

THE BRITISH LIBRARY

BRITISH THESIS SERVICE

TITLE

A GRAMMATICAL STUDY OF BEJA

AUTHOR

RA
HUDSON

DEGREE

Ph.D

AWARDING
BODY

London University

DATE

1964

THESIS
NUMBER

DX192978

THIS THESIS HAS BEEN MICROFILMED EXACTLY AS RECEIVED

The quality of this reproduction is dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction. Some pages may have indistinct print, especially if the original papers were poorly produced or if awarding body sent an inferior copy. If pages are missing, please contact the awarding body which granted the degree.

Previously copyrighted materials (journals articles, published texts etc.) are not filmed.

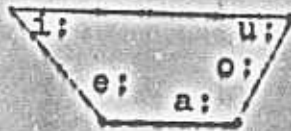
This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with its author and that no information derived from it may be published without the author's prior written consent.

reproduction of this thesis other than as permitted under the United Kingdom

b. v-formant + v-, ':-, v', ?-formants

v + v ; as v- (e.g. aa and a are phonetically identical),

v(+v)+ ; ; long vowels, with articulations in approximately the positions shown in the following chart:



i:, e:, a: are unrounded, u: and o: are rounded.

v(+v)(+ :)+ v' ; the accents have two possible phonetic values: relatively high level pitch, or relatively high falling pitch. The two accents v' and ' have these values in the following formant-combinations:

level pitch: v(+ :)+ ' ; e.g. tdkø, 'aøri**b**'t, yá: sø, nda; i**b**

v(+ :)+ v' ; e.g. øtǎmøø

v(+ :)+ ... v' ; e.g. kitǎ; bø (i, v'); 'oi:ktǎ; b

v + v(+ :)+ ' ; e.g. ndoe!t

v + v + v' ; e.g. kaǎmt

v + v(+ :)+ ... v' ; e.g. ndee:tu v'

' + v ; e.g. k'inso; rib

falling pitch: v + v + : + v' ; e.g. nda; i'kaa v'; b

' + v + v + : ; e.g. k'aa; so; rib

v(+v)+ v' + c⁺⁺ + v + : ; e.g. š'i'a v'; b

(Before a c⁺⁺ formant, a V-phoneme without ; is phonetically unrealised, but if it contains v', this prominence is 'transferred' to the following V-phoneme, which is then realised as though it contained ' + v + v + : ; thus š'i'a v'; b is realised as though it was phonologically 'š'aa v'; b.)

v(+v)(+ :)+ v' + ? ; as without ? , except that the pitch-difference between this V-phoneme and the adjoining V-phonemes without v' is greater.

c. V-phoneme + V-phoneme

Two juxtaposed V-phonemes may be linked by a palatal 'glide', but this may also (but less commonly) be absent.

d. C-phoneme + C-phoneme

If the first C-phoneme contains k/g + w, and the

A Grammatical Study of Beja

by

R. A. Hudson

Phd.

School of Oriental and African Studies

University of London

1964

/1964

CONTENTS

I.	<u>Introduction</u>	
1.	Sources and validity of material	page 6
2.	The Beja peoples and the Beja language	7
3.	The theoretical basis of the description	10
4.	Acknowledgements	14
P.	<u>Phonology</u>	
0.	Outline	16
1.	The formant	17
2.	The phoneme	20
3.	The syllable	21
4.	The phonological word	21
5.	Phonetic values of formants	22
O.	<u>Outline</u>	
0.	Theoretical categories	27
1.	Comparison with orthodox Scale and Category model	38
2.	Units	44
3.	Elements	45
4.	Classes	50
5.	Systems	53
6.	Structures	54
M.	<u>The Morpheme</u>	
0.	Element-classes and element-free classes	55
1.	Radical morphemes	61
2.	Transitisor morphemes	77
3.	C-geminator morpheme	81
4.	Nominaliser morphemes	82
5.	Genitival morpheme	85
6.	Marker morphemes	86
7.	Pluraliser morphemes	101
8.	Second-person morphemes	102
9.	Modifier morpheme	104
10.	Pronominal morphemes	105
11.	Compounder morpheme	107
12.	Optative morpheme	107
13.	Certainty morphemes	107
14.	Comparative morpheme	109

M. 15. Than/on morpheme	4
16. Generaliser morpheme	page 110
17. Conjunctive morphemes	110

NOTES

MP. Morpho-phonology

0. Introduction	116
1. Radical morphemes	118
2. Transitor morphemes	129
3. C-geminator morpheme	141
4. Nominaliser morphemes	144
5. Genitival morpheme	145
6. Marker morphemes	147
7. Pluraliser morphemes	161
8. Second-person morphemes	164
9. Modifier morpheme	166
10. Pronominal morphemes	168
11. Compounder morpheme	171
12. Optative morpheme	172
13. Certainty morphemes	172
14. Comparative morpheme	173
15. Than/on morpheme	173
16. Generaliser morpheme	173
17. Conjunctive morphemes	173
NOTES	174

W. The Word

0. Element-classes and element-free classes	175
S. Word-structures	176
1. Head-words	178
2. Complement-words	201
NOTES	206

G. The Group

0. Element-classes and element-free classes	209
S. Group-structures	218
1. Subject-groups	218
2. Object-groups	223
3. Adjunct-groups	229

G. 4. Predicator-groups	page 230
5. Complement-groups	250
6. Root-groups	262

NOTES

C. <u>The Clause</u>	
O. Element-classes and element-free classes	271
S. Clause-structures	274
1. Final clauses	274
2. Pre-final clauses	275
3. Complement-clauses	275
4. Root-clauses	277

NOTES

S. <u>The Sentence</u>	
O. Element-class	280
S. Sentence-structures	280
1. Object-sentences	289

SS. <u>Special Sentences</u>	
O. General	294
1. Vocatives	294
2. Exclamations	295
3. Expressions of Pleasure	295
4. Expressions of Desire	295

APP. <u>Appendices</u>	
A. Regular verbal Radicals	297
B. Irregular verbal Radicals	304
C. Verbal word-paradigms	309
D. Clause-types	314
E. Sample of text with explanations	325
F. Glossary of technical terms	336

INTRODUCTION

1 Sources and validity of material

Previous works on the grammar of Beja (referred to as Tu Bedawie, etc. or Bishari) are:

Almkvist, H.: Die Bishari-Sprache Tu Bedawie in Nordostafrika, beschreibend und vergleichend dargestellt, (Upsala 1881-5)

Reinisch, S.L.: Die Bedaue-Sprache in Nordostafrika (Sitzungsberichte der kaiserlichen Akademie der Wissenschaften in Wien - philosophisch-historische Klasse, Band CXXVIII, III, 1-74; Band CXXVIII, VII, 1-204, Vienna 1893-4)

Roper, E.H.: Tu Bedawie - an elementary handbook for the use of Sudan Government officials (Sinkat 1928; published by the Sudan Government),

Of these works, by far the most important from the descriptive point of view is that by Roper, which contains a very useful vocabulary, in addition to a large amount of grammatical material presented in a somewhat traditional, Latin-based framework. Without this work, and especially the vocabulary, as a guide, far less material could have been collected in the time available; nevertheless, the present description is based entirely on material obtained at first hand, and the analysis differs widely from that of Roper (quite apart from the differences due to the different theoretical bases of the descriptions).

The material used here was collected between October 1962 and June 1963 on a visit to the Sudan made possible by a grant from the Central Research Fund of the University of London. Practically all the material was obtained from four informants, all of Port Sudan: Said Muhammad Salih Muhammad Said Kazim, Said Muhammad Osman Ahmad Kazim, Said Muhammad Kazim Muhammad Salih, and Said Muhammad Abdullah Hassan.

Although a certain amount of the material could be checked by listening to free conversations, little of it can be considered to be entirely beyond doubt, due to the unnatural

situation in which it was obtained. What is presented here is an analysis of the material thus obtained, in as general terms as possible, in the hope that these generalisations are valid not only for the material available, but for the whole of Beja grammar. Thus, the present description is not claimed to be in any respect definitive; further material could make corrections, even major alterations, necessary. It was, however, found that this description covered most of the grammatical features of a thirty-minute story recorded by one of the informants. (A short extract from this story is analysed in Appendix E.)

2. The Beja peoples and the Beja language.

The name 'Beja' is used to refer sometimes to an ethnically, sometimes to a linguistically and culturally defined grouping of people. The ethnically defined Beja are the descendants of a Hamitic tribe, or tribes, who crossed the Red Sea from the Arabian Peninsula possibly as early as 5,000 B.C., and were either contemporaries of, or identical with, the pre-dynastic Egyptians. Thus defined, the Beja include the tribes Amar'ar, Bisharin, Hadendiwa and probably the Beni Amer tribe. The linguistically defined Beja, on the other hand, speak the language called, in Beja, tibda:wyë (ti- is the 'definite article', without which the language is biða:wyé:t). This language is spoken by all the above tribes (except for some sections of the Beni Amer, who speak Tigré, a semitic language), and in addition various tribes (e.g. Arteiga, Ashraf) who have come to the north-east Sudan during the last 1400 years or so, have intermarried and settled among the original Beja, and have adopted their language (Paul, A.; A History of the Beja tribes of the Sudan, (Cambridge, 1954),)

The Beja language is classed as Cushitic, ie, as related to languages such as Somali, Bilin, Agau and Sidamo, all spoken in the 'Horn' of Africa (Tucker, A.H, and Bryan, H.A.; The Non-Bantu languages of North-east Africa, - Part III of the Handbook of African Languages (O.U.P, 1956),). The Cushitic languages are considered to be related to other language-groups, including Berber, Egyptian and Semitic (Greenberg, J.H.; Studies

in African linguistic Classification, IV: Hamito-Semitic. (South-western Journal of Anthropology, Vol. VI, 1950.). The similarities between Beja and Classical Arabic, as an example of a Semitic language, are striking in some features of word-morphology, but minimal with respect to vocabulary. Compare for instance the following paradigms of words containing the Radical k-t-b (Arabic) and k-t-ʿb (Beja - presumably borrowed from Arabic), meaning 'write':

<u>Beja</u>	<u>Classical Arabic</u>
'aktib = I wrote	'aktub = let me write
'iktib = he wrote	yaktub = let him write
tiktib = she wrote	taktub = let her write
tiktība = you (M) wrote	taktub = you (M, sing.) write
tiktībi = you (F) wrote	taktubi; = you (F, sing.) write
niktib = we wrote	naktub = let us write
'iktībna = they wrote	yaktubu; = let them (M.) write
	yaktubna = let them (F.) write
tiktībna = you (Pl.) wrote	taktubu; = you (M, plur.) write
	taktubna = you (F, plur.) write

(The above forms, although similar in many respects, have very different places in the overall patterns of the two languages, since such words in Beja can contain some, but not all, verbal Radicals, while in Arabic they can contain all verbal Radicals. In Beja, verbal Radicals which cannot occur in such words can occur in forms involving suffixation only, such forms being exactly parallel to those involving prefixation, in both meaning and grammatical uses; in Arabic, on the other hand, forms involving suffixation only are different in meaning and use from those involving prefixation, as the above.)

Compare also the following paradigms, containing the nominal Radicals kita;b (Arabic) and kitā:b (Beja, again presumably borrowed from Arabic), meaning 'book':

BejaClassical Arabic

kita:bŭ = a book of mine	kita:bi: = my book
kita:bŭ: = a book of his/hers (c.f. kita:bŭhika = each book of his/hers)	kita:buhu = his book
kita:bŭ:k = a book of yours	kita:buha: = her book
kita:bŭ:n = a book of ours	kita:buka = your (M. sing.) book
kita:bŭhina = a book of theirs	kita:buki = your (F. sing.) book
kita:bŭ:kna = a book of yours (Pl)	kita:buna: = our book
	kita:buhum = their (M.) book
	kita:buhunna = their (F.) book
	kita:bukum = your (M. pl.) book
	kita:bukunna = your (F. pl.) book.

Little is known about dialect differences within Beja; the main tribal divisions - Hadendiwa, Bisharin, Amar'ar, Beni Amer, Arteiga, Ashraf, Halenga, etc. - may, but do not necessarily, correspond to dialect divisions; such correspondence is not likely, since these tribes became distinct at different dates. According to all reports, from Beja speakers and from earlier writers (e.g. Paul, loc. cit.; Roper, E.H.: 'Poetry of the Hadendiwa' (Sudan Notes and Records, Vol. X, 1927)), there are quite considerable differences between dialects, some of which are even said to be mutually incomprehensible. However, in this work no account is taken of dialect differences, since there were no such differences between the four informants, at least not on the grammatical level. Moreover, three of the four informants belonged to more than one of the main tribes, as far as their family backgrounds were concerned. (Said Muhammad Abdullah Hassan is pure Ashraf; Said Muhammad Salih Muhammad Said Kazim is Amar'ar, Hadendiwa and Iraqi; Said Muhammad Osman Ahmad Kazim is Amar'ar, Arteiga and Iraqi; and Said Muhammad Kazim Muhammad Salih is Ashraf, Arteiga and Hadendiwa. Beja is the first language of all four, and all four spent their youth in Sinkat, Suakin or Port Sudan, which are within fifty miles of each other.)

I.3. The theoretical basis of the description

i. Beja grammar is described here in terms of a somewhat modified version of the model referred to as the 'Scale and Category' model (for the modifications, see O.1.). This model was developed by Dr. M. A. K. Halliday and others on the basis of the work of Professor J. R. Firth (Halliday, M. A. K.: 'Categories of the Theory of Grammar' (Word, Vol. 17, No. 3., 1961); also 'Class in relation to the axes of chain and choice in language.' (a paper presented by Dr. Halliday at a symposium on Classification in linguistics, Cambridge 1963).)

ii.a. The Scale and Category model is a general classification of linguistic features, such that the features of one language fall into exactly the same classes as those of another. In other words, it is a classification of the respects in which two utterances in any given language can be similar or different. Thus, in comparing two different languages, it is possible to restrict the comparison to those features in the two languages which belong to the same theoretical class. The features to be classified according to these theoretical criteria must, however, be first isolated and defined with reference to the language concerned; there is no attempt to discover or postulate universally valid features as such. Thus, gender in French can be classified as a grammatical system ('grammatical system' is one of the universal feature-classes), but the feature 'gender' is an abstraction from the possible utterances of French and relevant, as thus defined, only for French. An important and clear distinction must therefore be drawn between theoretical and descriptive terminology; 'grammatical system' is a theoretical term, while 'gender' is a descriptive term. The definition of a theoretical term is valid for any language, while a descriptive term must be redefined for each language to which it is applied; moreover, a theoretical term must be relevant to every language, whereas a descriptive term need not be relevant for more than one language; thus, every language has grammatical systems, but not every language has gender.

ii, a, The theoretical feature-classes are so defined that features belonging to one such class can be described independently of those belonging to another class, and the features belonging to one class are not always entirely determined by those of another class. The model is thus an attempt to isolate the variables in language, so that one variable can, for simplicity, be described without reference to other variables; for instance, phonological features can be described, and can vary, independently of grammatical features, and vice-versa. This does not, of course, mean that one variable must be described independently of all other variables; e.g. in the chapter on Phonology below it is stated that if a *-t-* formant is preceded by another *s-* formant, the *-t-* is always part of the exponent of one of two classes of morpheme. Nor does it mean that it is either desirable or possible to analyse one variable without reference to other variables; e.g. the phonology of Beja is analysed with a view to reducing the number of different exponents of a given morpheme in different environments.

iii, The theoretical feature-classes defined in the orthodox Scale and Category model fall into three sets; 'levels', 'categories' and 'scales'. The last two presuppose the first.

a, The feature-classes included under levels are: substance, form; grammar, lexis; phonology (or graphology); context. substance subsumes phonetic or graphic features of language; e.g. the only difference between 'It was an error of judgment' and 'It was an error of judgement' is in graphic substance; no two utterances can ever be identical in phonetic substance.

form subsumes all meaningful features of language, viz, grammatical and lexical features.

grammar subsumes all formal features of language which can be described in terms of sets which are defined by criteria which make a clear-cut distinction between members and non-members; e.g. 'the man' is a member of the class 'singular', but 'the men' is not; both 'the man' and 'the men' have the structure: Modifier + Head, whereas 'he' does not.

lexis subsumes all formal features which cannot be described in terms of such clearly defined sets; e.g., both 'the man' and 'he' can occur in the environment '--- is a nice fellow', whereas 'the traffic problem' can not, but there are borderline cases such as 'she' and 'his dog',

phonology (graphology) subsumes all those features abstracted from substantial features, in terms of which the relation between formal and substantial features can be described; e.g., the phonological difference between 'bake' and 'baked' can be considered to be the same as that between 'wade' and 'waded', although the differences in phonetic substance are not the same (whereas the differences in graphic substance are the same),

context subsumes those features abstracted from the total situation, non-linguistic and linguistic, in terms of which the relation between formal features and the total situation can be described; e.g., the relation between grammatical gender and sex, or the different meanings of 'How did he go?', according to whether an appropriate answer would be 'By train' or 'Painlessly, in his sleep,'

(In this work the level of substance will be discussed very briefly, and that of phonology a little more fully; the remainder of the description will be devoted to the level of grammar. Lexis and context will not be mentioned, although all examples from Beja are translated, these translations are very approximate, and should be treated with caution, since meanings were explained by the informants through a common language in which either the linguist or the informant was sometimes not very fluent.)

ii. b. Features on each of the above levels are described in terms of a set of categories and scales defined for that level. Categories (as defined in the present work) are sets of sets of items, or sets of such sets, and scales are relations between different members of one or two categories, or between a member of a category and a particular item. For instance, the level of grammar requires five categories (according to the modified ver-

sion of the Scale and Category model used here), viz.: unit, element, class, system, structure. (The orthodox Scale and Category model distinguishes only four categories: unit, class, system, structure.) The first three of these five categories subsume sets of items defined by different criteria, while 'system' and 'structure' subsume sets of such sets. For instance, the category 'unit' is a set of sets of items; the membership of the category must be redefined for each language, but in descriptions of both English and Beja the category has five members ('there are five units'), viz.: sentence, clause, group, word, morpheme.

The level of phonology requires the same number of categories, probably with slightly different definitions, but since this description of Beja is primarily concerned with grammar, the categories implicit in the chapter on phonology will not be discussed here.

iii.c. The orthodox Scale and Category model distinguishes three scales on the grammatical level: rank, delicacy, exponence. The 'rank' and 'delicacy' scales relate members of the same category (different members of the category 'unit' are related in rank, while different members of the other categories are related in delicacy), while the scale of 'exponence' relates either members of different categories to each other, or a member of a category to a formal item. Since the scales are therefore not independent of the categories - given the categories to which the terms of a relationship belong, the scale on which they are related can be predicted - they do not define linguistic variables, as do the categories. Therefore the scales are not referred to explicitly in this modified version of the Scale and Category model, but are implied by any relationship such as 'xxx is a member of xxx', 'xxx is higher than xxx', 'xxx can be sub-divided into xxx', etc.

iii.d. Thus two utterances in a given language can be different on different levels, and if two pairs of such utterances differ on the same level, they can differ in respect of different categories. For instance, the difference between 'an hotel' and

'a hotel' is phonological, while that between 'a hotel' and 'the hotel' is grammatical; further, the grammatical difference between 'the hotel' and 'the big hotel' is a difference of structure, while that between 'the hotel' and 'the hotels' is one of class. (Another way of saying the same thing is to say that the difference between 'the hotel' and 'the big hotel' is determined by the structures of the two utterances, while that between 'the hotel' and 'the hotels' is determined by their classes. Such terminology is used only for descriptive convenience; it does not imply that the structures and classes of these items are in some way logically presupposed by the items themselves.)

1.4e. Acknowledgements

My thanks are due to all those who helped me to obtain the material, especially to the four informants Said Muhammad Salih Muhammad Said Kazim, Said Muhammad Osman Ahmad Kazim, Said Muhammad Kazim Muhammad Salih, and Said Muhammad Abdullah Hassan. They all proved to be excellent informants, but I remember them primarily as friends, as I do all those in Port Sudan who helped me to gain what little fluency I had in Beja by talking patiently with, or to, me. In this connection I remember particularly the members of the Arteiga club in Port Sudan, and the frequenters of a certain café there. It goes without saying that I was very grateful to the board and Secretary of the Central Research Fund of London University for the grant which made my stay in Port Sudan possible.

Said Abdullah Ali Onur, also of Port Sudan, helped me by providing some valuable information on Beja after my return to England.

During the past three years I have very much enjoyed belonging to the Phonetics and General Linguistics Department of the School of Oriental and African Studies, London. I feel I gained a lot from the courses which I followed there in my first year, and I should like to thank those who gave these courses, and especially Mr. A. T. Sharpe, who also supervised my work on this thesis, until ill health made this impossible. Above all,

however, I am sincerely grateful to Professor C, E, Bazell, who then became my supervisor. The criticisms he has made have been of very great value indeed, and the patience with which he has read the various versions of this thesis has been much appreciated.

It is hard to say how much I feel I owe to Dr, M, A, K, Halliday, who kindly allowed me to attend his seminars in the Communication Research Centre of University College, London, and has always been so generous with his time. Therefore I most humbly apologise to him if I have in any way misrepresented his theory in this thesis. Any such misstatements are entirely my responsibility, though unintentional.

In connection with Dr, Halliday's theory, I have also valued the discussions with other students attending his seminars in University College; and I am very grateful to Dr, R, D, Huddleston, of the University of Edinburgh, for explaining various aspects of the theory to me.

