle.
- _____, (1978), "Phoneme-Tables and the Functional Principle", La Linguistique, 1 (re-printed in Mulder and Hervey, The Strategy of Linguistics)
- _____, (1980), "Differences between Axiomatic Functionalism and French Functionalism", Proceedings of the Seventh International Colloquium of Functional Linguistics, St Andrews.
- _____, The Foundations of Axiomatic Functionalist Linguistics, (forthcoming).
- _____, and HERVEY, S.G.J. (1971), "Index and Signum", Semiotica, 4, pp. 324-337.
- _____, and HERVEY, S.G.J. (1972), Theory of the Linguistic Sign, The Hague: Mouton.
- _____, and HERVEY, S.G.J. (1975), "Language as a System of Systems", La Linguistique, 11, pp. 3-22.
- _____, and HERVEY, S.G.J. (1980), The Strategy of Linguistics: Papers on the Theory and Methodology of Axiomatic Functionalism, Edinburgh: Scottish Academic Press.
- _____, and HURREN, H.A. (1968), "The English Vowel Phonemes from a Functional Point of View and a Statement of Their Distribution", La Linguistique, 4, pp. 43-60.