P, O, Outline

i,

Each symbol in the transcription, including ' , ' ; , ' (but excluding / , ' ; , ' , which are grammatical unit-boundaries - see O, 2, ii, a,) represents a phonological item, referred to as a 'formant'. Each formant is a constituent of a phoneme, each phoneme is a constituent of a syllable, and each syllable is a constituent of a phonological word. Thus, every phonological word consists of one or more syllables, each syllable consists of one or more phonemes, and each phoneme consists of one or more formants.

e, g, the phonological word : 'iŋkwe:sŋ'kaaʔ;b= better able to pay (the grammatical unit-boundaries are omitted in the examples in this chapter; with these, the above word is:

'i/ŋ/kwe:s/ŋ;'kaaʔ/;/b) consists of three syllables: 'iŋkw + e:sŋ' + kaaʔ;b; these consist respectively of three, two and three phonemes: ' + i + ŋkw; e:' + sŋ; k + aaʔ; + b. Each of the symbols stands for one formant, so these phonemes consist of between one (') and four (aaʔ;) formants.

ii,

There are certain restrictions on the constituents which can occur together in the same item, and on the order in which they can occur. These restrictions are described by grouping the constituents into sets of mutually exclusive items, and stating the possible combinations of such sets.

iii, a,

The aim of the phonological analysis on which the transcription is based has been to relate formal items as simply as possible to their phonetic realisations; i, e, as far as possible to keep the transcription of a given morpheme constant, even if its phonetic realisation varies according to the linguistic environment, while leaving no doubt as to the phonetic value of any given series of symbols in the transcription.

iii, b,

At the same time, however, the phonetic interpretation of the transcription does not presuppose a knowledge of the grammatical features of the text transcribed. Some of the grammatical unit-boundaries are phonetically (and phonologically) relevant, but since the grammatical unit-boundaries are

in any case indicated in the transcription, this does not constitute an exception to the rule that the transcription is always phonetically unambiguous. On the other hand, it is not possible to transcribe a given utterance without understanding its grammatical features,

iii, c, Also, although the transcription is always phonetically unambiguous, it is not always phonologically unambiguous. For instance, the two juxtaposed formants b' in the word 'a**Ø**b'ár = I woke up, may be constituents of the same phoneme or of two different phonemes. In this particular word, either interpretation is possible - b' can be considered to be like the two phonemes k and x in 'a**Ø**kráf = I came back, or like the single phoneme l in 'a**Ø**lág = I danced,

iv, The first sections of this chapter will describe the phonological items on the phonological level (i.e. the formants will be listed, and their various combinations will be described in terms of phonemes, syllables and phonological words). The last sections will describe the phonetic values of the phonological items,

P, 1, The Formant

i, a, Formants fall into six classes, one of which can be further sub-divided;

c-formants (may be c^- , c^- , c^+ , c^{++} or c^{+++} -formants)

v-formants

:-formant

ʏ'-formants

?-formant

Ø-formant

i, b, The sub-classes of c-formant are not disjoint; the members of the c^- , c^+ , c^{++} and c^{+++} sub-classes are also members of the c, sub-class,

ii, The members of these classes are as follows;

c^- -formant ; n

c^+ -formant ; w

c^{++} -formants ; ' h

c^{+++} -formant ; t

c,-formants ; b d ð j ʒ
 t ʔ k ʎ
 w y
 f ʁ ʂ x* h
 z* ʒ*
 m n
 r
 l

(formants marked with * occur only in unassimilated loan-words from Arabic)

v-formants : i u
 o o
 a

;-formant : ;

v'-formants ; v'

?-formant : ?

ø-formant : ø

iii, a, The following combinations of formants constituting one phoneme are possible;

c + c + c' + c'' + c'''

v + v + ; + v' + ?

(the classes underlined are obligatory, the rest are optional)

iii, b, In addition, any combination can include one or more ø-formant, in any place. (Since the presence and place of ø are determined by purely grammatical features, it is not surprising that no phonological restrictions apply to its occurrence.)

iii, c, v' can be written before, after or over ; , without any difference in the phonetic value of the combination. The place of v' is determined by the formal items expounded; e.g. 'inda: i v': b = the good ones, but 'inda: i v': b = the good one (grammatically 'i/;nda:i;/v':/b and 'i/;nda:i;/v':/b respectively.)

iii, d, Likewise, v' can occur in various sequential relations to a v-formant. In this case, however, it has different

phonetic values according to its place (P.5.ii.b. below). In the transcription an accent (ˇ or ˘) may be separated from the other formants constituting the same phoneme, but the transcription is unambiguous in showing which formants are constituents of the same phoneme as an accent-formant:

1. if the accent is ˘, it is always a constituent of the V-phoneme in the syllable in which the accent is written (a syllable can have only one V-phoneme, and syllable-divisions are unambiguous in the transcription (P.3.iv.))

e.g. in k'itørib'˘ = doesn't she refuse it?, there are two V-phonemes: 'i and i'˘

2. if the accent is ˇ, it is a constituent of the V-phoneme which contains the v-formant preceding the v-formant which is written before, or beneath, the accent; if there is no such v-formant in the same phonological word, then the accent is a constituent of the V-phoneme which contains the v-formant written before or beneath the accent.

e.g. in kită:bø = a book, there are two V-phonemes: i...ˇ and a: (... indicates that the accent is written among the formants of a different syllable).

in tamisyăheř:b, there are four V-phonemes: a, i...ˇ, a, and eř:

in øtămøø = porridge, there is only one v-formant, a, so ˇ must be a constituent of the same V-phoneme.

iii.e. The ?-formant is a constituent of the last V-phoneme before it which has an accent among its constituents, as defined above;

e.g. in tiøribaˇ? = did you refuse it? there are three V-phonemes: i, i...ˇ? and a

iii.f. The c⁺⁺⁺-formant t is always the exponent, or part of the exponent, of a Marker morpheme (MP.6.9,10.); in the transcription it is always separated from the other formants in the same phoneme by a morpheme-boundary mark / ;

e.g. yá:s/t = a bitch (s and t are constituents of the same phoneme).

iv.a. If two v-formants are constituents of the same phoneme, both must be the same item; thus, aa is a possible combination, but ia, ea, oa or ua are not.

iv.b. The possible combinations of c-formant can be stated more precisely:

c.	e.g.	k
(c ⁻)c.(c ⁺)	e.g.	nk, nkw
c.(c ⁺)c ⁺⁺⁺	e.g.	kwt, kt
c, c ⁺⁺	e.g.	k'

P.2. The Phoneme

- i. Phonemes fall into two classes, C- and V-phonemes. C-phonemes are those whose constituents are c-formants, while V-phonemes are those whose constituents include a v-formant.
- ii. All syllables contain one, and only one, V-phoneme; one C-phoneme is possible before and after this V-phoneme. (In initial syllables, a C-phoneme is obligatory before the V-phoneme.)
- iii. Phoneme-boundaries can be ambiguous in the transcription;
 - a. two juxtaposed c-formants can be constituents of the same or of different C-phonemes. This ambiguity is left deliberately, since in some Radical morphemes, either interpretation of two c-formants is possible, and such a Radical can occur in two parallel and synonymous paradigms, some of whose forms are phonetically identical, and some are phonetically different; thus, the phonetically identical pairs are phonologically different;

e.g. the Radicals b'-r and b-'-r both mean 'wake up'; they include among their respective paradigms the following words:

'amo; b'á;r (Radical; b'-r) - 'amba'á;r (Radical; b-'-r); both mean 'I woke up with him';

'aøb'ár (Radical; b'-r) - 'aøb'ár (Radical; b-'-r); both these words, which mean 'I woke up', have the same phonetic realisation, but they are phonologically different, as are the first two words, in that b and ' are constituents of one phoneme in the first, but of two phonemes in the

second word,

- b. a \emptyset -formant can be considered to be the constituent of any phoneme; if \emptyset occurs between two phonemes, it can be assigned to either the one before or the one after it.

P.3. The Syllable

- i. Syllables may be initial or non-initial in the phonological word. As mentioned above, initial syllables must contain a C-phoneme before the V-phoneme. Such a C-phoneme cannot contain a c^{++} -formant.
- ii. If a syllable is word-final, and contains a C-phoneme after its V-phoneme, this C-phoneme cannot contain a c^{++} -formant.
- iii. If a syllable contains no C-phoneme after its V-phoneme, and is followed by a syllable with no C-phoneme before its V-phoneme, the first of the two V-phonemes thus juxtaposed must contain : ;
e.g. nda:i!b = a good one.
- iv. The boundary between two syllables in the same word is located as follows:
- a. if their V-phonemes are separated by two C-phonemes, the boundary falls between the latter;
e.g. in 'o:ktã:bø = the book, there are two syllables;
'o:...k and ta:bø.
- b. otherwise the syllable-division falls immediately before the second V-phoneme;
e.g. between the first : and the i in nda:i!b = a good one;
between the first ' and the k in biððigi:l'kaa!b = a bigger one.

P.4. The Phonological Word

- i. There are restrictions on the number of accents possible in a single phonological word; these restrictions are described in the chapter on the phonological exponents of morphemes (MP,iii.). The phonological implications of the restrictions are, briefly, that no phonological word can contain more than six accents, and every phonological word must contain at least one accent.
- ii. Boundaries between phonological words coincide with

grammatical word-boundaries except when the latter

1. are juxtaposed to morpheme-boundaries, or
2. occur between a group and an equative word.

e.g. (the phonological word-boundaries in these examples are marked by ⁺);

⁺'u/;n_o⁺'u:/tāk/ϕ⁺,diw/ϕ/i:ni⁺ = This man is asleep.

⁺'u/;n_o⁺'u:/tāk/ϕ⁺,diw/ϕ/inyi/e/!k⁺ = if this man is asleep.

⁺;dabalo;/v⁺'o:r/ϕ_oϕ/u⁺ = He's a little boy.

(There is considered to be no phonological word-boundary before an equative word, such as ϕ/u above, since otherwise equative words would be the only words which have no initial C-phoneme, and no accent.)

P.5. Phonetic values of formants

i. Except in the combinations described in ii. below, the values of the formants are as follows:

a. c-formants

b, d, đ, g : voiced stops when not before pause;
voiceless stops when before pause.
Bilabial, dental, retroflex and velar respectively.

t, ṭ, k : voiceless stops in all positions.
Dental, retroflex and velar respectively.

j : voiced palato-alveolar affricate.

z, ž : voiced fricatives, alveolar and velar respectively.

f, s, š, x : voiceless fricatives, labio-dental, alveolar, palato-alveolar and velar respectively.

(š is prosodically related to a following ṭ or đ formant - see MP.2.vi.b.)

y, w : voiced palatal and bilabial frictionless continuants (except before a V-phoneme without :, followed by h, when the continuants are voiceless)

m, n : voiced nasal stops, bilabial and alveolar.

r, l : flapped and lateral alveolar.

' , h : glottal stop and fricative.

b. v-formants

i, e, o, u : all identical, viz. close to half-close, retracted front unrounded. (In some dialects they are advan-

ced rear, rounded.)

a : central, open or half-open vowel.

∅-formant : no phonetic value.

1.

Unless otherwise stated, formant-combinations have the values described below, irrespective of the presence or absence of a phonological unit-boundary between them.

a. c-formant + c-formant

c-formant + ' : ejective equivalent of the values described above.

" + h : strongly aspirated equivalent of the values described above.

t + voiced c-formant : as d + voiced c-formant.

n + any c-formant when not after a V-phoneme : as the c-formant without n.

(The n is realised after a V-phoneme if the latter is part of the same phonological word, or of the preceding phonological word, provided the two phonological words are separated only by a grammatical word-boundary. Thus, n is realised in the following cases:

'e;ndaap^v = the men (grammatically 'e:/ndaap/∅/∞; i.e. one phonological word);

∅'akraap^v+ndaap^v = strong men (grammatically: ∅/'akra/a;/∅/∞,ndaap/∅/∞; i.e. two phonological words.)

On the other hand, n is not realised in:

'ane^v+ndaap^v:b^v'a∅ktē:n = I know some men (grammatically:;'ane/∞,ndaap/∞/:b,'a/∅/ktē:n; - the n is separated from the preceding word by a group-boundary.)

n + b : as m + b.

n + y, g : palatal or velar nasal.

n + r, l : as r + r, l + l, with preceding vowel nasalised.

(Assimilation of n to r, l was found also across a word-boundary, even when this coincided with a group-boundary;

e.g. 'o:ták^v'∅:win^vrih^ván = I saw the big man.)

second contains k/g , the combination $k/g + w + k/g$ is realised like $k/g + k/g + w$ (and therefore also like $k/g + w + k/g + w$). This 'transference' of w is found even across relatively important grammatical unit-boundaries, such as the juxtaposed group- and word-boundaries in: $na'dkw\emptyset^+k'i:i;\emptyset k\delta$
 = It isn't soft (grammatically $i,; na'dkw\emptyset/\emptyset, \emptyset k'/i:i;/\emptyset/k\delta,$)
 e. V-phoneme + C-phoneme containing only \emptyset^+

The realisation of a V-phoneme followed by ' or h depends on the presence or absence of another V-phoneme after the ' / h :

before V-phoneme: if the V before the ' / h contains i, it is realised, but shorter than in other environments. If it does not contain i, it is not realised (except for the 'transference' of its accents, as described above in b.)

not before V-phoneme: the ' / h is realised before the V-phoneme; thus there is no phonetic difference between a:' and 'a: before a C-phoneme or a word-boundary.

iii. The following phonologically different formant-combinations are thus phonetically identical:

a. $c + c = C + C$

Two c-formants have the same combined value when juxtaposed, whether they constitute one or two phonemes.

e.g. kw (c+c) in $tisrd'kw$ = you frightened him, = kw (C+C) in $'u;t'kw$ = and the man.

e.g. d' in $'a\emptyset d'ir$ = I married her, can be interpreted phonologically as either c+c or C+C.

b. $k/g + w + k/g = k/g + k/g + w = k/g + w + k/g + w$

e.g. the underlined combinations in: $\emptyset na' \underline{kw} \emptyset^+ k'aa^y$ = softer, $\underline{t} \underline{k} \emptyset^+ \underline{k} \underline{w} \underline{a} \underline{t} \underline{i}^y$ = a happy man, $\underline{\xi} \underline{i} \underline{k} \underline{w} \underline{a} \underline{w} \underline{a} \underline{k} \underline{w} \underline{a} \underline{b} \emptyset \underline{a} \underline{n}$ = I kept on throwing it (?)

c. $n + b = m + b$

e.g. nb and mb in: $\emptyset \emptyset na \underline{nb} i;$ = it is getting warm, $'a \underline{mb} a' \underline{a} i;$ = I woke up with him.

d. $i = e = o = u$ (when not followed by :)

e.g. $'tu; \underline{nd} ee^y$ = the mother, and $'tu; \underline{nd} ii^y$ = the iron, are phon-

etically identical,

e, v = v + v (except for the differences of pitch described in ii, b, above)

e, g, tu:ndii^Y = the iron, 'iØdibli^Y = the pile,

f, V + V = V + y + V (when the optional palatal glide is present)

e, g, 'iðe:fa:u^Y = my door, wihata:yu^Y = my horse,

g, C + V + ' / h + V = C + ' / h + V (when the first V contains no :)

e, g, 'amba'á:r, 'amo;bi'á:r both meaning 'I woke up with him',

h, C + V + ' / h = C + ' / h + V (except before another V-phoneme)

e, g, Ødi'ra^Y = one who has married her, 'aØd'ir = I married her,

i, C + V (containing ') + ' / h + V (not containing ') = C + V + ' / h + V (containing ')

e, g, tamsi;niho:k = he feeds you, and tamsi;nihó:k = he does feed you!, are phonetically identical,

OUTLINE

O, O, Theoretical Categories

i, a, Any grammatical difference between two utterances in any language is a difference in respect of one or more of the five theoretical categories; unit, element, class, system, structure. Since these theoretical categories are so defined that they are equally relevant to English or to Beja, examples can be given, in this section, from English. (These examples are not based on a thorough analysis of English, such as that which is being carried out by others on the orthodox Scale and Category model. They are ad hoc examples, intended merely to illustrate how some features of English could be described with reference to the theoretical categories.)

i, b, Examples of the five theoretical categories from traditional English grammar are:

unit : sentence, clause, word;

element; Subject, Root;

class : singular word, noun (more precisely, 'noun-word');

structure: Subject + Predicator + Complement (i. e. 'Object');

system ; number, tense, voice,

i, c, The underlined items in the following pairs of English utterances differ in respect of one or more of the five theoretical categories:

1. 'the one who never stops talking', 'the one with grey hair'
The items belong to different units (the first is a clause, the second a group), therefore they also belong to different classes, and have different structures; but they represent the same element, and therefore the classes to which they belong can belong to the same system,

2. 'This morning is a bad time for visiting him', 'He came this evening'

The items represent different elements (the first represents the Subject, the second the Adjunct), and the classes to which they belong therefore belong to different systems; but the items belong to the same unit and class, and have the same structure,

3. 'He has come.', 'He has seen her.'

The items belong to different classes (the first is Complement-incompatible, the second Complement-compatible; of course, if they were allotted to classes on other criteria than their compatibility with a Complement, they could belong to the same class. The point being illustrated here is that the difference between the items can be described as a difference of class.) The items belong to the same unit, and represent the same element, so the classes to which they belong can be members of the same system. The structures of the two items can be considered to be the same. (Any two items can be said to have different structures, provided their structures are defined precisely enough.)

4. 'I like fat men.', 'I like fat men with a sense of humour.'

The items have different structures (the structure of the first is Modifier + Head, while that of the second is Modifier + Head + Qualifier); they belong to the same unit and represent the same element, and can be considered to belong to the same class. If they belong to the same class, there can be no difference of system.

5. 'fat men', 'big fat men'

The class to which 'fat' belongs, belongs to a different system in each case (in the first case, 'fat', and the other words in the same class, contrast with words such as 'such', but in the second case 'fat', etc. contrast with 'such' - 'such men' is possible, whereas 'big such men' is not.) In each case, 'fat' is the same item, so there is no difference of unit; it must however be considered to belong to a different sub-division of the same class, and to represent a different sub-division of the same element, in each case.

i.d. The five theoretical categories are defined as follows.

ii.a. Units are mutually defining sets of items, each such set being said to be 'higher' or 'lower' than another set, the sets are so defined that any member of a given unit has at least one member of the next unit 'down' among its

constituents, and cannot itself be a constituent of a member of a unit higher than the next unit 'up'. (The first part of the definition does not, of course, apply to the lowest unit, since its members have no constituents.)

ii.b. A 'unit-member' is an item which consists of a single member of a unit; for convenience, such items can be referred to by the name of the unit to which they belong. Thus, a unit-member consisting of a single member of the unit 'clause', is referred to as 'a clause'. 'Unit-members' contrast with items which consist of more than one members of a unit, or items which consist of part of a member of a unit.

ii.c. Thus, five units are distinguished in English: sentence, clause, group, word, morpheme. Any group consists of at least one word, with or without members of other units (e.g. the group 'men with a sense of humour' consists of a word - 'men' - and a group - 'with a sense of humour'); and a group can be a constituent of a clause, but not of a sentence.

ii.d. If a member of one unit is a constituent of a member of the next unit up, the former is said to be 'unshifted' otherwise, it is 'rankshifted'. Thus, if a group is a constituent of a clause, it is unshifted (as in 'He does everything with a sense of humour.'); if it is a constituent of a group, however, it is rankshifted (as in 'fat men with a sense of humour'). The definition of units given in a. above thus implies that every item has at least one unshifted item among its constituents.

iii.a. Elements are sets of items occurring as constituents of all the members of a given unit; each element is set up in such a way that all its members have the same relation to other constituents of the same item.

iii.b. I.e. an item is assigned to a particular element in a given environment, and the element to which it is assigned defines its relation to other constituents (its 'function') in that environment. At the same time, assigning

an item to an element indicates which other items it resembles in that environment. Thus, by assigning the group 'with a sense of humour' (in 'fat men with a sense of humour') to the element Qualifier, its relation to other constituents of the same item is defined (it presupposes, and must follow, a constituent belonging to the element Head), and the set of items which are similar in this respect is defined (i.e. in this environment 'with a sense of humour' resembles items such as 'who enjoy life' or 'which runs from London to Edinburgh', as in 'the train which runs from London to Edinburgh'). Note from these examples that an element can include members of more than one unit ('with a sense of humour' is a group, while 'who enjoy life' is a clause).

i.c.

Again, for convenience, a member of an element can be referred to by the name of the element itself (e.g. a member of the element Qualifier is referred to as 'a Qualifier'). Also, an element is said to be 'represented' in a particular utterance by one of its members; thus, 'with a sense of humour' is said to represent the Qualifier in the group 'fat men with a sense of humour', whereas it represents the element Adjunct in the clause 'He does everything with a sense of humour.'

i.d.

Certain elements are treated as fundamental, in the sense that any constituent of any member of a particular unit can be allotted to one such element. These elements are referred to as 'primary elements', and can be sub-divided into 'secondary elements', whose members share features additional to those shared by all members of the primary element. Thus, the primary element Predicator falls into three secondary elements, according to the possibility of a Complement in the same clause; Complement-incompatible (e.g. 'has come' as in 'He has come'), Complement-compatible (e.g. 'has seen' as in 'He has seen it,' or 'He has seen,') and Complement-requiring (e.g. 'has found', as in 'He has found it,').

iii.e.

An item can represent different elements in different environments, but it can represent only one primary element in a given environment. The only exceptions are grammatically ambiguous utterances, such as 'He tried in the garden.', where 'in the garden' can represent either the Complement (c.f. 'He chose in the garden, rather than indoors for working.') or the Adjunct (c.f. 'He sat in the garden.');

likewise, in 'I like fat men with a sense of humour.', 'with a sense of humour' can represent either the Adjunct, thus being a constituent of the clause (c.f. 'I like them with a sense of humour. '), or the Qualifier, thus being a constituent of the group containing 'fat men' as its other constituents (c.f. 'I like the ones with a sense of humour.')

iii.f.

A fundamental distinction is drawn between simple elements and complex elements. Simple elements are those which include only single unit-members; e.g. the element 'declension-suffix' could be considered to be a simple element, since it includes only single morphemes. Complex elements are elements some of whose members are groupings of unit-members; e.g. the element Subject in English includes single groups, such as 'the boys', and also groupings of groups, such as 'the boys and the girls', which consists of two groups. Thus the members of a complex element are constituents of utterances, but themselves have constituents, which are said to be constituents of the element (see c. above). Thus 'the boys and the girls' in the clause 'The boys and the girls went for a walk,' represents the Subject, and this element consists of the two groups 'the boys' and 'and the girls'. The reason for treating both 'the boys' and 'the boys and the girls' as single constituents of the clause is that there is no syntactic difference between them. Similarly, there is no syntactic difference between 'old Jones' and 'old Jones, the biggest bore in the world' (one and two groups respectively) in the clauses; 'Everyone knows old Jones' and 'Everyone knows old Jones, the biggest bore in the world.' On the other hand, there is a difference

between the two in 'Everyone considered old Jones, the biggest bore in the world.' and 'Everyone considered old Jones.'

iii.g. A complex element need not be represented in every case by more than one unit-member, provided it can be represented by more than one. Thus the single group 'old Jones' represents a complex element in the above clauses since the same element can also be represented by 'old Jones the biggest bore in the world'.

iii.h. Different relations are possible between the constituents of a complex element. For instance, the relations between the constituents of the following two Complements are different: '(Everyone avoids) old Jones, the biggest bore in the world' and '(Everyone avoids) old Jones and his friend.' Provisionally, these two relations can be referred to as apposition and coordination respectively. (These are descriptive, not theoretical terms.)

iii.i. Only one relation is allowed between the constituents of a complex element; e.g. either all the constituents must be coordinated, or all must be apposed. Therefore it may be necessary to divide the constituents themselves into smaller groupings, referred to as 'sub-elements', which are interrelated in one way, and contain constituents interrelated in another way. Thus, the complex Complement element in the clause: 'Everyone avoids old Jones, the biggest bore in the world, and his friend, an octogenarian.' is represented by four groups, the first being apposed to the second, and the third to the fourth. These two pairs each represent a complex sub-element, and these two sub-elements are coordinated.

iii.j. If an element can be sub-divided into elements, some of which are complex, and some simple, the former element is considered to be complex.

iv.a. Classes are sets of single unit-members so defined that all members of a given class are syntactically similar, in at least one respect, and belong to the same unit.

iv.b. Thus in English one class could include all words which can represent either the Head or the Modifier;

e.g. 'good' in 'good luck' and in 'the good', but not the word 'pickled'. Another class could include words which can occur with the word 'some' ; e.g. 'sugar', but not 'hour'. Classes can be set up on any syntactic criteria, and a particular item can belong to any number of different classes.

iv.c.

There are thus three main differences between elements and classes:

1. an element can, but a class cannot, include members of more than one unit;
2. primary elements cannot intersect - i.e. an item in a given environment cannot belong to two different primary elements, unless it is ambiguous - whereas there is no theoretical restriction on the intersection of classes.
3. an item represents a particular element only in a given environment, whereas an item belongs to the same class or classes wherever it occurs, or in isolation.

iv.d.

The difference between primary elements and classes is more important than that between secondary elements and classes, since (as used here) secondary elements can also include members of only one unit, and secondary elements can also intersect - i.e. an item in a given environment can belong to more than one secondary element without ambiguity. Therefore in the following description of Beja, secondary elements will not be explicitly distinguished, but will be assumed to parallel any classes which are distinguished among the members of the primary elements. Thus, if the same policy was followed in a description of English, the secondary elements including the groups 'has gone', 'has seen' and 'has found' among their members would not be explicitly distinguished, whereas the coterminous classes of verbal group would be explicitly distinguished, and referred to as 'Complement-incompatible', 'Complement-compatible' and 'Complement-requiring' respectively.

v.a.

Systems are sets of all those classes (not items) which belong to the same element (primary or secondary) and are defined by the same criteria.

v.b.

Thus, the classes of verbal group referred to as Complement-compatible, Complement-incompatible and Complement-requiring belong to the same system, since together they include all the members of the element Predicator, and are all set up on the criterion of compatibility with a Complement. Likewise, a system including the classes of verbal group referred to as 'person-neutral' and 'person-specific' applies to the element Predicator; thus, 'going', 'seeing' and 'finding' are all person-neutral, while 'has gone', 'has seen' and 'has found' are person-specific.

(One of the main differences between systems and classes - viz. that their members are respectively classes and items - is illustrated by the fact that the two systems described above include classes whose combined memberships are identical, but the systems must still be distinguished; if two classes, on the other hand, include the same items, they are merged into one class.)

v.c.

A system is said to 'apply to' an element, if the combined membership of the classes belonging to the system and the membership of the element are coterminous. (Thus, the two systems above both apply to the element Predicator.) Since secondary elements are not explicitly distinguished here (iv.d. above), a system may also be said to apply to a class; in this case, it would be more strictly correct to say that the system applies to the element coterminous with this class.

v.d.

The classes belonging to a system which applies to a primary element need not be classes of the same unit. Thus, the system of classes applying to the element Qualifier would include a class of clauses (e.g. 'who enjoy life') and also a class of groups (e.g. 'with a sense of humour')

v.e.

The classes belonging to a given system are usually disjoint, and a given item can thus belong to only one class in that system. One case, however, where a given item can belong to two classes in the same system is when

the classes are distinguished transformationally. For instance, the clause 'that he told her' in 'the fact that he told her' can be considered to be derived either from the clause 'He told her the fact.' or from the clause 'He told her.'; in the first case, the clause 'that he told her' resembles the clause 'he told her' (c.f. 'the fact he told her'), while in the second case, it resembles the clause 'whether he told her' (c.f. 'the question whether he told her'), and therefore 'that he told her' is considered to belong to a different class in the two cases. (Probably all such cases are best treated in English as ambiguity of element, as in iii.e. above, rather than as ambiguity of class, and therefore the above example is not relevant, since the two classes to which 'that he told her' belongs are not members of the same system. The example is given, however, since similar ambiguities in Beja are best treated as ambiguities of class in the same system; e.g. the Beja clause

;tam/ø/yan;/e/!_naa/~/, 'a/ø/ktě:n = I know that he ate it, or = I know what he did - the meaning depends on the class to which ;tam/ø/yan; = he ate, is considered to belong, but in either case ;tam/ø/yan; represents the same element.)

v.f.

Two systems may be syntagmatically interrelated, in that members of a particular class in one system can not occur with members of one or more classes in the other system, but can occur with members of another class in that system. A special case of such syntagmatic interrelations is concord; in this case, both systems include the same number of classes, and members of a given class in one system can occur with members of only one class in the other system.

vi.a.

Structures are sets including all the elements which occur as constituents of a given set of members of a given unit; the structure is also used to describe any relations between these elements which are not determined by the elements themselves.

vi.b.

Thus, the structure of the clause: 'He told her.' is : Subject followed by Predicator followed by Complement,

whereas that of the clause 'Did he tell her?' is : Subject enclosed in Predicator followed by Complement. In these two examples, the structure is considered to determine the sequential difference between 'Subject followed by Predicator' and 'Subject enclosed in Predicator', whereas the different sequential relations of the Subject and the Complement to the Predicator are determined by the elements Subject and Complement themselves, in that they are defined partly with reference to their sequential relations. (Which relations are considered to be determined by the elements, and which by the structure, is of course a descriptive question, since it depends on the criteria by which the elements are defined in the language concerned.)

vi.c. It will be seen from the definition of structures that they are sets of elements, not of items. Thus the structure of the clause 'He told her.' includes the elements Subject, Predicator and Complement, in a particular relation to one another. These elements are represented by the items 'he', 'told' and 'her', but the structure does not include these items as such.

vi.d. A structure need not include more than one element (just as an element or a class need not include more than one item); e.g. the clause 'Hurry!' includes one element, the Predicator.

vi.e. There are three kinds of structure, and two kinds of structural statement. The two kinds of structural statement are structural inventories and structural formulae; in an inventory, elements are merely listed, whereas in a formula their sequence is also indicated. For instance, the structural inventory for the clause 'He saw her yesterday,' is : Adjunct_o, Complement_o, Predicator_o, Subject_o. (for the conventions, such as _o, see g. below), while the structural formula for the same clause is : Subject_o+ Predicator_o+ Complement_o+ Adjunct_o. (Thus all the features indicated in a structural formula are not necessarily determined by the structure, as explained in b. above.)

The three kinds of structure are referred to as unit-structures, class-structures and item-structures. A unit-structure is the structure of all members of a particular unit (e.g. the structural inventory for all clauses in English is : Subject_o, Predicator_o, Complement_o, Adjunct_o, 'Z-element' (e.g. 'him' in 'I want him to go. ')); a class-structure is the structure of all the members of a particular class (e.g. the structural inventory for all imperative clauses is : Predicator_o, Complement_o, Adjunct_o, Z-element); an item-structure is the structure of a particular item (e.g. the structural inventory for the clause 'Help him!' is : Predicator_o, Complement_o).

vi.f. Any restrictions on the cooccurrence of items is described as a structural relation - i.e. as a restriction on the cooccurrence of items representing elements in the same structure. Thus, the word 'puts' can occur with a singular but not with a plural nominal word in the Subject of the same clause, but this restriction is stated as a restriction on the cooccurrence of groups representing the elements Subject and Predicator, not of words contained by such groups. (This policy is adopted for descriptive convenience, in order to avoid repeating the same statements, once in the chapter on the word, once in the chapter on the group.)

vi.g. Certain conventions are followed in describing structures by the two methods described in e. above:

1. in either inventories or formulae, complex elements are followed by _o ; e.g. Subject_o.
2. in either inventories or formulae of unit- or class-structures, elements which occur in all members of the unit or class (i.e. obligatory elements) are underlined; e.g. Predicator_o.
3. in inventories elements are separated by commas, whereas in formulae they are separated by +; e.g. Subject_o, Predicator_o, Complement_o (inventory) but Subject_o+ Predicator_o+ Complement_o (formula)
4. in formulae, if the item (or some members of the unit or

class) are discontinuous, the place of intervening items is marked by ... ; e.g. in 'No-one knows who that man is who looks so ill.', the structure of the group 'that man who looks so ill' is : Modifier₀ + Head₀ + ... Qualifier.

5. likewise, in formulae, if an element is discontinuous it is written once in each place where part of it occurs, and is enclosed in brackets each time except the first; e.g. the structure of the group: 'a bigger man than me' is : Modifier₀ + Head₀ (+ Modifier).

6. where two primary elements occur in the same place (i.e. in the same sequential relation to other elements) and are therefore mutually exclusive, they can be written one above the other; e.g. if compound nouns such as 'coat-hanger' were analysed as single words, whose structure includes two elements Root₁, Root₂, then Root₂ could be considered to exclude the 'pluraliser' element ('coats-hanger' not being possible); the structural formula for such words would thus be :

$$\begin{array}{l} \text{Root}_1 + \text{Root}_2 \\ \quad \quad \quad \text{Pluraliser} \end{array}$$

vii.

The following section describes the most important respects in which the above theoretical categories and their definitions diverge from the orthodox 'Scale and Category' model. In the sections following that (O.2.- O.6.) the descriptive terminology developed specifically for describing Beja grammar is explained. This terminology refers to concepts which are particular instances of the theoretical categories.

O.1.

Comparison with orthodox Scale and Category model.

The theoretical categories referred to in this description differ from those developed and used by Dr. M.A.K. Halliday and others in the following respects (disregarding differences of terminology). The orthodox Scale and Category model is referred to below as 'the S and C model', while the modified version of it described above is referred to as 'the Beja model'.

i.

The 'Scale and Category' model is so called because it formulates four theoretical Categories and three

'Scales' by which the categories are related to each other and to the formal item. In the Beja model, five theoretical categories are explicitly distinguished, and some six:

'scales' are at least implicit in the description. The relations of these categories and scales to those of the S and C model are as follows:

- a. Of the five categories distinguished in the Beja model, one - 'element' - is not set up as a separate category on a level with the other four in the S and C model. The remaining four categories - unit, class, system, structure - are similarly distinguished in both models.
- b. In the S and C model, three scales are distinguished: rank, delicacy, exponence. No two scales can relate the same categories - see I.3.iii,c. The different units are related on the scale of rank, on which one is said to be 'higher' or 'lower' than another (c.f. the term 'rankshift', which is also used in the Beja model - O.O.ii,d, above). Two instances of the same category (e.g. two classes, but not two units) can be related on the scale of delicacy, on which one is said to be more or less delicate than the other. Instances of two different categories, or an instance of a category and a formal item, can be related on the scale of exponence, on which one is said to be more exponential (i.e. less abstract) than the other.

In the Beja model the relations referred to by the S and C scales are implicit in the description, but the relations referred to in the S and C model as 'exponence' are referred to in the following description in a variety of ways, the term 'expound' ('exponent') being given a more specialised meaning. Thus the following relations are subsumed in the S and C model under 'exponence':

- 'Y is a (member of) X'; e.g. 'No-bnb' came, so I went away.'
 - is a (member of the unit) sentence.'
 (S and C model: 'Item Y expounds the unit sentence,')

- 'Y represents X'; e.g. 'The group 'No-one' in the clause 'No-one came,' represents the element Subject.' (S and C; Y expounds X)
- 'X has Y'; e.g. 'Clauses have the structure: Subject, etc.' (S and C; 'X is expounded by Y.')
- 'X consists of Y'; e.g. 'Sentences consist of one or more clauses' (S and C; 'X is expounded by Y.')
- 'X determines Y'; e.g. 'The structure determines the sequential relation between the Subject and the Predicator.' (S and C; 'X is expounded by Y.')
- 'X is expounded by Y'; e.g. the Comparative morpheme is expounded by -er, (Likewise in the S and C model) In the Beja model, Y expounds X only if Y is the phonological item corresponding to the formal item X.

ii. The category 'unit' is defined somewhat differently in the two models. In the S and C model the relation between different units is such that a member of each consists of one, or more than one, of the unit next below. (Halliday, M.A.K.; 'Categories of the Theory of Grammar,') In the Beja model, on the other hand, the relation is such that a member of one consists of at least one member of the unit next below, with or without members of other units. This modification is introduced to allow a legitimate place for rankshift, which is possible only as an exception to the definition of units given in the S and C model.

iii. The term 'element' is part of the terminology of the S and C model, but is not treated as a fundamental category on a par with 'unit', etc. (as it is in the Beja model). In the S and C model 'element' represents one step in abstraction further from the formal item than in the Beja model. Elements are defined in 'Categories of the Theory of Grammar' as follows: 'Each element represents the potentiality of operation of a member of one grouping (i.e. 'class') of members of the unit next below, considered as one 'item-grouping,' (p. 256). Elements are distinguished

in the S and C model from the classes which they stand for. Thus the formal item 'the old man' in 'The old man fell asleep.' is two steps in abstraction from the element Subject - it is exponent (i.e. a member) of the class 'nominal group', which is exponent (i.e. operates at the place of) the element Subject. (ibid. p. 264, note 53.) In the Beja model, however, there is only one step in abstraction from the formal item to the element, since the former is a member of the latter.

iv.a. The category 'class' is similarly defined in both models, viz. as 'a syntactic set' (Halliday, M.A.K.: 'Class in relation to the axes of chain and choice in language.')

iv.b. In the S and C model, two intersecting pairs of theoretical terms are defined, to distinguish between classes set up on different bases; these terms are: 'chain-classes' - 'choice-classes'; 'primary classes' - 'secondary classes'. The relations between these terms and those used in the following description of Beja to distinguish kinds of classes, are as follows. (The latter are referred to as 'the Beja model', although they are properly descriptive, rather than theoretical, terms. See 0.3. below.)

iv.c. The first pair of terms (chain-class - choice-class) refer primarily to the relations between two different classes (X and Y): if classes X and Y include members of different elements (in Beja model-terminology), they are different chain-classes, but if X and Y include members of the same element (and therefore can also belong to the same system) they are different choice-classes. Thus, a given class - e.g. 'singular verbal group' - can be either a chain-class or a choice-class, depending on whether its relation to the classes 'nominal group' or 'plural verbal group' is considered. At the same time, the classes 'singular verbal group' and 'plural verbal group' can also be considered to be different chain-classes if, as is possible, each is

considered to belong to a different secondary element - viz. 'singular Predicator' and 'plural Predicator'.

In the Beja model, on the other hand, a distinction is drawn between element-classes, element-free classes, and element-bound classes. (See O.4.ii.a, O.4.iii. below.) Element-classes are the intersection of primary elements and units; element-free classes are classes of a given unit whose members belong to more than one element-class; element-bound classes are classes whose members belong to only one element-class. Thus, Beja-model element-classes correspond to classes like 'verbal group', which can only be chain-classes, and Beja-model element-bound classes correspond to those classes, like 'singular verbal group', which can be either chain- or choice-classes. Beja-model element-free classes correspond sometimes to S and C-model chain-classes, like 'nominal group' (which is a sort of 'valency class' - O.4.iv.a.), but sometimes seem to be covered neither by the term 'chain-class' nor by the term 'choice-class' (e.g. 'sequence-class', 'containing-item class', 'clause-type' - ... see O.4.iv.)

iv.d.

The terms 'primary class' and 'secondary class' are used to distinguish classes which cannot be treated as sub-sets of other classes, from those which can be so treated. Thus each unit can be divided exhaustively into only one set of primary classes, each of which can be divided, by different criteria, into various sets of secondary classes; e.g. the classes 'nominal group', 'verbal group' and 'adverbial group' are primary classes, since no other classification of groups cuts across this classification. In the Beja model, on the other hand, element-classes and element-free classes are always primary in the sense that each such set of classes (e.g. all the sequence-classes) exhausts the membership of the unit; but they are not primary in the sense that no classification can cut across such a classification, since all element- and element-free classes cut across each other, by definition. All element-bound classes in the Beja model are, however, choice-classes in the sense in which this term is used in the S and C model.

v. The category 'system' is similarly defined in both models. In the Beja model, however, it is specifically stated that the classes in a given system need not be classes of the same unit (O.O.v.d.). This is again made explicit, in order to allow rankshift to play a 'normal' part in the description, rather than to be always treated as an exceptional feature.

vi.a. The category 'structure' is defined in the S and C model as 'an arrangement of elements ordered in 'places'' ('Categories of the Theory of Grammar' p.255.) - i.e. an arrangement of elements ordered in sequence. In the Beja model, 'structure' is defined as 'a set including all the elements which occur as constituents of a given set of members of a given unit; the structure is also used to describe any relations between these elements which are not determined by the elements themselves.' (O.O.vi.a.) The latter is a more 'functional' definition than the former, in that it distinguishes between those structural relations which are determined by the elements, and those which are determined by the structure itself.

vi.b. In the S and C model a distinction is made between 'place-ordered' structural relations and 'depth-ordered' structural relations: the latter are, but the former are not, recursive. Thus, the relation between Subject and Predicator in English is place-ordered, since such a relation is never found between more than one pair of elements in the same structure; whereas the relation between two Predicators is depth-ordered, since several pairs of Predicators can stand in the same relation to each other in a single structure - e.g. in 'I want to try to arrange to keep on going.' there are five Predicators each of which is related in the same way to the Predicator which follows it.

In the Beja model, all structures are of the place-ordered kind. Features such as would be described on the S and C model in terms of 'depth-ordering' are described on the Beja model in terms of complex elements (O.O.iii.f.) or of rankshift (O.O.ii.d.). For instance, on the S and C model 'I came, I saw, I conquered.' would be said to have a structure containing

three depth-ordered elements, each represented by a clause, but on the Beja model this sentence would be said to have in its structure one complex element, which is represented by a grouping of three clauses. On the other hand, 'I want to arrange to keep on going,' could be described on the Beja model as having a structure : Subject + Predicator + Complement, where the Complement is represented by a rankshifted clause, with a similar structure. (Thus logically transitive recursion, in S and C-model terminology, is described on the Beja model in terms of complex elements, and logically intransitive recursion in terms of rankshift.)

0,2, Units

i, There are five units of Beja grammar; morpheme, word, group, clause, sentence,

ii,a, The boundaries of members of these five units are shown in the transcription by punctuation-marks as follows;

- / marks a morpheme-boundary;
- o marks a word-boundary;
- , marks a group-boundary;
- ; marks a clause-boundary;
- . marks a sentence-boundary.

ii,b, Where two juxtaposed constituents of an item belong to the same unit, the boundary between them is marked only once; e.g. in $o'u:/t\acute{a}k/\emptyset_o$ = the man, there are three morphemes: $/u:/$, $/t\acute{a}k/$ and $/\emptyset/$, but there is no ambiguity if the juxtaposed boundaries are represented together by a single boundary-mark. (For the absence of / at the beginning and end of the word, see c, below.)

ii,c, Since each of the constituents of an item is bounded by such boundary-marks in the transcription, the first boundary of the first constituent, or the last boundary of the last constituent, coincides with a boundary of the item thus constituted. If such a constituent is not rankshifted, its own boundary is not marked (e.g. the first and last morpheme-boundaries are not marked in $o'u:/t\acute{a}k/\emptyset_o$ since their presence is implied by the word-boundaries). If however it is rankshifted,

both its boundaries are marked. For instance, the group ,;dabalo;/°'o:ir/ø, = a small boy, consists of two words, separated in the transcription by °; since these two words are not rankshifted, their first and last boundaries respectively are not marked, being implicit in the group-boundaries with which they coincide. The second word consists of two morphemes, whose boundaries are similarly unmarked where they coincide with a word-boundary. The first word, however, consists of a clause and a morpheme; since the clause is rankshifted, both of its boundaries are marked.

Since the boundaries of rankshifted constituents are always marked separately from the boundaries with which they coincide, but those of unshifted constituents are not so marked, wherever two unit-boundary marks are juxtaposed in the transcription, one of the items thus bounded must be rankshifted; e.g. in the word °'i/°ti/takat/ø, /ti/° = the one of the woman, the constituent bounded by ,---, is a rankshifted group.

Elements

Each unit except the morpheme has a unit-structure, including elements which are not included by any other unit-structure.

The four unit-structures include the following primary elements; the abbreviations which are sometimes used for the element-names are shown in brackets.

- a. word unit-structure ; Root_o (Rt_o), Transitiser (Tr), G-geminator (Gg), Nominaliser (Nm), Genitival (Gy), Marker (Mk), Pluraliser (Pl), Second-person (Sp), Modifier (Md), Pronominal (Pr), Compounder (Cd), Optative (Op), Certainty (Cy), Comparative (Cr), Than/on (Th), Generaliser (Gn), Conjunctive (Cj),
- b. group unit-structure ; Head_o (h_o), Complement_o (c_o),
- c. clause unit-structure ; Predicator (P), Subject_o (S_o), Object_o (O_o), Adjunct_o (A_o),
- d. sentence unit-structure ; Final (II), Prefinal_o (I_o),

Elements which belong to the unit-structure of the word are referred to as 'word-elements', those which belong to

the unit-structure of the group as 'group=elements', and so on.

iv, a,

The elements listed above include members of the following units;

word=elements: Root includes morphemes, 'groups, 'clauses;
all other word=elements include only morphemes.

group=elements: Complement includes words, 'groups, 'clauses;
the other group=element, the Head, includes only words,

clause=elements: Object includes groups, 'sentences;
all other clause=elements include only groups.

sentence=elements: both elements include only clauses.

iv, b,

(When an element is represented by a member of the unit marked with ' , this item is rankshifted, See c, below.)

iv, b,

The following are some examples of elements whose members belong to different units (the relevant elements are underlined in the examples),

Root=morpheme ; \emptyset wi/'d:r/θ = the boy,

Root=group ; \emptyset 'i/wi/'d:r/θ, /i/ = the one of the boy,

Root=clause ; \emptyset 'i/ti/n'ari/, tan/θ/a/ = the one who ate
the food,

Complement=word ; \emptyset wi/'d:r/θ, /i/ gəw/θ = the boy's house

Complement=group ; \emptyset wi/'d:r/θ, \emptyset 'i/gaw/θ/ = the boy's house
(the boy, his house),

Complement=clause ; \emptyset ti/n'ari/, tan/θ/an/, \emptyset ba'/θ/ān = I kept
on eating the food,

Object=group ; \emptyset wi/'d:r/θ, rih/θ/ān = I saw the boy,

Object=sentence ; \emptyset ti/n'ari/, tan/θ/ān, 'i/θ/nɪ = He said
'I've eaten the food',

iv, c,

It will be seen that some items representing the elements Root, Complement and Object are rankshifted, but that each of these elements can also be represented by unshifted items. Of the above examples, those illustrating Root=morphemes Complement=words and Object=groups contain no rankshifted items, while the underlined item in all the other examples is rankshifted.

v.

Elements are either simple or complex (O.O.iii.f.). Of the above primary elements, seven are complex, and the rest are simple. The seven complex elements are: Root; Complement, Head; Subject, Object, Adjunct; Pre-final. All these seven primary elements, except Adjunct and Pre-final, fall into secondary elements, some of which are complex, but some are simple (O.O.iii.j.). In all cases except one, a given element is always simple when represented by some items; and always complex when represented by other items; e.g. the element Root can be represented by more than one group, but only by a single clause, so in the first case it is always complex, while in the second it is always simple. There is, however, one class of groups whose members can represent either a simple or a complex Complement element (G.O.iii.b.2.).

vi.a.

The relation between two (or more) constituents of a complex element is determined by the class or unit to which the constituents belong. Four relations are distinguished here: gemination = the constituents are the same formal item;

e.g. ,fajll, fajll, = every morning; these two words together represent the element Head.

apposition = the constituents (which are always groups) are lexical items which can occur in a clause, one representing the Subject, the other representing the Complement in the Predicator; this clause means '... is ...';

e.g. ;'u:/tāk/ø, 'i;/inda:i;/~ ,diw/ø/i:nī; = the good man is sleeping; the two groups , 'u:/tāk/ø, = the man, and , 'i;/inda:i;/~ , = the good one, are apposed, and together represent the element Subject; e.f. the clause:

, 'u:/tāk/ø, , 'i;/inda:i;/~ , ø/ū; = the man is the good one.

coordination = neither of the constituents can be the only constituent of an element;

e.g. ;wi/'ø:r/ø/wa, 'u:/tāk/ø/wa, diw/ø/e/ʔn; = the boy and the man are sleeping; the two groups ,wi/'ø:r/ø/wa = the boy, and , 'u:/tāk/ø/wa = and the man, together represent the Subject; neither can occur without another group

representing the same element,

listing - any constituents which are not covered by the above definitions are 'listed'.

vi. b.

A terminological distinction is made between 'apposed', etc. and 'apposing', etc.; if X and Y are related by apposition, X and Y are apposed (i.e. X is apposed to Y, and Y is apposed to X); but if X is capable of being apposed to other items, X is said to be apposing, this being the name of a class (G. O. iii. b.),

vi. c.

The relation between the constituents of a complex element is shown in a structural inventory or formula by a letter (G, a, c, l) written over the \circ after the element-name; if no such letter is written over the \circ , it is to be understood that this element, though complex, is represented in the item concerned by only one constituent. Thus, the structures of the following items are as shown below:

\circ fajīl \circ fajīl \circ = every morning (structure: Head^G)

\circ 'u:/tāk/ \circ 'i/inda:i;/ \circ diw/ \circ i:nī; = the good man is sleeping
(structure: Subject^A + Predicator)

\circ 'u:/tāk/ \circ wa,wi/ \circ r/ \circ wa,diw/ \circ e/zn = the man and the boy are sleeping (structure: Subject^C + Predicator)

\circ tam/ \circ any;/e/ik; \circ gva/ \circ any;/c/ik,hadi:d/ \circ ani; = If I eat or if I drink, I talk. (structure: Adjunct¹ + Predicator)

vi. d.

The above four relations are found between constituent of elements as follows:

gemination - between words of certain classes (W₁1,2,1, W₁1,2,1) representing the element Head;

e.g. \circ 'a/ \circ rib/ \circ 'a/ \circ rib/ \circ = I refused it

\circ fajīl \circ fajīl \circ = every morning

apposition - between substantive and/or epithet groups representing the elements Root, Complement, Subject, Object or Adjunct;

e.g. \circ 'u:/tāk/ \circ 'i/inda:i;/ \circ diw/ \circ i:nī; = the good man is sleeping (the two groups underlined represent the Subject)

e, g. ; 'o:/tāk/∅, 'i;/nda:i;/ʔb, rih/∅/an = I saw the good man (the two groups underlined represent the Object),

e, g. ; 'o:/tāk/∅, 'i;/nda:i;/ʔb, ∅/u = He is the good man (the two groups underlined represent the Complement),

e, g. ∅, 'o:/tāk/∅, 'i;/nda:i;/∅, /ʔnā;y/t ∅ = like the good man (the two groups underlined represent the Root),

coordination = between coordinating groups (G, 0, iii, d,) representing the elements Complement, Subject, Object, Adjunct;

e, g. ; 'u:/tāk/∅/wa, wi/'δ:r/∅/wa, diw/∅/e/ʔn = The man and the boy are sleeping (the groups underlined represent the Subject),

e, g. ; 'o:/tāk/∅/wa, wi/'δ:r/∅/wa; ∅/a = They are the man and the boy (the two groups underlined represent the Complement)

listing = 1. between words of certain classes (V, 2, iii, b,) representing the element Complement;

e, g. , 'ayi/∅/ʔ, 'asagwīr/∅/∅, hawl/a/ʔ, = five or six years

2. between adjunctival groups (G, 3, 1, G, 5, 2,) representing the elements Adjunct or Complement;

e, g. ; itam/∅/any;/e/!k, igwa'/∅/any;/e/!k, dayyar/∅/an = If I eat or if I drink I get tired,

3. between clauses representing the Pre-final element;

e, g. , ti/m'ari/ʔ, tam/∅/ya/!; 'o:/bū:n/∅, gwa'/∅/ya/!;
diw/∅/yǎ = He ate the food and drank the coffee and went to sleep,

4. between sentences representing the element Object

e, g. ; 'o:/tāk/∅, k'/aa:/∅/kán, naa:ʔ tāk/∅, ∅/u/?,
'i/∅/nǎ; = 'I don't know the man, who is he?', he said,

0,4, Classes

i,a, No class can, by definition, include members of more than one unit,

i,b, Classes are set up on various syntactic (but not morphological) criteria, as follows,

ii,a, Every unit is divided into classes called element-classes; these classes are the intersection of units and primary elements, or, more precisely, the intersection of units and either simple primary elements or the set of all constituents of members of complex primary elements. For instance, the element-class of groups referred to as 'Subject-groups' includes not only groups such as ,wi/'d:r/ø, = the boy, which can be the only constituent of a complex Subject, but also groups such as ,wi/'d:r/ø/wa, = and the boy, which are never the only constituent of the Subject. Thus all members of any class, including element-classes, are single unit-members,

ii,b, Thus the five units fall into the following element-classes;

morpheme - Root-morphemes (referred to as Radicals)
Transitor-morphemes (referred to as Transitors)
etc. (see the list of word-elements in 0,3,ii,a, above,)

word - Head-words (referred to as h-words)
Complement-words (referred to as c-words)

group - Subject-groups (referred to as S-groups)
Object-groups (referred to as O-groups)
Adjunct-groups (referred to as A-groups)
Predicator-groups (referred to as P-groups)
Complement-groups (referred to as c-groups)
Root-groups (referred to as Rt-groups)

clause - Pre-final clauses (referred to as I-clauses)
Final clauses (referred to as II-clauses)
Complement-clauses (referred to as c-clauses)
Root-clauses (referred to as Rt-clauses)

sentence - Object-sentences (referred to as O-sentences)

iii,

Classes set up on other criteria may or may not include members of more than one element-class. If they do, they are referred to as 'element-free' classes; if they do not, they are referred to as 'element-bound' classes. An element-bound class is thus a sub-set of a particular element-class, and is therefore a member of a system including other such classes. An element-free class on the other hand, although distinct from other classes, is not considered to be in systemic contrast with them.

iv,

Both element-free and element-bound classes can in theory be distinguished by any syntactic criteria. In this description, however, only the following criteria are used to distinguish element-free classes (for element-bound classes, see v, below);

a, valency-classes are distinguished by the range of element-classes to which their members belong. Whereas element-classes of a given unit can, but need not be, disjoint, valency-classes must be disjoint; thus the intersection of two element-classes is set up as a separate valency-class, in addition to those which include the remainder of each of the intersecting classes. The five units fall into the following valency-classes:

- morpheme - as for element-classes, since all element-classes are disjoint,
- word - Head-only words (referred to as h-only words)
 Head- or Complement-words (referred to as h/c words)
- group - P-only groups
 S-only groups
 O-only groups
 A-only groups
 c-only groups
 S/c-groups
 A/c-groups
 A/Rt/c-groups
 O/Rt/c-groups
 O/A/Rt/c-groups

clause = I-only clauses
 II-only clauses
 c-only clauses
 Rt-only clauses
 II/Rt-clauses
 c/Rt-clauses

sentence = as for element-classes, since there is only one element-class of sentence.

b. containing-item classes are distinguished by the classes of the next higher unit of which their members can be constituents. Morphemes fall into five such classes, according to the classes of word of which they can be constituents, the classes being verbal, equative, adjectival, nominal and adjunctival. It was not found useful to set up containing-item classes of other units.

c. sequence-classes are distinguished by the sequential relations of their members to other items. Thus the units morpheme, word, group and clause fall into the following sequence-classes:

morpheme = a-morphemes
b-morphemes
c-morphemes
etc. to q-morphemes

(With a few exceptions, the members of one sequence-class are mutually exclusive and the classes occur in alphabetical order between certain boundaries - H, O, I).

word = solo words (always represent the only element in a given item-structure)
 non-following words (never follow items representing other elements in the item-structure)
 non-preceding words (never precede items representing other elements in the same item-structure)
 free words (do not determine their own sequential relations to items representing other elements in the same item-structure)

group - epithet groups (if these are apposed to non-epithet groups they must follow the latter)

non-epithet groups (no such restrictions exist - G.O.iv.)

clauses - as for element-classes, since I-clauses always precede II-classes.

d. conjunction-classes are distinguished by the ability or inability of their members to represent a complex element, and, if they can represent such elements, their relations to other constituents of the same element. Groups fall into six conjunction-classes, referred to as 'solo', 'solo/apposing', 'apposing', 'coordinating', 'coordinating/apposing' and 'listing' groups (see G.O.iii.b.). No other units are divided into conjunction-classes.

e. clause-types are distinguished by the transformational relations of their members to other clauses (no other units are sub-divided into element-free classes on such criteria.) Some clauses are considered to be underivcd, while other clauses are considered to be derived from them by a variety of rule-sets, each of which yields a different clause-type. There are ten such derived clause-types, in addition to the underivcd clause-type (see Appendix D).

v.

Element-bound classes are distinguished by one or more of the following criteria:

- a. the element-free classes to which their members belong;
- b. the environments in which their members occur (i.e. the items to which their members can be structurally related - O.O.vi.f.)
- c. the transformational relations of their members to other members of the same unit, where these features are not described in terms of clause-types (see C.4.1., S.1.1.).

0.5.

Systems

i.

No attempt will be made here to summarise the systems distinguished in this description. A few of the systems set up can be conveniently referred to by traditional names, such as gender, number, person, but the majority cannot, for lack of an appropriate traditional name; therefore systems are referred to primarily by numbers, though in some cases terms such as

'gender/number' can be used as well.

- ii. Systems can be displayed diagrammatically as follows:
- a. the classes which the system includes are listed in a column with a vertical bracket enclosing them on the left;
 - b. the element to which this system applies is shown on the left of the bracket; (a given set of items may be treated as both a class, belonging to one system, and a (secondary) element, to which another system applies; therefore the element to which a system applies may itself be a class belonging to another system - see O.O.iv,d.)
 - c. each system is given a reference-number, which appears above the bracket, thus:

Head-word	verbal equative adjectival nominal adjunctival,	{ 2 } compounded non-compounded
-----------	---	---

0,6. Structures

- i. If two juxtaposed items are constituents of the same item, they are said to be structurally related; otherwise, the relation between them is merely one of sequence. For instance, the morpheme /!k/ = your, is structurally related to the morpheme /u/ (masculine nominative Marker morpheme) in the word $^{\circ}i/san/u/!k_{\circ}$ = your brother, but not in the word $^{\circ}wi/!i/san/\emptyset/!i/;u(/!k)_{\circ}$ = the one of your brother. In the latter word, /!k/ is structurally related to the other three morphemes in the word $^{\circ}i/san/\emptyset, \dots /!k_{\circ}$ = your brother, and is merely sequentially related to /;u/ (see H,10,ii,a.). Items which, like /!k/ in the second example above, are sequentially separated from the items to which they are structurally related, are always bracketed in the transcription.

ii, a. The structure is always considered to determine which elements belong to it, and the number of times each element is represented; i.e. these features can never be considered to be determined by the elements themselves.

ii.b.

The only feature which is sometimes determined by the elements, sometimes by the structure to which the elements belong, is the sequence of the elements. For instance, the morphological difference between the following utterances is considered to be determined by their structures:

; 'u:/tāk/∅, wi/'ó:r/∅, rih/∅/yǎ; = The man saw the boy.

; wi/'ó:r/∅, 'u:/tāk/∅, rih/∅/yǎ; = " " "

; rih/∅/yǎ, 'u:/tāk/∅, wi/'ó:r/∅; = " " "

; rih/∅/yǎ, wi/'ó:r/∅, 'u:/tāk/∅; = " " "

ii.c.

The sequence in which elements occur is considered to be determined by the structure to which they belong except when the elements are represented by members of the sequence-classes of morpheme or word (excluding the word-class 'free'), and except when the elements are sentence-elements (Final and Pre-final).

ii.c.

Sequence which is determined by the structure is never obligatory (in the sense that all members of a given class have the same sequence of elements). On the other hand, sequence which is determined by the elements themselves can not, by definition, constitute the only morphological difference between two items or classes, and the differences in the elements can be taken to imply automatically the differences of sequence. Therefore, in this description, differences of sequence are considered never to be syntactically significant. (If more information were available, of course, classes could be distinguished more delicately, and some of these classes would probably be morphologically distinguished only by the sequence of the elements in their structures.)

iii.

In order to simplify the description, paradigm-sets of verbal words are set up and described in Appendix C; these sets are distinguished on purely morphological grounds, and syntactic similarities or differences are disregarded. When describing morphological differences, including differences of structure, between words it is simpler to refer to such a set than to describe the actual differences each time.

THE MORPHEME

M.O. Element-classes and element-free classes

i. There are seventeen element-classes of morpheme. They are listed below in the order in which they are described in this chapter (the numbers below refer to the sections where the element-classes are described).

1. Radical morphemes
2. Transitor morphemes
3. C-geminator morpheme
4. Nominaliser morphemes
5. Genitival morpheme
6. Marker morphemes
7. Pluraliser morphemes
8. Second-person morphemes
9. Modifier morpheme
10. Pronominal morphemes
11. Compounder morpheme
12. Optative morpheme
13. Certainty morphemes
14. Comparative morpheme
15. Than/on morpheme
16. Generaliser morpheme
17. Conjunctive morphemes.

ii.a. Morphemes are always, by definition, constituents of words; two juxtaposed morphemes need not, however, be constituents of the same word, since they may be constituents of two juxtaposed words (or, indeed, of two words which are not even juxtaposed, in the exceptional case described in NOTE W.3.; this possibility will be disregarded in the present chapter.) The words of which the morphemes are constituents may be separated by a word boundary, as in
 ʔgaaʔl/ø.tak/ø, = one man (a group, consisting of two words),
 or by a higher unit-boundary, as in
 .tam/ø/i:ni/;diw/ø/i:ni. = He eats and sleeps (a sentence, consisting of two clauses). However, in addition to such simple

situations as these, there are others where one of the juxtaposed words is part of a unit-member (viz. a group or a clause) which is rankshifted, as in

ḡaaʔl/∅, ták/∅, ∅/u, = He is one man (a group, consisting of a group followed by a word). In this example, the morphemes underlined are sequentially juxtaposed, but are separated by a group-boundary (implying also a word- and a morpheme-boundary - see O.2.ii.c.) and a word-boundary (implying also a morpheme-boundary). Thus there is no structural relation, in the sense in which this term is used here (O.O.vi.f.), between these two morphemes, each of which is structurally related only to the other morphemes constituting the same word. Nor is there, for the same reason, any structural relation between the morphemes underlined in ḡaaʔl/∅, ták/∅, = one man.

ii.b.

Morphemes can be divided into element-free sequence-classes according to the place in which they occur in a grouping of morphemes. The groupings of morphemes within which these restrictions are valid include all groupings of structurally related morphemes, such as the morphemes in ḡaaʔl/∅, = one, in ták/∅, = a man, and in ∅/u, = he is. The restrictions also apply, however, to groupings of morphemes, some of which are constituents of one word, and some of another, provided the two words are separated either by a group-boundary juxtaposed to a morpheme-boundary, or by a clause-boundary juxtaposed to a morpheme-boundary. In other words, the morphemes in such a grouping must be constituents of two words, one of which is part of a group or clause which is a constituent of the other word. The former word always represents the Head in such a group, or the Head in the Predicator-group of such a clause. For instance, in the group ḡaaʔl/∅, ták/∅, = one man, the word ták/∅ represents the Head, and it is to this word that the morphemes /i/! must be juxtaposed when the group is structurally related to them, in ḡaaʔl/∅, ták/∅, /i/! = from one man. Similarly, in the clause ʔu:/ták/∅, tó:y, diw/∅, e:t/ĩ; baʔ/∅, i:nĩ; = the man keeps on

sleeping here., the word $\text{ba}'/\emptyset/\text{i:ni}$, represents the Head in the clause's Predicator-group, and must precede the morpheme $/\text{ay}/$ when the latter is structurally related to the clause, as in $\text{'u:}/\text{tak}/\emptyset;\text{t}^{\text{b}}\text{y},\text{diw}/\emptyset/\text{e:t}/\text{i},\text{ba}'/\emptyset/\text{i:ni};/\text{ay}$, = the man keeps on falling asleep here, so ... Thus, $\text{tak}/\emptyset;/\text{i}/$, and $\text{ba}'/\emptyset/\text{i:ni};/\text{ay}$, constitute morpheme-groupings within which the sequence-restrictions are valid, although the morphemes $/\text{i}/$ are structurally related to the whole group $\text{ga:yl}/\emptyset,\text{tak}/\emptyset$, and the morpheme $/\text{ay}/$ is structurally related to the whole clause $\text{'u:}/\text{tak}/\emptyset;\text{t}^{\text{b}}\text{y},\text{diw}/\emptyset/\text{e:t}/\text{i},\text{ba}'/\emptyset/\text{i:ni};$

ii, c.

Each of the sequence-classes of morpheme is referred to by a letter of the alphabet, from a to q; with five exceptions, the members of one sequence-class are mutually exclusive, and members of different classes must occur in alphabetical order (with reference to the names of the classes, of course). Thus the morphemes in the grouping $\text{'u:}/\text{tak}/\emptyset$, = the man, belong to classes a, e, i (in that order); and in the grouping $\text{tam}/\text{s}/\text{e}/\text{in}/\text{ho:ik}$, = they feed you, to the classes e, f, g, h, k respectively. If, however, the latter word is part of a clause which is structurally related to a class j morpheme, this morpheme must come between the class h and class k morphemes of $\text{tam}/\text{s}/\text{e}/\text{in}/\text{ho:ik}$, thus: $\text{tam}/\text{s}/\text{e}/\text{in};/\text{h};\text{yt}/\text{ho:ik}$, = they feed you, then ...

ii, d.

The five exceptions to the sequence-restrictions are as follows:

1. two, or even three, class a morphemes can be juxtaposed in one grouping (they must, however, be separated by a group- or clause-boundary juxtaposed to a morpheme-boundary);
e.g. $\text{wi}/;\text{i};\text{ba:}/\text{tam}/\text{ay}/\emptyset;/\emptyset;/\text{na:}^{\text{b}}\text{y}/\emptyset$, = the one of the one who can't eat (each of the morphemes underlined belongs to class a; see N, 9, iii, b.)
2. two class g morphemes can be juxtaposed in one grouping;
e.g. $\text{tam}^{\text{a}}/\text{tama}/\text{s}/\text{an}$, = I kept on letting him eat. (N, 2, 2, iv, h)
3. a class g morpheme (Genitival) always follows a morpheme of class g, i or k; both before and after such a morpheme, however, the alphabetical order of sequence-classes must be followed,

The Genitival morpheme is always preceded by a group- or clause-boundary;

e.g. $\text{ə} \text{itam/} \underline{\text{is/ya/}} \underline{\text{in/}} \underline{\text{e/}} \text{/k}_0$ = if they fed him (the morphemes underlined, of which the second is the Genitival, belong to sequence-classes h and g respectively,)

4, a class j morpheme (Compounder) precedes a class j morpheme (marker);

e.g. $\text{ə} \text{ij/} \underline{\text{dibl/}} \underline{\text{ə/}} \underline{\text{ə/}} \underline{\text{ə/}} \underline{\text{it}}_0$ = collect it, then ,, , j (the morphemes underlined both belong to class j; the first is a Compounder, the second a marker, morpheme,)

5, a class k morpheme precedes a class i morpheme (Comparative); the two are separated by a clause-boundary;

e.g. $\text{ə} \text{itam/} \underline{\text{is/ya/}} \underline{\text{in/}} \underline{\text{no:k/}} \underline{\text{'kaa/}} \text{/b}_0$ = ones who fed you more (the morphemes underlined belong to classes k and i respectively.)

ii, e, The sequence of morphemes in any grouping, as defined above, is thus entirely determined by the sequence-classes to which the morphemes belong, moreover, the separation of a morpheme from the other morphemes to which it is structurally related, by other morphemes, (to which it is not structurally related) can be considered to be a regular manifestation of the sequence-restrictions, rather than to constitute an exception (e.f. $\text{ə} \text{itam/} \underline{\text{s/e/}} \underline{\text{in/}} \underline{\text{ə/}} \underline{\text{it}} \text{(no:k)}_0$ in ii, c, above,)

iii, Words can be divided into the classes verbal, equative, adjectival, nominal and adjunctival (W, 1, 1, W, 2, 1,), and morphemes can be divided into five classes according to the classes of word of which their members can be constituents, (These classes are 'containing-item classes' = 0, 4, i, y, b,) Whereas the five word-classes are disjoint, however, the five parallel morpheme-classes overlap = for instance, 'Pronominal' morphemes can be constituents of verbal, nominal or adjunctival words;

e.g. verbal = $\text{ə} \text{tam/} \underline{\text{s/e/}} \underline{\text{it/}} \underline{\text{ə:k}}_0$ = I'll feed you

nominal = $\text{ə} \text{'i/} \underline{\text{gaw/}} \underline{\text{ə/}} \underline{\text{ik}}_0$ = your house

adjunctival = $\text{ə} \text{ge/} \underline{\text{b/}} \underline{\text{ə:k}}_0$ = with you

Thus Pronominal morphemes belong to three containing-item classes,

iv, The table below shows the relations between the memberships of the element- and element-free classes,

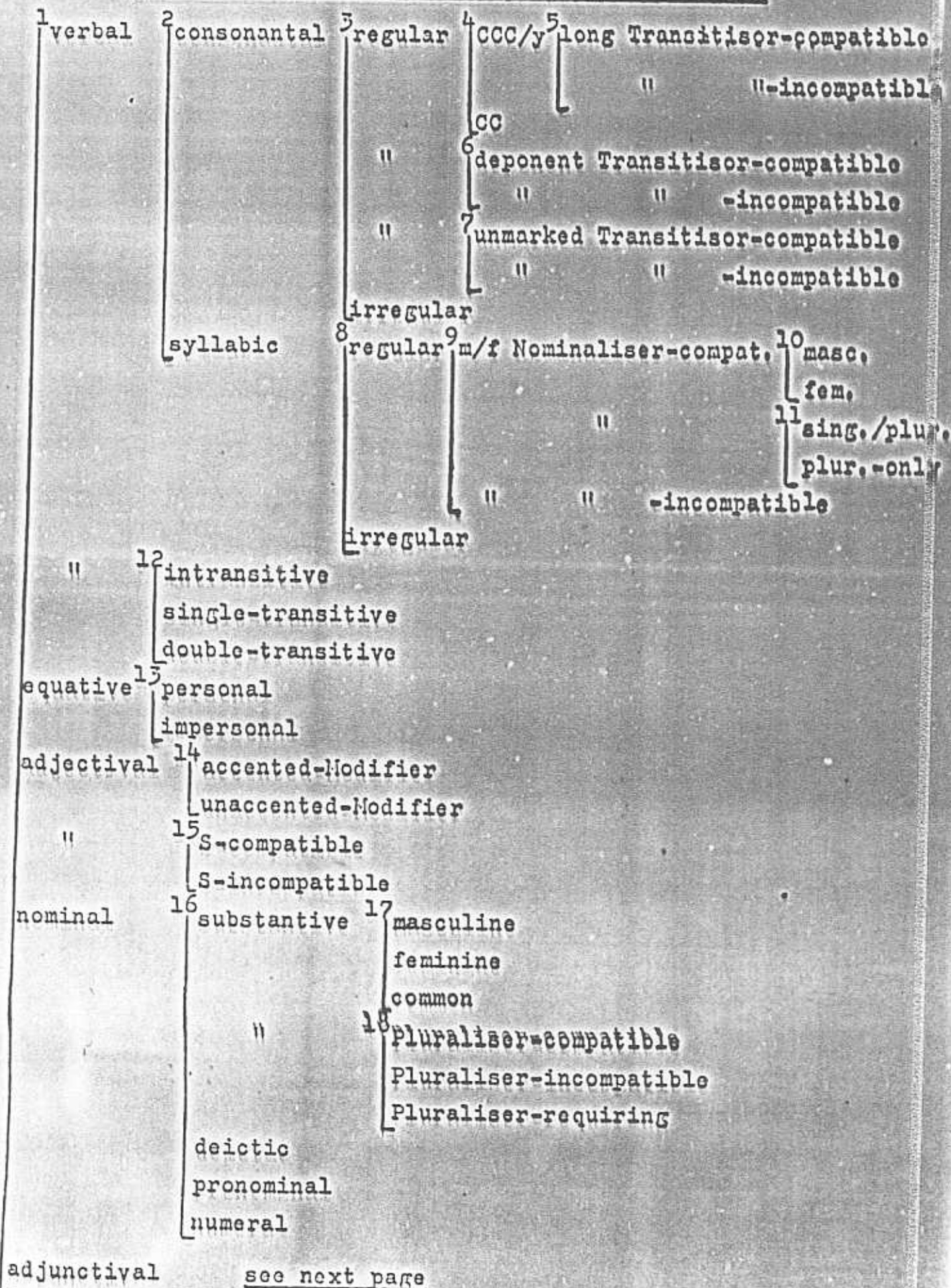
Intersection of element- and element-free classesbf. morpheme

sequence- class	element- class	containing-item class:				
		verbal	equative	adjectival	nominal	adjunctival
a	Modifier	+			+	+
b	Marker	+				
b	Nominaliser				+	
c	Transitisor	+			+	
d	C-geminator	+			+	
e	Radical	+			+	
"	"		+			
"	"			+		
"	"				+	
f	Transitisor	+				+
g	Marker	+				
"	"				+	
g	Nominaliser				+	
g	Genitival				+	
h	Pluraliser	+				+
"	"				+	
i	Comparative				+	
i	Second-person	+	+			+
j	Compounder	+				
j	Certainty	+	+			
k	Marker				+	
"	"					+
k	Optative	+				
k	Pronominal	+			+	
l	Second-person	+				+
l	Than/on					+
m	Generaliser				+	+
m	Certainty	+	+			
n	Marker					+
o	Conjunctive	+			+	+
"	"	+	+			
"	"	+				
"	"				+	+

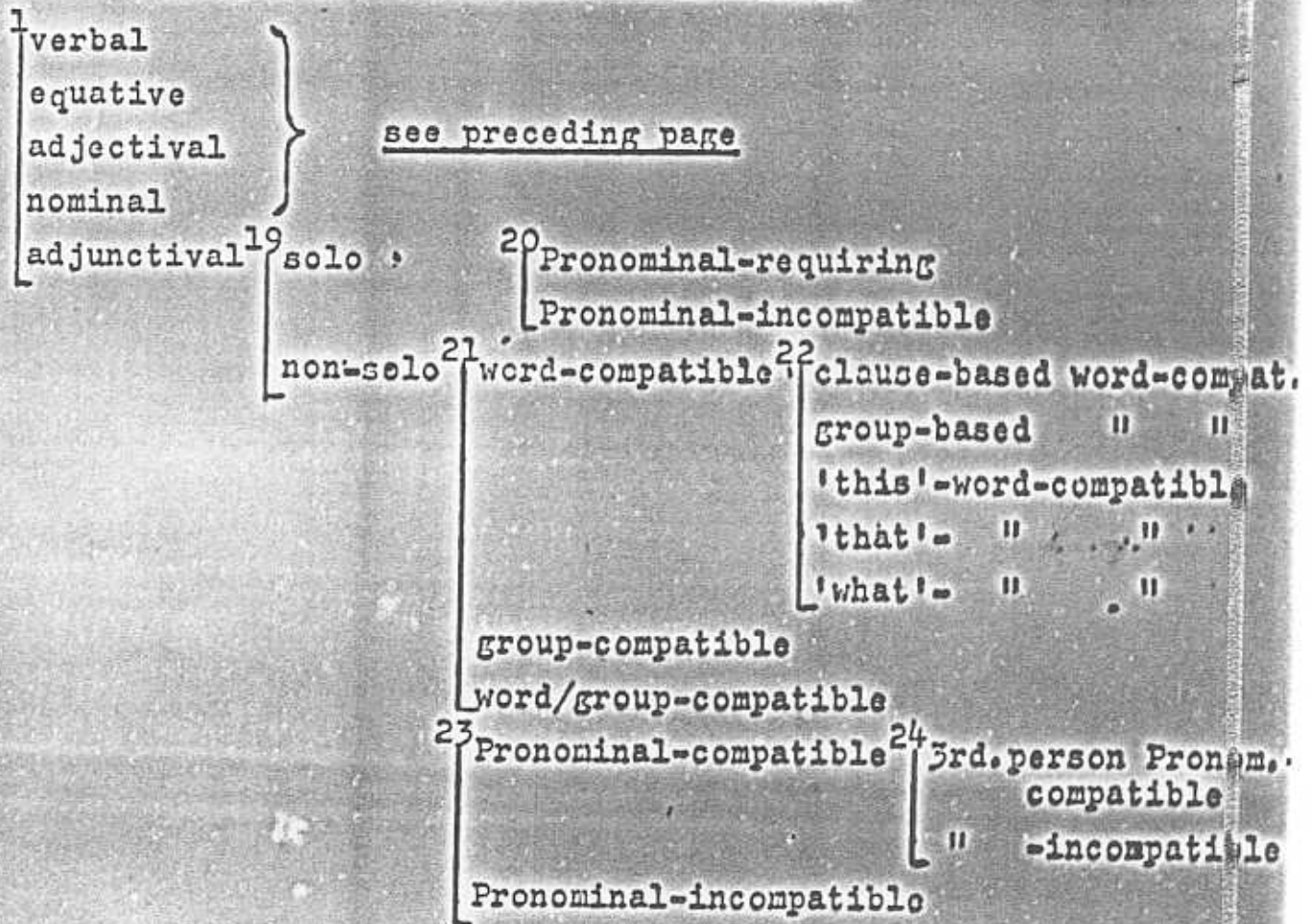
Explanation:

1. Classes written on the same line have the same membership.
2. + indicates that the classes on the left intersect with the containing-item class under which + appears.

Systems of morpheme-class applying to the Root

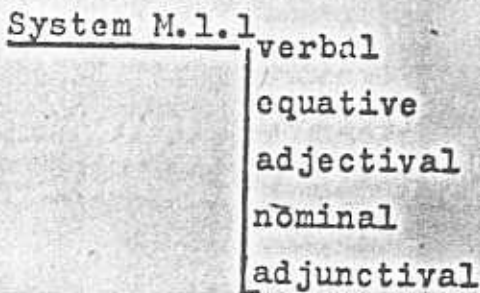


Systems applying to the Root (cont.)



M.1. Radical Morphemes

The classes of Radical morphemes are summarised in the above table.



- i. Any Radical belongs to one of the five containing-item classes: verbal, equative, adjectival, nominal or adjunctival.
- ii. The equative class includes only two morphemes, whereas all the other four classes each include a large number of morphemes, which cannot here be exhaustively listed.
- iii.a. These five classes of Radical differ also in the classes of morpheme to which they can be structurally related.

For instance, only verbal Radicals can be structurally related to Transitor or C-geminator morphemes, whereas verbal, (some) nominal and (some) adjunctival Radicals can be structurally related to Pronominal morphemes. The following table shows the non-Radical element-classes of morpheme to which the five Radical classes can be structurally related.

non-Radical class:	compatible with Radical class:				
	verbal	equative	adjectival	nominal	adjunctival
Transitor	±				
C-geminator	+				
Nominaliser	+				
Genitival					
Marker	±	+		±	
Pluraliser	+			+	
Second-person	+	+			
Modifier	+			+	+
Pronominal	+			+	+
Compounder	+				
Optative	+				
Certainty	+	+			
Comparative					
Than/on					
Generaliser				+	+
Conjunctive	+	+		+	+

(Explanation: + indicates that the class of Radical morpheme named above can be structurally related to the class of non-Radical morpheme named on the left; ± indicates that it must be so related.)

ii. b. It will be seen from the above table that one class of Radicals (viz, adjectival) cannot be structurally related to any classes of non-Radical morpheme; and that some non-Radical classes (viz, Genitival, Comparative, Than/on) cannot be structurally related to any of the five Radical classes. The reasons for these restrictions are as follows:

1. adjectival Radicals are always the only constituents of a

word, but the latter represents the Head in the Predicator-group of a clause which is structurally related to one or more morphemes; therefore adjectival Radicals are always juxtaposed, though never structurally related, to other morphemes (N.O.i.a.b. e.g. the Radical /dabalo/ in ${}_0;dabalo;{/b}_0$ = a small one, is juxtaposed to the morpheme ${/b/$ (masculine accusative Marker) which is structurally related to the whole clause, of which /dabalo/ is the last morpheme.

2. Genitival, Comparative and Than/on morphemes are always structurally related to a group or a clause; the latter always represents the element Root, so no Radical is possible; e.g. the Comparative morpheme $/{kna/$ in ${}_0;dabalo;/{kna;{/b}_0$ = a smaller one, is structurally related to the clause ${}_0;dabalo;$

iii, c.

Some equative, all adjectival and some adjunctival Radicals can be the only constituents of a word, but a verbal Radical cannot occur without a Transitisor and a Marker morpheme and a nominal Radical cannot occur without a Marker morpheme;

e.g. equative: ${}_0u_0$ = he/she/it/they is/are ... (as in:
 , , , 'i/ba;b/ø, /i/yt, ${}_0u_0$ = He's like his father)

adjectival: ${}_0dabalo_0$ = small (as in:
 , ; bar/u/!, dabalo; /! = he being small)

adjunctival: ${}_0g\acute{e};b_0$ = with him/her/etc. (as in:
 ; g\acute{e};b, šaga;/m/yă; = He worked with him.)

verbal: ${}_0šaga;/m/yă_0$ = he worked (Radical + Transitisor + Marker)

nominal: ${}_0\acute{d}e;fa;{/b}_0$ = a door (Radical + Marker)

iv,

Paradigm-sets of verbal words are described in Appendix C, each set being exemplified by four words, each containing a different verbal Radical.

System N.1.2

consonantal (verbal)

syllabic

i,

Consonantal Radicals can be structurally related to either strong or weak Transitisors (N.2.2.), whereas syllabic Radicals can be structurally related to weak Transitisors only.

ii.a. A consonantal Radical sometimes, a syllabic Radical always, is expounded by one or more syllables; since the V-Phonemes in the former, but not in the latter, are always determined by the environment, consonantal Radicals are quoted as a series of two or three C-phonemes, whereas syllabic Radicals are always quoted as one or more syllables (see the lists in Appendix A);

e.g. consonantal: /l- w/= burn, as in:

◦'i/n/lɪ:w◦ = he burns it

◦'i/ø/láw◦ = it burned (intrans.)

syllabic : /tãm/= eat, as in:

◦tam/ø/i:nɪ◦ = he eats it

◦tam/am/yă◦ = it was eaten.

ii.b. When a consonantal Radical occurs with a strong Transitor, the latter is treated as discontinuous; some of the phonemes (especially V-phonemes) of its exponent are enclosed by the C-phonemes of the Radical's exponent. It is not possible to show the presence of a morpheme-boundary between each C and V, so these will not be separated in the transcription. Thus, in the word ◦'i/n/lɪ:w◦ above, the Radical is expounded by l and w, while i: is part of the exponent of the Transitor /n...i:/

System M.1.3
 { regular (consonantal verbal)
 { irregular

It is most convenient to describe irregular Radicals separately, in Appendix B. Regular Radicals will be found exemplified in Appendix A.

System H.1.1
 { CCC/y (regular consonantal verbal)
 { CC

i. Consonantal Radicals may have two or three C-phonemes in their relatively generalised exponents (see NOTE H.1.). The last of these C's may be y or another C-phoneme; on the grammatical level there is no difference between CCC and CCy Radicals,

but the phonological exponents of those containing y are different from those of Radicals containing other C's. (See NOTE M.2. for two other possible kinds of consonantal Radical.)

ii.a. CC Radicals can be structurally related only to short strong Transitor morphemes (M.2.1, 2), whereas CCC/y Radicals can be structurally related to short or long strong Transitors. (Both classes can, however, be structurally related to weak Transitors.)

e.g. CC : 'a/ø/liw_o = I burned it/them (short Transitor)

CCC/y: 'a/ø/dbil_o = I collected it/them (short Transitor)

'a/ø/da:bił_o = I collected them (long Transitor)

ii.b. In addition to the above restrictions, there are certain less important restrictions on the classes of Transitor, C-geminator and Marker morphemes to which CC and CCC/y Radicals can be structurally related. These restrictions will be described in the relevant sections below (M.2, 3, 6).

System M.1.5 { long Transitor-compatible (CCC/y regular consonantal
" " -incompatible verbal)

Some CCC/y radicals are, others are not, compatible with the unmarked long strong Transitor. See Appendix A.

System M.1.6 { deponent Transitor-compatible (regular consonantal
" " -incompatible verbal)

Consonantal Radicals which are known to be compatible with the deponent short strong Transitor are indicated in Appendix A.

System M.1.7 { unmarked Transitor-compatible (regular consonantal
" " -incompatible verbal)

Most consonantal Radicals seem to be compatible with the unmarked short strong Transitor, but some are not. (See Appendix A.) Most of those which are not compatible with the unmarked short strong Transitor are compatible with the

deponent short strong or the unmarked long strong Transitoris; some of those which are compatible with unmarked short are also compatible with the latter two Transitoris;

- e.g. $'i/\emptyset/krif_0$ = he brought it back (unmarked short Transitoris)
 $'i/\emptyset/kraf_0$ = he came back (deponent short Transitoris)
 $'i/\emptyset/ka:rif_0$ = he brought them back (unmarked long Transitoris).

System H.1.8 $\left\{ \begin{array}{l} \text{regular (syllabic verbal)} \\ \text{irregular} \end{array} \right.$

There are only three irregular syllabic Radicals, viz. those meaning 'come', 'like' and 'where' (as in $ke:\emptyset/:y\check{a}_0$ = where is he?). These are described in Appendix B. Some regular syllabic Radicals are listed in Appendix A.

System H.1.9 $\left\{ \begin{array}{l} \text{masc/fem. Nominaliser-compatible (regular syllabic} \\ \text{" " " -incompatible verbal)} \end{array} \right.$

Some, but not all, syllabic Radicals are compatible with the 'masc/fem.' Nominaliser morpheme (M.4.1.). All those listed in Appendix A are compatible with such a Nominaliser, at least when they are also structurally related to an unmarked Transitoris. As far as is known, all regular syllabic Radicals are compatible with the 'masculine' Nominaliser, whatever the class of the Transitoris to which they are structurally related.

- e.g. $\emptyset/t\check{a}m/\emptyset/\emptyset_0$ = porridge ('masc/fem' Nominaliser)
 $\emptyset/t\check{a}m/\emptyset/t_0$ = eating ('masculine' Nominaliser).

System H.1.10 $\left\{ \begin{array}{l} \text{masculine (masc/fem. Nominaliser-compatible regular} \\ \text{feminine syllabic verbal)} \end{array} \right.$

The gender of a word containing a 'masc/fem.' Nominaliser morpheme is determined by the Radical representing the Root in the same word. The lists in Appendix A indicate whether the Radicals are found in masculine or in feminine words;

- e.g. $\emptyset/t\check{a}m/\emptyset/\emptyset_0$ = porridge (masculine Radical)
 $\emptyset/g\check{a}m/\emptyset/t_0$ = a shout (feminine Radical)

System M.1.11 singular/plural (masc/fem. Nominaliser-compatible
 plural-only regular syllabic verbal)

When structurally related to a 'masc/fem.' Nominaliser, some Radicals are compatible with a Pluraliser, while others require a Pluraliser. The former are referred to as 'singular/plural', the latter as 'plural-only';

e.g. singular/plural: $\emptyset/'i:b\check{a}:b/\emptyset/t_0$ = a journey (no Pluraliser)

$\emptyset/'i:bab/\emptyset'/t_0$ = journeys (with Pluraliser)

Radical: $'i:b\check{a}:b/$ = travel

plural-only : $\emptyset/\check{a}ab/\emptyset'/\emptyset_0$ = running (with Pluraliser)

Radical: $\check{a}\check{a}:b/$ = run

(For the shortening of a: to a before a Pluraliser, c.f. NP.1.18.ii.b.)

System M.1.12 intransitive (verbal)
 single-transitive
 double-transitive

Intransitive verbal Radicals occur in intransitive P-groups (see G.4.11.); single-transitive in single-transitive and double-transitive in double-transitive, P-groups (G.4.12.). The Radicals listed in Appendix A are not classified according to their transitivity, since it is not known to which class the majority of them belong. The classes of a few Radicals are known, however;

e.g. intransitive Radicals: $/\check{d}ib/$ = fall, $/d-'f/$ = go

single-transitive " : $/t\check{a}m/$ = eat, $/r-\check{v}b/$ = refuse, $/b-y/$
 (irregular) = go

double-transitive " : $/so/$ = tell, $/kw-'s-y/$ = pay

System M.1.13 personal (equative)
 impersonal

Impersonal and personal equative Radicals represent the Root in impersonal and personal equative words respectively (W.1.9.).

- ii. Both the impersonal and the personal Radicals are usually translated 'is', 'are', etc.
 e.g. impersonal: ,,, 'i/ba:b/ø, /i/ʔt, _ou, = He is like his father
 personal : ,,ba:b/o:/ʋ, _oø/u, = He is my father
- iii. The impersonal Radical is incompatible with a Marker, while the personal Radical requires a Marker (c.f. the words _ou (impersonal) and _oø/u (personal) above). Either class of Radical is, however, compatible with Second-person and Certainty morphemes (G.4.7, 8, 10.).

System M.1.14 | accented-Modifier (adjectival)
 | unaccented-Modifier

- i. When an adjectival Radical is preceded by a Modifier the latter's phonological exponent is partly determined by the class of the Radical; it is inherently accented before some, inherently unaccented before others (MP.9.i.c.);
 e.g. accented-Modifier : _o'i;/nda:i;/ʋ = the good one
 unaccented-Modifier: _o'i;/dabalo;/ʋ = the little one
 (The adjectival Radicals are: /nda:i/ = good and /dabalo/ = small; for further examples, see the Systems M.1.15, 16.)
- ii. The adjectival Radical is always the only constituent of a word, which is the only constituent of a Predicator-group. This group may be structurally related to an Adjunct-group, such as ,winně:t, = very. If the clause of which these two groups are constituents is structurally related to a Modifier morpheme, the sequential relation between this morpheme and the Adjunct-group is determined to some extent by the class of the adjectival Radical in the Predicator-group: if the latter is an 'accented-Modifier' Radical, the Adjunct may either precede or follow the Modifier, but if it is an 'unaccented-Modifier' Radical, the Adjunct must precede the Modifier;
 e.g. _o'i;/winně:t,nda:i;/ʋ = the very good one
 or (,winně:t,) _o'i;/nda:i;/ʋ = " " " "
 c.p. (,winně:t,) _o'i;/dabalo;/ʋ = the very little one
 (not /* _o'i;/winně:t,dabalo;/ʋ)

System M.1.15 S-compatible (adjectival)
 S-incompatible

i. S-compatible and S-incompatible adjectival Radicals occur in P-groups of the same class-name (G.4.1.); the adjectival Radical represents the Root in a word which represents the Head in the P-group.

ii.a. If any Radical (whether accented- or unaccented-Modifier) is S-compatible, it can be followed by a 'by' Marker morpheme (M.6.13);
 e.g. \circ ;bar/u/!,dabalo;/? \circ = he being small (the Marker morpheme /!/? is structurally related to the clause containing the two groups ,bar/u/!, = he, and ,dabalo, = small, as constituents.)

ii.b. If an accented-Modifier Radical is S-incompatible, it cannot be followed by such a Marker.

ii.c. If an unaccented-Modifier is S-incompatible, it can be followed by a 'by' Marker;

e.g. \circ ;biđđigĩ:l;/ø \circ = being big.

A word containing such a Radical and Marker morpheme represents the Head in a 'gerund' Adjunct-group (G.3.8.).

iii. The following are some examples of adjectival Radicals belonging to the intersections of the classes 'accented-Modifier', 'unaccented-Modifier', 'S-compatible' and 'S-incompatible':

a. accented-Modifier, S-compatible:

(morpheme-boundary marks are omitted for simplicity)

birma = untamed	raba = male	gibli = lovely
nda:i = good	li'o = satisfied	gayi = new
diru = brown	(with drink)	kwati = happy
	yiwě = thirsty	

(For the order in which Radicals are quoted in such lists, see Appendix A.iv.)

b. accented-Modifier, S-incompatible:

dawil = near	gwimád = long	'ađami = young
rakwilkw = thick	'abih = mean	

c. unaccented-Modifier, S-compatible:

mihaya, etc. = third, etc. (c.f. mihdy = three; see NOTE M.3.1.)

dabalo = small šibo = good 'adaro = white

diru = brown yiwě = thirsty 'adalo = white

(also in list a.) (also in list a.) 'e:ra = white

nakašo = short hirri = free 'e:la = white

hara:yri'i = lying

(for the alternation of r and l, see NOTE MP.1.)

d. unaccented-Modifier, S-incompatible:

biđđigí:l = big nakdš = short

fagăr = hard-working so:tă:y = green

balawi = non-Beja šallik = few, little

tamanăl = greedy (c.f. ;tam/ø/ana; = greedy; see NOTE M.3.1.)

ke:lím = unfortunate 'abu:ka:to = talkative

System M.1.16

substantive (nominal)

deictic

pronominal

numeral

Radical

i.a.

A substantive or numeral is compatible with, a deictic Radical is incompatible with, and a pronominal Radical requires, a Pronominal morpheme;

e.g. substantive : \circ găw/ø \circ = a house

\circ gaw/u/! \circ = a house of his

numeral : \circ miháy/ø/ø \circ = three

\circ mihay/ø/a/! \circ = three of them

deictic : \circ bé:n/ø \circ = that one

pronominal : \circ bar/a/! \circ = they

(The underlined morpheme /!/ is Pronominal!)

i.b.

The meaning of a Pronominal morpheme structurally related to a substantive Radical is 'possessive', whereas it has a different meaning with a numeral or pronominal Radical, as shown in the above examples.

ii.

A substantive Radical may be masculine, feminine or common (see the following system), whereas deictic, numeral and

pronominal Radicals are always common (i.e. they can all be structurally related to either masculine or feminine Marker morphemes (U.6.9.)); thus compare with the above examples, all of which contain a masculine Marker, the following, which contain a feminine Marker:

- o miháy/ø/t_o = three
- o bé:/t_o = that one
- o ba/ø/ta/!_o = they
- (but not *o gǎw/t_o)

iii.a. The majority of nominal Radicals belong to the substantive class; the classes deictic and pronominal each has a very small membership; the numeral class is provisionally treated as having an infinite membership, but a tentative alternative analysis is suggested in NOTE U.4., whereby the numeral class would have a finite, and quite small, membership.

iii.b. The following are some examples of the four classes (the examples of deictic and pronominal Radicals may exhaust these classes); again, morpheme-boundaries are not indicated;

- substantive: ba:ba = father
 ndee = mother
 do:ba = bride(groom)

(For further examples, see System U.1.18, below.)

- deictic : !n = this (/!n/ is the only nominal Radical which follows the Marker morpheme - see U.6.9,iii,b.)
 bé:n = that (expounded by /bal!n/ when structurally related to the Pluraliser morpheme)
 naa; = which, what
 na;ka = how much, how many,
pronominal : bar = he, she, you, etc. (according to the class of the Pronominal)
 kass = all (of it, them, etc. - as above),
numeral : ngaǎ;1 = 1 'asagwir = 6 tamnagwir = 11
 mahlö = 2 'asaramǎ = 7 tamnamahlö = 12
 miháy = 3 'asimiháy = 8 tamnamiháy = 13
 faǎig = 4 'aššǎig = 9 etc.
 'ayǎ = 5 tamǎn = 10

System M. 1. 17

{	masculine (substantive nominal)
	feminine
	common

- i. Masculine and feminine Radicals require masculine and feminine Markers respectively, while common Radicals require either masculine or feminine Markers (M. 6, 9.);

e. g. \circ ba;ba/!b \circ = a father
 \circ ndee/!t \circ = a mother
 \circ do;ba/!b \circ = a bridegroom
 \circ do;ba/!t \circ = a bride

- ii. The meaning of the distinction between these three classes, apart from the grammatical meaning, depends on whether the Radicals refer to animate or inanimate objects;

a. animate; the masculine - feminine distinction usually correlates with a difference of sex, but /šil'a/ = cow, is masculine, and /di;gwát/ and /mirasla/, both meaning 'messenger', are feminine (according to Roper, p. 10.). Common Radicals refer to classes of people or animals who can be either male or female, such as /do;ba/ = candidate for marriage, /'arǎ;w/ = friend,

b. inanimate; the difference between masculine and feminine inanimate Radicals does not correlate with any semantic difference, but common Radicals sometimes (or always?) have different meanings when structurally related to different gender-classes of Marker;

e. g. /riya/ = considerateness (masc.); = grindstone (fem.)
 /bire/ = rain (masc.); = sky (fem.)
 /li;li/ = pair of eyes (masc.); = eye/eyes (fem.) (according to Roper)
 /'ambaró;y/ = coarse lip, such as camel's lip (masc.)
 = finer, human lip (fem.)
 /bi;r/ = grove of date-palms (masc.); = single date-palm (fem.)

System M.1.18 { Pluraliser-compatible (substantive nominal)
 Pluraliser-requiring
 Pluraliser-incompatible

i, a. Some Radicals are compatible with the Pluraliser;

- e.g. \circ do:ba/!b \circ = a bridegroom
 \circ do:ba/~/:b \circ = bridegrooms
 \circ ragád/ø \circ = a leg
 \circ ragad/ä/:b' = some legs

i, b. Other Radicals require a Pluraliser;

- e.g. \circ do:ba:ni/~/:b \circ = a wedding
 \circ nđiw/ä/:b \circ = a family
 \circ yam/~/ø \circ = water
 \circ 'aa/~/:t \circ = milk

i, c. Other Radicals are incompatible with a Pluraliser;

- e.g. \circ harro/!b \circ = (Indian) millet
 \circ diháy/ø \circ = people

ii. All substantive Radicals represent the Root in 'substantive' nominal words (W.1.13.) except for two, which are constituents of 'pronominal' words (also W.1.13.); these two Radicals are /'ane/ = I, and /hin'ın/ = we. The former belongs to the Pluraliser-compatible, the latter to the Pluraliser-requiring class.

System M.1.19 { solo (adjunctival)
 non-solo

'Solo' adjunctival Radicals are constituents of 'solo' adjunctival words (W.1.25), while 'non-solo' Radicals are constituents of 'c-compatible' or 'c-requiring' adjunctival words (W.1.20.);

- e.g. non-solo: ,wi/'o:r/ø,/i/~/gé:b, = with the boy
 or ,g \acute{e} :b, = with him/her/it/etc.
 solo ; ,afä, = last night.

System M.1.20 { Pronominal-requiring (solo adjunctival)
 Pronominal-incompatible

i. One solo adjunctival Radical requires a Pronominal morpheme; all others, as far as is known, are incompatible with Pronominal morphemes.

ii.a. The Pronominal-requiring Radical is /'aby/ = self, as in °'aby/é:° = he himself (e.g.; 'aby/é:,sák/ø/yă; = He did it himself.)

ii.b. The following are some examples of Pronominal-incompatible Radicals:

bák = thus	'afă = last night
mišĭ = merely	'akö: = therefore
wană = earlier today	'aflá:n = therefore
willă = fast, soon	'amsě = today
di:măh = every day	'e:rö = yesterday
sú:r = formerly	'árimas = two nights ago
kák = how	'arě: = then, next

hó:k = indeed (there is also a Certainty morpheme expounded by /aö:k/ and meaning 'indeed' - see NOTE M.5.)

System M.1.21 { 'word-compatible' (non-solo adjunctival)
 'group-compatible'
 'word/group-compatible'

i. 'Word-compatible' and 'group-compatible' Radicals occur as constituents of word- and group-compatible adjunctival words respectively (W.1.21.); 'word/group-compatible' Radicals can occur as constituents of either c-requiring words (W.1.20.) or group-compatible words (W.1.21.). (Note that the names 'word-compatible', etc. given to these classes of Radical are transferred from the names of the words in which they occur; the structural relation is not between the Radical as such and the word or group representing the Complement, but between the word containing the Radical, and the latter.)

ii. / , For examples of 'word-compatible' Radicals, see the following System; the following are some examples of the other

two classes:

'group-compatible' : /há:y/ = with him/hor/it, etc.

/hó:y/ = in " " "

/dahá:y/ = on/to " " "

/nú:n/ = except

'word/group-compatible' : /dabá:y/ = in front

/gadám/ = beside

/'arwĩ/ = beside

/šič'i:/ = beside (?)

System M.1.22

'clause-based word-compatible' ('word-compatible' non-

'group-based word-compatible' solo adjunctival)

'this' word-compatible'

'that' word-compatible'

'what' word-compatible'

i.

The members of these five Radical classes occur as constituents of the five classes of adjunctival word distinguished in System M.1.22. (Again, it is a word containing such a Radical, which is structurally related to the word representing the Complement, not the Radical itself.)

ii.

Some members of these five classes of Radical are listed below:

a. 'clause-based word-compatible' : /hád/ = until

/gĩl/ = until

e.g. ;ti/m'ari/˘, tam/ø/any; e/˘ gĩl, = until I eat the food.

(/hád/ also appears in list e. below, /gĩl/ may or may not be structurally related to a Modifier /'o:/, in which case the former is expounded as /kĩl/;

e.g. ;ti/m'ari/˘, tam/ø/any; e/˘ b'o:/kĩl, = until I eat the food)

b. 'group-based word-compatible' : /gé:b/ = with

/gwád/ = with

/kihí:/ = above

/wihí:/ = below

/gidhí:/ = beyond

/su:ri:/ = before

e.g. ,wi/'o:r/Ø,₁/i/°₀gé:b, = with the boy

c. 'this' word-compatible ; /ta'ǎ/ = now

e.g. ,'o/'n₀ta'ǎ, = now

d. 'that' word-compatible ; /tó:y/ = here

e.g. ,bé:n/Ø₀tó:y, = there

e. 'what' word-compatible ; /ntáy/ = whence

/hó:b/ = when

/hó:/ = where

/há:d/ = until

e.g. ,naa:/'₀ntáy, = whence

(the 'what' word has a special exponent before all these Radicals except /ntáy/, viz. na/'₀, as in:

,na/'₀hó:b, = when)

System H.1.23

Pronominal-compatible (non-solo adjunctival)

Pronominal-incompatible

Some non-solo Radicals are, some are not, compatible with Pronominal morphemes. These two classes include members of the previously distinguished classes as follows:

Pronominal-compatible ; 'word/group-compatible' Radicals;

'group-compatible' Radicals;

(e.g. /hó:y/, /dahá:y/, /há:y/; but the Pronominal is sequentially separated from /há:y/ = NOTE W.3.

/hó:y/ and /dahá:y/ before a Pronominal are

expounded by /h/ and /dah/ respectively.)

'group-based word-compatible' Radicals,

Pronominal-incompatible; 'group-compatible' Radicals

(e.g. /ná:n/)

'clause-based word-compatible' Radicals;

'this/that/what' word-compatible' Radicals

System H.1.24

3rd.-person Pronominal-compatible (Pronominal-compatible

" " " -incompatible, non-solo adjunctival)

i.

Of the Radicals which are compatible with Pronominals, some are, others are not, compatible with 3rd.-person Pronominals.

(All are compatible with 1st, -or 2nd, -person Pronominals), This distinction seems to cut across the distinctions made in the previous systems,

e. G. $\text{ }_0\text{Ge;b/}\delta\text{:k}_0$ = with you = $\text{ }_0\text{Ge;b/}\delta\text{:}_0$ = with him/her
 $\text{ }_0\text{gadam/}\delta\text{:k}_0$ = beside you = but not $\text{ }_0\text{gadam/}\delta\text{:}_0$

ii, Some examples of the two classes, with the other classes to which they respectively belong, are as follows:

a, 3rd. -person Pronominal-incompatible;

/kihfi:/ = above; /wihfi:/ = below ('group-based word-compatible')

/dahá:y/ = to/on him/etc.; /há:y/ = with him/etc. ('group-compatible' Radicals)

/gadám/ = beside; /šid'f:/ = beside(?) ('word/group-compatible')

b, 3rd. -person Pronominal-compatible;

/šwád/ = with; /gé:b/ = with; /gidhi:/ = beyond; /su:ri:/ = before ('group-based word-compatible')

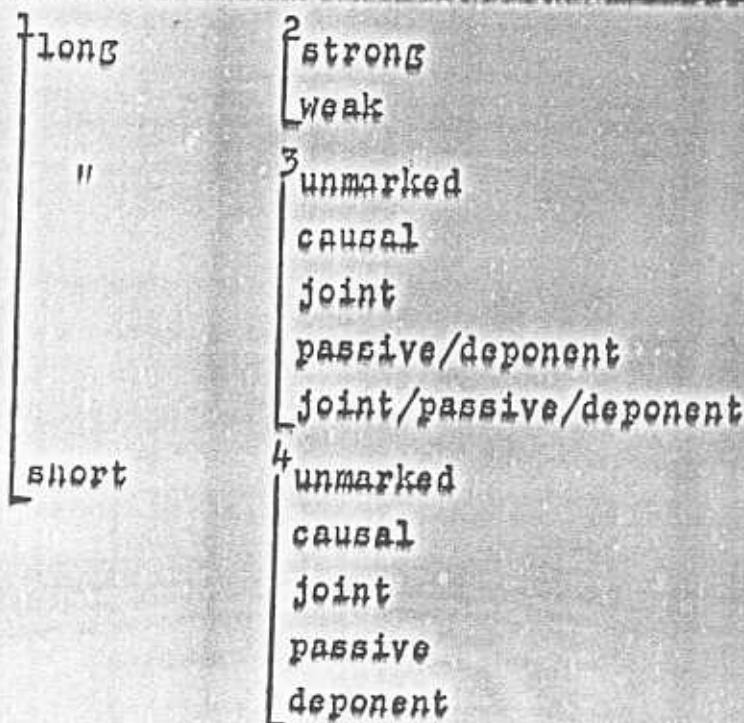
/dabá:y/ = in front ('word/group-compatible')

ii, 2, Transitisor Morphemes

i, Transitisor morphemes require verbal Radicals; one Transitisor is obligatory in every word in which the Root is represented by a verbal Radical, but ^{EVEN} if a word contains two such Radicals among its constituents, only one Transitisor is possible,

ii, These morphemes are called 'Transitisors' since they partially determine the 'transitivity' of a Predicator-group in whose Head-word they occur, 'Transitivity' here refers to the number and class of Object-groups with which the Predicator-group is compatible, and to the transformationally-defined 'type' to which the whole clause belongs, Thus, different classes of Transitisor are found in Predicator-groups belonging to different classes from Systems G;4,11 and G;4,21,

iii, The classes into which this element-class are divided are summarised below,



System M. 2. 1

1	long
	short

- i. These classes are referred to as 'long' and 'short' because in many cases the exponent of a 'long' Transitor contains a long V-phoneme where that of a corresponding 'short' Transitor contains a short V-phoneme, or no V at all; e.g. 'long': $\circ 'a/\phi/\underline{da}:\underline{b}l\circ$ = I collected them
'short': $\circ 'a/\phi/\underline{d}b\dot{l}\circ$ = I collected it/them.
- ii. Long Transitors can be structurally related to either syllabic or consonantal Radicals (H. 1. 2.), but short Transitors can be structurally related only to consonantal Radicals.
- iii. All short Transitors belong to sequence-class c, but some long Transitors belong to class c, others to class f (see the following system).
- iv. The meaning of a long Transitor may be 'repetition of the action', whereas that of a short Transitor is always 'non-repetition of the action'. A long Transitor has the meaning 'repetition of the action' when it is structurally related to a Radical which is also compatible with a short Transitor - i.e. when it contrasts directly with a short

Transitisor; otherwise, long Transitisors also have the meaning 'non-repetition of the action';

e.g. 'repetition'; , 'a/ø/da:bi:l, = I collected them, (i.e. 'I performed the action of collecting several times, on several different objects,')

'non-repetition'; , 'a/ø/dbil, = I collected it/them (The action is considered to be performed once only,)

c.f. , 'a/ø/ma:siw, = I heard him/them (The Transitisor is long, but the meaning is 'non-repetition', since the Radical /m-s= w/ = hear, is incompatible with a short Transitisor = H. 1. 5, 7.)

- v. This semantic difference correlates with a formal difference, since Transitisors meaning 'repetition of the action' characterise 'collective' Predicator-groups (G. 4. 21.), and those meaning 'non-repetition of the action' characterise 'non-collective' Predicator-groups.

System II. 2. 2 } strong (long)
 } weak

- i. The names 'strong' and 'weak' are taken from Roper, who uses them to refer to classes of Radical, as well as to different kinds of verbal word-paradigms.
- ii. Strong Transitisors belong to sequence-class c, weak Transitisors to class f; i.e. the former are prefixed, and the latter are suffixed, to the Radical;
e.g. strong: ° 'a/s/da:bi:l, = I made him collect them
 weak : ° tam/s/æn, = I made him eat it/them.
- iii. Strong Transitisors can be structurally related to CCC/y consonantal Radicals (H. 1. 4.), but weak Transitisors can be structurally related both to syllabic and to any consonantal Radicals;
e.g. strong: CCC/y Radical = ° 'a/s/da:bi:l, = I made him collect them,
 weak : CCC/y Radical = ° dibil/dibil/s/æn, = I made him collect it/them. (see iv. below)

CC Radical = ${}^{\circ}ro; b/s/\acute{a}n_{\circ}$ = I made him refuse them,
 (this Radical is quoted as /r-^hb/; for the
 V-phoneme \circ ; , and the \acute{a} 's in the preceding
 example, see MF, 1, 2, 1, b, 3.)

syllabic Radical = ${}^{\circ}tam/s/\acute{a}n_{\circ}$ = I made him eat it,

iv, a, A weak Transitor can be structurally related to
 two Root-elements, each of which must be represented by the
 same formal item; a strong Transitor, however, can never be
 structurally related to more than one Root;

e.g. weak = ${}^{\circ}kirif/kirif/s/\acute{a}n_{\circ}$ = I kept on making him meet him(?),

strong = ${}^{\circ}r/s/karif_{\circ}$ = I made him meet him,

iv, b, If the Transitor is weak, the Root must occur twice
 if it is represented by a CCC/y Radical, but it can occur
 either once or twice if represented by other classes of Radical;
 e.g. CCC/y Radical; ${}^{\circ}kirif/kirif/s/\acute{a}n_{\circ}$ = I kept on making him
 meet him(?),

CC Radical; ${}^{\circ}ro; b/s/\acute{a}n_{\circ}$ = I made him refuse them,

${}^{\circ}ro; b\acute{a}/ro; ba/is/\acute{a}n_{\circ}$ = I made him keep on
 refusing them(?),

syllabic Radical; ${}^{\circ}tam/s/\acute{a}n_{\circ}$ = I made him eat it,

${}^{\circ}tam\acute{a}/tama/is/\acute{a}n_{\circ}$ = I made him keep on
 eating it(?),

iv, c, The meaning of such duplication of the Root is
 'repetition of the action'; it is not known what difference, if
 any, there is between the meaning of such duplication, and that
 of a long Transitor meaning 'repetition of the action' (M. 2, 1, 11),

System M. 2.3

unmarked (long)

causal

joint

passive/deponent

joint/passive/deponent

System M. 2.4

unmarked (short)

causal

joint

passive

deponent

Each class of Transitor characterises a class of
 Predicator-group with the same name (see G. 4, 11.); the Transitor
 is always a constituent of the Predicator-group's Head-words

- e, 5, unmarked : $\circ 'a/n/mi:n_0 =$ I shave him,
 causal : $\circ 'a/so:/mi:n_0 =$ I make him shave him,
 joint : $\circ 'a/no:/mi:n_0 =$ I shave him with him,
 passive : $\circ 'a/to:/mi:n_0 =$ I let him shave me,
 deponent : $\circ ' /e:t/mi:n_0 =$ I shave myself,
 passive/deponent : $\circ 'a/t/ka:rari:f_0 =$ I keep on letting him
 meet me, or = I keep on coming back,
 joint/passive/deponent : $\circ 'a/me:/kri:f_0 =$ I keep on meeting
 him with him, or = I keep on letting him
 meet me, or = I keep on coming back,

ii, a, Joint long Transitive are always weak, and joint/
 passive/deponent (long) Transitive are always strong. Other-
 wise, all the long classes include both strong and weak Transi-
 tive;

- e, 5, strong causal : $\circ 'a/s/ka:rif_0 =$ I made him meet them,
 weak causal : $\circ tan/s/an_0 =$ I made him eat it,

ii, b, Strong passive/deponent Transitive require the
 C-geminator morpheme (see 11, 3, ii,), as in $\circ 'a/t/ka:rari:f_0$ above,

ii, c, When the Root occurs twice, as explained in 11, 2, 2, iv, a
 above, the Transitive is most often causal, especially when
 the Root is represented by a consonantal Radical; it is possible,
 though not certain, that causal Transitive in such environ-
 ments characterise 'unmarked' Predicate-groups, thus constituting
 an exception to the rule given in i, above, (Possibly they
 also characterise 'causal' Predicate-groups,)

- e, 5, $\circ to:il\dot{a}/to:ila/is/an_0 =$ I made him keep on hunting it,
 (causal Predicate-group)

or = I kept on hunting it,

(unmarked Predicate-group)

- e, f, $\circ to:il/s/an_0 =$ I made him hunt it, (causal P-group)

$\circ to:il/\emptyset/an_0 =$ I hunted it, (unmarked P-group)

11, 3, C-geminator Morpheme

i,

The C-geminator morpheme must be structurally
 related to verbal Radicals, some verbal Radicals are compatible

with, some are incompatible with, and others require, the C-geminator morpheme, but provisionally all will be treated as being compatible with the C-geminator, since too little is known about such restrictions,

ii, The C-geminator is required by the passive/deponent strong Transitive, as in $\circ 'a/t/ka:rari:f_0$, quoted in H,2,3/4,1, above, (I.e, $\circ 'a/t/ka:rifi_0$ is not possible.)

iii, It is not yet possible to associate any distinctive meaning with the C-geminator morpheme; words containing the C-geminator are considered to be in free variation with words not containing it;

e.g, $\circ ha/hadi:d/\emptyset/\Delta n_0 = \circ haddadi:d/\emptyset/\Delta n_0 = \circ hadi:d/\emptyset/\Delta n_0 =$ I spoke,
 $\circ ta:tam/\emptyset/\Delta n_0 = \circ tam/\emptyset/\Delta n_0 =$ I ate it,
 $\circ 'a/s/da:babil_0 = \circ 'a/s/da:bbabil_0 = \circ 'a/s/da:bil_0 =$ I made
 him collect them,

iviy, As shown in the above examples, the C-geminator (underlined) has various exponents, some of which are in complementary distribution; but in some environments up to three different exponents are possible (see HF,3.). These are considered to be in free variation, and therefore they all expound the same formal item,

iv, b, The above examples also show that the C-geminator is expounded by the repetition of one of the Radical's C-phonemes; the repeated C-phoneme can be either prefixed or infix to the Radical. The C-geminator is, however, considered to belong to the sequence-class \underline{d} , implying that it always precedes the Radical (which is class \underline{e}). Although this is thus not strictly true, it is true in the sense that the C-geminator never follows, and sometimes does precede, the Radical,

H,4, Nominaliser Morphemes

A Nominaliser morpheme can be structurally related either to a clause or to a verbal Radical; words containing a Nominaliser as a constituent are all members of the class 'substantive nominal' (H,1,13.), to which words containing substantive nominal Radicals also belong;

e.g. $'i/\underline{tam}/\emptyset/ti/;u/f_0$ = his eating (the three morphemes underlined = Radical + Transitor + Nominaliser = are syntactically similar to a nominal Radical, as in

$'i/\underline{gaw}/u/f_0$ = his house,)

c, f, also : $'ti/s/\underline{dabl}/\emptyset;y/tu/f_0$ = his making-him-collect-it,

$'ti/;\emptyset/'\underline{akr}/a;/\underline{ina:y}/tu/f_0$ = his solid food (the Nominaliser $/ina:y/$ is structurally related to a

clause; c. f. $'ti/;\emptyset/'\underline{akr}/a;/t_0$ = the hard/strong one)

System H, 4, 1

masculine

feminine

masc/fem,

These three classes of Nominaliser are found in different environments, as follows;

a, masculine ; with any weak Transitor

with an unmarked strong or short Transitor

b, feminine ; with a clause

with all strong Transitors except unmarked

with all short Transitors

c, masc/fem, ; with any (?) weak Transitors,

The gender of a word containing a masculine or a feminine Nominaliser is that of the Nominaliser, but the gender of a word containing a masc/fem, Nominaliser is that of the Radical (see H, 1, 10.)

a, A masc/fem, Nominaliser with certain Radicals must also be structurally related to a Pluraliser, whereas with other Radicals it can but need not be thus related (see H, 1, 11.)

b, If a feminine Nominaliser is structurally related to a C-geminator, it also requires a Pluraliser morpheme;

e.g. $'ti/s/\underline{da:lalb}/\emptyset;y/a/$ = the making-him-buy-them,

(c, f, $'ti/s/\underline{da:lalb}/\emptyset;y/\emptyset_0$ = the making-him-buy-them ; this word contains no C-geminator = \underline{la} = so no Pluraliser = $/a/$ = is necessary,)

System H.4.2

	prefixed
	suffixed

- i. Nominalisers belong to two sequence-classes: b and g.
i.e. they can be either prefixed or suffixed to the Radical.
The two classes are found in different environments as follows:
- a, class b : with the unmarked short Transitor
with the deponent short Transitor and a CCC/y Radical
with a weak Transitor
- b, class g : with a clause.
with a weak Transitor
with a long strong Transitor
with the deponent short Transitor and a CC Radical
with any short Transitor except unmarked and deponent.
- Thus the two classes are in complementary distribution except in the environment of a weak Transitor.
- ii. The prefixed class includes masculine, feminine and masc/fem. Nominalisers, but the suffixed class includes only masculine and feminine Nominalisers.
- iii. The following are some examples of words containing Nominalisers, (The first morpheme in each of these examples is the Modifier (= the), which is usually present in 'abstract' or 'general' words.)
- a, prefixed, masculine: $\circ 'u:/\emptyset/\emptyset/db\acute{u}:l/\emptyset_0$ = the collecting
(c.f. $\circ 'a/\emptyset/db\acute{u}l_0$ = I collected it/them.)
- b, prefixed, feminine: $\circ ti/mi/\emptyset/kre:f/\emptyset_0$ = the coming back
(c.f. $\circ 'a/\emptyset/kraf_0$ = I came back.)
- c, prefixed, masc/fem.: $\circ 'u:/\emptyset/t\acute{a}m/\emptyset/\emptyset_0$ = the porridge (masc.)
(c.f. $\circ tam/\emptyset/\acute{a}n_0$ = I ate it.)
 $\circ tu:/\emptyset/g\acute{a}m/\emptyset/\emptyset_0$ = the shout (fem.)
(c.f. $\circ gam/\emptyset/\acute{a}n_0$ = I shouted.)
- d, suffixed, masculine: $\circ 'i/tam/\emptyset/ti/\sim_0$ = the eating
- e, suffixed, feminine: $\circ ti/s/dabl/\acute{o}:y/\emptyset_0$ = the making-him-collect-it
(c.f. $\circ 'a/s/dabil_0$ = I made him collect it.)
 $\circ ti;/\emptyset/'akr/a;/'na:y/\emptyset_0$ = the solid food
(c.f. $\circ ;\emptyset/'akr/a;/'i_0$ = being solid/strong.)

M.5. Genitival Morpheme

i. The Genitival morpheme requires groups or clauses, and also Marker morphemes. The latter may be either nominal or adjunctival.

ii. The meaning, in terms of the English equivalent, of a word containing a Genitival among its constituents varies according to the items representing the Root and the Marker in the same word's structure:

a. If the Root is represented by an Object- or Adjunct-relative clause (C.4.1.), the word corresponds to an English relative clause with a relative pronoun as Complement;

e.g. $\circ; 'ane/\sim, \dot{s}u:m/\emptyset/an; /e/\sim \circ$ = which I entered (as in;
 $\circ; 'ane/\sim, \dot{s}u:m/\emptyset/an; /e/\sim \circ g\ddot{a}w/\emptyset$, = a house which I entered.)

b. If the Root is represented by a non-relative clause (C.4.1.), and the Marker is represented by a nominal Marker, the word corresponds to an English 'that' clause;

e.g. $\circ; 'ane/\sim, \dot{s}u:m/\emptyset/an; /e/\dot{y}b \circ$ = that I entered it (as in;
 $\circ; 'ane/\sim, \dot{s}u:m/\emptyset/an; /e/\dot{y}b, hi:s/\emptyset/i;ni$; = He thinks that I entered it.)

c. If the Root is represented by a group, and the Marker is nominal, the word corresponds to an English 'possessive';

e.g. $\circ; 'o/!n \circ wi/'o:r/\emptyset, /i/\sim \circ$ = this boy's (as in;
 $\circ; 'o/!n \circ wi/'o:r/\emptyset, /i/\sim \circ g\ddot{a}w/\emptyset$, = this boy's house.)

d. If the Root is represented either by a clause or by a group, and the Marker is adjunctival, the word corresponds to an English 'adverbial' clause or group;

e.g. $\circ; 'ane/\sim, \dot{s}u:m/\emptyset/an; /e/!k \circ$ = if I entered it
 $\circ; 'o/!n \circ wi/'o:r/\emptyset, /i/! \circ$ = from this boy.

iii, a. It is possible for a Genitival and Marker morpheme to be juxtaposed to another Genitival and Marker, but these two groupings are never structurally related;

e.g. in the word $\circ wi/, 'o:/t\acute{a}k/\emptyset, 'o:/ng\ddot{a}:l/\emptyset, /na:i/\dot{y}b \circ$ = the one of the one man, the Genitival /na:i/, the Marker /y'b/ and the Modifier /wi/ = the, are structurally related to the two (apposed) groups $'o:/t\acute{a}k/\emptyset$, = the man, and $'o:/ng\ddot{a}:l/\emptyset$, =

the one, which together represent the element Root. This word $\text{wi/---/}^{\text{b}}$ can itself represent the Head in a group which is apposed to another group - e.g. $\text{wi/'ó:r/}\phi$, = the boy, and these two apposed groups can represent the element Root in another word, with the same structure as the first word above;

e.g. $\text{ti/},\text{wi/'ó:r/}\phi,\text{wi/},\text{'o:/ták/}\phi,\text{'o:/ngǎ:l/}\phi,\underline{\text{na:i/}\phi},\underline{\text{Ynd:y/t}}$
 = the one of the son of the one man. Thus, in this word, there are two Genitivals (underlined), but they are not structurally related.

iii.b. Not more than two Genitivals are possible in such a series, except when the first Genitival immediately follows a clause, in which case up to three Genitivals are possible;

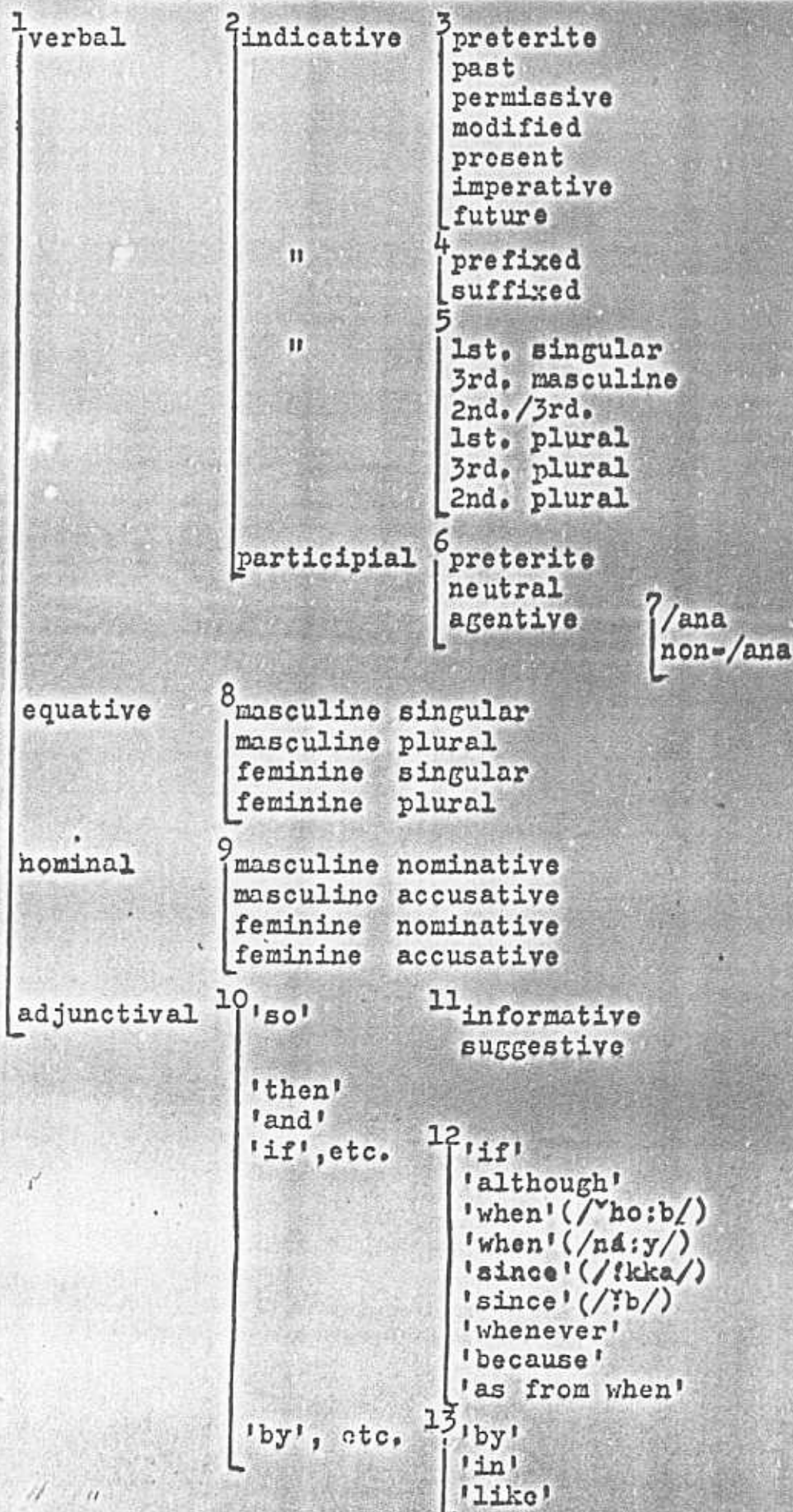
e.g. $\text{ti/},\text{wi/'ó:r/}\phi,\text{wi/},\text{'o:/ták/}\phi,\text{'i/};\text{bar/u/!k,rih/}\phi/\text{tan/}\phi;\underline{\text{e/}\phi},\underline{\text{Yna:i/}\phi},\underline{\text{Ynd:y/t}}$ = the one of the son of the man whom you saw (the Genitivals are underlined).

iii.c. Two juxtaposed Genitival + Marker combinations, such as in the above examples, are in some cases phonologically identical with a single Genitival, except for the presence of ϕ ; see NOTE MP.2.

M. 6. Marker Morphemes

The classes into which the element-class 'Marker morpheme' is divided are summarised below.

Systems of morpheme-classes applying to the Marker



System M.6.1

verbal
 equative
 nominal
 adjunctival

i.a. These four classes of Marker morpheme belong to the four containing-item classes verbal, equative, nominal and adjunctival; there is no 'adjectival' class, since only Radicals can occur as constituents of adjectival words.

i.b. Markers are required by verbal and nominal Radical morphemes, and by groups and clauses; they are required by one equative Radical, but are incompatible with the other, and are incompatible with all adjunctival Radicals.

i.c. Verbal and equative Markers require verbal and equative Radicals respectively; nominal Markers require nominal or verbal Radical morphemes, or groups or clauses; while adjunctival Markers require groups or clauses only.

e.g. verbal Radical + verbal Marker (underlined):

◦ tam/s/án◦ = I made him eat it.

◦ tam/is/năy◦ = we make him eat it.

equative Radical + equative Marker:

◦ ∅/u◦ = he is ... (as in ,,ba:ba/!b, ∅/u, = he's a father)

◦ ∅/a◦ = they are ... (as in ,,ba:ba/~/b, ∅/a, = they are fathers.)

nominal Radical + nominal Marker:

◦ ba:ba/!b◦ = a father

◦ ndee/!t◦ = a mother

verbal Radical (+ Nominaliser) + nominal Marker:

◦ tam/is/ti/!b◦ = making-him-eat-it.

group + nominal Radical:

◦ , 'o/!n_owi/'o:r/∅,/i/!b◦ = one (masc.) of this boy

◦ , 'o/!n_owi/'o:r/∅,/i/!t◦ = one (fem.) of this boy.

clause + nominal Marker:

◦ ;ti/m'ari/~/tam/is/yă;/i/!b◦ = one (masc.) who made him eat the food

◦ ;ti/m'ari/~/tam/is/tă;/i/!t◦ = one (fem.) who made him eat the food

group + adjunctival Marker:

o, 'o/'n_owi/'o:r/ø, /i/!_o = from this boy

o, 'o/'n_owi/'o:r/ø, /i/yt_o = like this boy

clause + adjunctival Marker:

o; ti/m'ari/∞, tam/is/ya:y; /'t_o = he let him eat the food, then ...

ii. Markers belong to four sequence-classes: b, g, j, n.

The relation between these four sequence-classes and the four classes in the present system is as follows:

verbal Markers belong to classes b and g;

equative Markers belong to class g;

nominal Markers belong to class j;

adjunctival Markers belong to classes j and n.

e.g. verbal, class b : o, 'a/s/dabil_o = I made him collect it,

verbal, class g : o, tam/s/an_o = I made him eat it,

equative, class g - see examples in i.c. above,

nominal, class j - " " " "

adjunctival, class j : o; ti/m'ari/∞, tam/s/an; /'t_o = I made him eat the food, then ...

adjunctival, class n : o; ti/m'ari/∞, tam/s/an; /e/∞ho:b_o = when I made him eat the food

System N.6.2

{	indicative (verbal)
	participial

Indicative Markers characterise 'person-specific' Predicator-groups (G.4.2.); participial Markers characterise person-neutral and S-incompatible Predicator-groups (G.4.1, 2.). The Marker is a constituent of the word representing the Head in the group concerned.

e.g. indicative : o, tam/s/an_o = I made him eat it

o, tam/is/yā_o = he made him eat it

participial: o, tam/s/ē_o = making him eat it

Indicative Markers belong to sequence-classes b and g, but participial Markers belong only to class g.

System M. 6. 3

preterite (indicative verbal)

past

permissive

modified

present

imperative

future

i. The seven classes of indicative Marker belonging to this system differ in their meanings, in the classes of morpheme to which they can be structurally related, in the classes of word (and group) in which they occur, and in the number of classes in the following system to which their members belong.

ii. All seven classes of Marker can be structurally related to the following classes of morpheme; Radical, Transitor, C-Geminator, Second-person, Certainty, Pronominal and Conjunctive. Some of the Marker-classes can also be structurally related to one or more of the following classes; Modifier, Pluraliser, Compounder, Optative:

preterite markers are compatible with the Modifier, Pluraliser and Compounder morphemes;

past Markers are compatible with the Pluraliser and Optative
permissive markers are compatible with the Modifier, Pluraliser and Optative morphemes;

modifier Markers are compatible with the Pluraliser and Optative morphemes, and require the Modifier morpheme;

the imperative Marker is compatible with the Modifier and the Compounder morpheme;

present Markers are compatible with the Pluraliser morpheme;

the future Marker is incompatible with all these morphemes.

iii, a. The meanings of words containing indicative morphemes varies not only according to the class of the latter, but also according to the presence or absence, as a constituent of the word, of a Modifier or Optative, and to the presence or absence of a Genitival juxtaposed to the word. The following examples illustrate some typical meanings of words containing these

morphemes;

- with preterite Marker, no Modifier; $\text{a}/\emptyset/\text{mr}\ddot{\text{I}}_0 = \text{I found it,}$
 " " " and Modifier; $\text{k}'/\text{an};/\emptyset/\text{mr}\ddot{\text{I}}_0 = \text{I don't find it,}$
 " past Marker, no Optative; $\text{a}/\emptyset/\text{m}\ddot{\text{I}}:\text{r}_0 = \text{I used to find it,}$
 " " " and Optative; $\text{a}/\emptyset/\text{m}\ddot{\text{I}}:\text{r}/\text{d}:\text{n}_0 = \text{If only I could find it!}$
 " permissive Marker, no Modifier, no Optative; $\text{a}/\emptyset/\text{m}\ddot{\text{A}}:\text{r}_0$
 (found only in S-intensive sentences = S, 1, 2, =
 e, G, ; $\text{a}/\emptyset/\text{m}\ddot{\text{A}}:\text{r}, \text{a}/\text{n}/\text{d}\ddot{\text{I}}_0 = \text{I'm going to find it,}$
 " " Marker and Modifier; $\text{b}\ddot{\text{a}}/\text{i}/\emptyset/\text{m}\ddot{\text{A}}:\text{r}_0 = \text{He is to find it,}$
 " " " and Optative, no Modifier; $\text{a}/\emptyset/\text{m}\ddot{\text{A}}:\text{r}/\text{d}\ddot{\text{y}}_0 = \text{I wish I could find it!}$
 " modifier Marker, no Genitival; $\text{b}/\text{i}/\text{m}\ddot{\text{A}}:\text{r}\ddot{\text{I}}_0 = \text{He is not to find it,}$
 " " " and Genitival; $\text{b}/\text{i}/\text{m}\ddot{\text{A}}:\text{r}\ddot{\text{I}}_0 = \text{he doesn't find it (as in; } \text{m}\ddot{\text{I}}:\text{r}\ddot{\text{I}}/\text{t}, \text{b}/\text{i}/\text{m}\ddot{\text{A}}:\text{r}\ddot{\text{I}};/\text{e}/\text{k}_0 = \text{if he doesn't find some food,)}$
 " present Marker; $\text{a}/\emptyset/\text{m}\ddot{\text{A}}:\text{r}\ddot{\text{I}}_0 = \text{I find it,}$
 " imperative Marker, no Modifier; $\emptyset/\text{m}\ddot{\text{I}}:\text{r}\ddot{\text{I}}/\emptyset/\text{Y}\ddot{\text{a}}_0 = \text{Find it!}$
 " " " and Modifier; $\text{b}\ddot{\text{A}};/\emptyset/\text{m}\ddot{\text{A}}:\text{r}\ddot{\text{I}}/\emptyset/\text{Y}\ddot{\text{a}}_0 = \text{Don't find it!}$
 " future Marker; $\emptyset/\text{m}\ddot{\text{I}}:\text{r}\ddot{\text{I}};/\text{d}\ddot{\text{t}}_0 = \text{I'll find it,}$
 $\emptyset/\text{m}\ddot{\text{I}}:\text{r}\ddot{\text{I}};/\text{d}\ddot{\text{t}}/\text{a}/\text{?}_0 = \text{Will you find it?}$
 (A future Marker requires a 'question' morpheme =
 N, 13, 1 = if it is structurally related to a
 Second-person morpheme, as in the second word above;
 if not related to such a morpheme, it is incompatible
 with a 'question' morpheme = as in the first word.)

iii, b,

A Genitival = /i/ or /e/ can be juxtaposed to a word containing a preterite, past, present or modifier Marker, the Genitival being structurally related, not to this word, but to the clause containing it;

e, G, with Genitival; $\text{a}/\text{i}/\text{t}\ddot{\text{I}}/\text{m}\ddot{\text{A}}:\text{r}\ddot{\text{I}}/\text{Y}, \text{t}\ddot{\text{a}}\text{m}/\text{S}/\text{A}\text{N};/\text{e}/\text{Y}\ddot{\text{b}}_0 = \text{the one}$

whom I made eat the food,
 without Genitival; ;ti/m'ari/∇,tam/s/ān; = I made him eat
 the food,

In the above example, the word \circ tam/s/ān \circ , to which the Genitival /e/ is juxtaposed, contains a preterite Marker, and the meaning of the word with and without the following Genitival can be considered to be the same. If, however, the word contains a 'modified' Marker, its meaning will be seen, from a, above, to vary according to the presence or absence of a following Genitival; with a Genitival, its meaning is the same as that of a word containing a Modifier and a preterite Marker;

e.g. modified Marker with Genitival; \circ b/i:/∅/mari \circ = he doesn't
 find it;

preterite Marker with Modifier; \circ k'/ii:/∅/mri \circ = he doesn't
 find it,

Since a word with a modified Marker has this meaning only before a Genitival, but words with preterite Markers and the Modifier can not occur before a Genitival, the two sets of words do not have the same meaning in the same environment. When words containing modified Markers occur in the same environment as those containing preterite Markers and the Modifier, they have the other meaning shown in iii, a, above, viz, in this case 'He is not to find it.'

System M.6.4 | prefixed (indicative verbal)
 | suffixed

i, Indicative verbal Marker morphemes belong to sequence-classes b and g; those belonging to class b are prefixed, and those belonging to class g are suffixed, to the Radical. The members of the seven classes of system 11,6,3, above are distributed between these two classes as follows;

a, all modified Markers are prefixed;

e.g. \circ b/i:/∅/ri;∇b \circ = He's not to refuse it,

∕ \circ b/i:/tam/āy \circ = He's not to eat it,

b. the imperative and the future Markers are both suffixed;

e.g. $\text{ø}/\text{rib}/\underline{\text{at}}_0 = \text{I'll refuse it.}$

$\text{tam}/\text{ø}/\underline{\text{at}}_0 = \text{I'll eat it.}$

c. some preterite, past, permissive and present Markers are prefixed, some are suffixed; the former require strong (long) and short Transitors, while the latter require weak (long) Transitors. Those which are prefixed exactly parallel those which are suffixed;

e.g. $\text{ø}'\underline{\text{a}}/\text{ø}/\text{rib}_0 = \text{I refused it.}$

$\text{ø}'\text{tam}/\text{ø}/\underline{\text{an}}_0 = \text{I ate it.}$

System M.6.5

1st, singular (indicative verbal)

3rd, masculine

2nd/3rd,

1st, plural

3rd, plural

2nd, plural

i.a. Up to six morphemes are distinguished phonologically within all the classes of the preceding system except the future and imperative classes;

e.g. (preterite): 1st, sing. = $\text{ø}'\underline{\text{a}}/\text{ø}/\text{rib}_0 = \text{I refused it.}$

3rd, masc. = $\text{ø}'\underline{\text{i}}/\text{ø}/\text{rib}_0 = \text{he " "}$

2nd/3rd, = $\text{ø}'\underline{\text{ti}}/\text{ø}/\text{rib}_0 = \text{she " "}$

$\text{ø}'\underline{\text{ti}}/\text{ø}/\text{rib}/\text{v}\underline{\text{a}}_0 = \text{you(masc.) refused}$

$\text{ø}'\underline{\text{ti}}/\text{ø}/\text{rib}/\text{v}\underline{\text{i}}_0 = \text{" (fem.)}$

1st, plur. = $\text{ø}'\underline{\text{ni}}/\text{ø}/\text{rib}_0 = \text{we refused it.}$

3rd, plur. = $\text{ø}'\underline{\text{i}}/\text{ø}/\text{rib}/\text{v}\underline{\text{na}}_0 = \text{they refused it.}$

2nd, plur. = $\text{ø}'\underline{\text{ti}}/\text{ø}/\text{rib}/\text{n}/\text{v}\underline{\text{a}}_0 = \text{you refused it.}$

i.b. The future Marker is counted as 1st, singular, and the imperative Marker as 2nd/3rd. The future Marker is compatible with, and the imperative Marker requires, a Second-person morpheme; neither class is compatible with the Pluraliser morpheme.

e.g. future: $\text{ø}'\text{tam}/\text{ø}/\underline{\text{at}}_0 = \text{I'll eat it.}$

$\text{ø}'\text{tam}/\text{ø}/\underline{\text{at}}/\underline{\text{a}}/? = \text{Will you eat it?}$

imperative: $\text{ø}'\text{tam}/\text{ø}/\text{v}\underline{\text{a}}_0 = \text{Eat it!}$

- ii.a. These Markers characterise Predicator-groups of the same class-name (G.4.6.), except that 2nd/3rd. Markers occur in both 3rd. feminine and 2nd. masculine or feminine Predicator-groups (see the paradigm in i.a. above). The latter P-groups are distinguished by the presence or absence, and the class if present, of a Second-person morpheme (/ʌa/ and /ʌi/ in the above paradigm).
- ii.a. All six classes of Marker are sometimes distinguished phonologically within the present class, but never more than four are distinguished within the classes preterite (as in the above paradigm), past, permissive and modified.
- iii. 3rd. plural and 2nd. plural, but not 1st. plural, Markers require the Pluraliser morpheme (/ʌna/ and /n/ in the above paradigm).

System M.6.6 { preterite (participial verbal)
neutral
agentive

- i. Of these three classes of participial Marker, the preterite and neutral classes can be structurally related to all verbal Radicals, but there are some Radicals with which agentive Markers are incompatible. Some examples of words containing agentive Markers are given under the following system, but no attempt will be made to state which Radicals can, and which cannot, be structurally related to agentive Markers.
- ii. Some of the meanings of words containing these Markers are illustrated in the following examples:
preterite Marker: $\circ\text{tam}/\emptyset/\underline{\text{a}}\circ$ = having eaten it
neutral Marker, no Modifier
" " with Modifier: $\circ\text{ba}\check{\text{x}}:/\text{tam}/\check{\text{y}}/\emptyset\circ$ = not eating it
agentive Marker: $\circ\text{tam}/\emptyset/\underline{\text{ana}}\circ$ = good at eating it; gluttonous,

System M.6.7 { /ana (agentive participial non-concordial verbal)
non-/ana

- i. There are two agentive Marker morphemes, one expounded

by /ana/ (or /:na/), the other by /i/, /' / or /ø/. The first is commonly found with weak, but less often with strong or short Transistors, while the second is found only with strong and short Transistors.

ii. The meanings of these two Markers seem to be roughly the same, but the non-/ana Marker has a wider range of meanings than the /ana Marker. They both mean 'good at ...ing' or 'habitually ...ing', as in:

/ana Marker: \circ tam/ø/ana \circ = gluttonous (/täm/ = eat)

\circ šaga/;m/ana \circ = hard-working (/šaga/ = work)

non-/ana Marker: \circ ø/ba:đn/i \circ = forgetful (/b-đ-n/ = forget)

The non-/ana Marker can also mean '...ing' or 'having ...', as in:

\circ ø/sag/i \circ = distant (/s-g-y/ = be far)

\circ ø/karä:f/ø \circ = having come back (/k-r-'f/ = bring/come back)

System M.6.8 masculine singular (equative)

masculine plural

feminine singular

feminine plural

The personal equative Radical (M.1.13.) requires equative Markers, which can be masculine or feminine, singular or plural. These classes of Marker characterise different classes of Predicator-group (G.4.7.);

e.g. masc. sing. - \circ ø/u \circ (as in ,,ba:ba/!b, \circ ø/u, = he is a father)

masc. plur. - \circ ø/a \circ (as in ,,ba:ba/~/b, \circ ø/a, = they are fathers)

fem. sing. - \circ ø/tu \circ (as in ,,to:/ndee/!, \circ ø/tu, = she is his mother)

fem. plur. - \circ ø/ta \circ (as in ,,te:/ndee/ø/!, \circ ø/ta, = they are their mothers)

System M.6.9

- masculine nominative (nominal)
- masculine accusative
- feminine nominative
- feminine accusative

- i. Nominal Markers can be masculine or feminine, nominative or accusative; nominative and accusative Markers are constituents of nominative and accusative words (W.1.17.; W.2.2.) - and also of c-incompatible words (W.1.12.) - and masculine and feminine Markers are constituents of masculine and feminine words, whether singular or plural (W.1.18.; W.2.3.).

e.g. masc. nom. = $\circ \text{tak/u/} \circ = \text{my husband}$
 masc. accus. = $\circ \text{tak/o/} \circ = \text{my husband}$
 fem. nom. = $\circ \text{takat/tu/} \circ = \text{my wife}$
 fem. accus. = $\circ \text{takat/to/} \circ = \text{my wife}$

- ii. If the Marker is structurally related to a masculine or feminine nominal (M.1.17.) or verbal (M.1.10.) Radical, its gender must be the same as that of the Radical, as in the above examples; similarly, if it is structurally related to a masculine or feminine Nominaliser (M.4.1.), its gender must be the same as the latter's. Likewise, if it is structurally related to a masculine or feminine clause (C.4.9.), its gender must be the same as the latter's. Otherwise, there is no gender concord between the Marker and other constituents of the same word;

e.g. $\circ \text{do;ba;/u/} \circ = \text{my bridegroom}$
 $\circ \text{do;ba;/tu/} \circ = \text{my bride}$

System M.6.10

- 'so' (adjunctival)
- 'then'
- 'and'
- 'if', etc,
- 'by', etc,

- i. There are five classes of adjunctival Marker, each of which is found in a different range of environments. The names given to these classes are based on the typical meaning of one

member of the class concerned. In the case of the classes referred to as 'then' and 'and', there is no semantic difference - as far as is known - between the members of the two classes.

- ii,a, Some classes of adjunctival Marker require clauses, others require clauses and groups; some are compatible with, others require, and others are incompatible with, the Genitival; 'so', 'then', 'and' Markers require clauses, and are incompatible with the Genitival; 'if', etc. Markers require clauses and the Genitival; 'by', etc. Markers require clauses and groups, and are compatible with the Genitival; the latter is required by a group and 'by', etc. Marker, but is incompatible with a clause and 'by', etc. Marker.

- ii,b, Thus all five classes of Marker can be structurally related to a clause, but a different range of clauses is possible with each class (see C,4,1-4,);

with 'so' Markers - present, preterite/past, negative, futuro/equative clauses;

e.g. $\circ; ti/m'ari/\sim, tam/\emptyset/\underline{an}; /ay_{\circ}$ = I ate the food, so . . .

$\circ; ti/m'ari/\sim, tam/\emptyset/\underline{at}; /ay_{\circ}$ = I'll eat the food, so . . .

with 'then' Marker - present, preterite/past, negative clauses;

e.g. $\circ; ti/m'ari/\sim, tam/\emptyset/\underline{an}; /x:yt_{\circ}$ = I ate the food, then

$\circ; ti/m'ari/\sim, tam/\emptyset/\underline{any}; /x:t_{\circ}$ = I eat the food, then

with 'if', etc. Markers - as with 'then' Markers;

e.g. $\circ; ti/m'ari/\sim, tam/\emptyset/\underline{an}; /e/!k_{\circ}$ = if I ate the food

$\circ; ti/m'ari/\sim, tam/\emptyset/\underline{any}; /e/!k_{\circ}$ = if I eat the food

with 'and' Marker - 'and'-compatible clauses;

e.g. $\circ; ti/m'ari/\sim, tam/\emptyset/\underline{an}/\emptyset; /!t_{\circ}$ = I ate the food, then

$\circ; ti/m'ari/\sim, tam/\emptyset/\underline{e}; t/i; /!t_{\circ}$ = eating the food

with 'by', etc. Markers - participial clauses;

e.g. $\circ; ti/m'ari/\sim, tam/\emptyset/\underline{a}; /!_{\circ}$ = having eaten the food

$\circ; ti/m'ari/\sim, tam/\emptyset/\underline{e}; /!_{\circ}$ = eating the food

- iii,a, Adjunctival Markers belong to sequence-classes i and n. Of these five classes, 'and', 'then' and 'by', etc. belong

to class j, and 'so' and 'if', etc. Markers belong to class n. Thus, when these Markers are juxtaposed to the last word of a clause, and one of the constituents of this word is a Pronominal morpheme (class k), the Pronominal is sequentially separated from the rest of its word by a class j, but not by a class n, Marker;

e.g. $\circ;ti/m'ari/\sim,tam/s/\underline{an}/\underline{ho:k};/\underline{ay}\circ =$ I let you eat the food, so
 $\circ;ti/m'ari/\sim,tam/s/an;/\underline{\check{a}:yt}(/ho:k)\circ =$ I let you eat the food, then ...

iv.a. A 'by', etc. or a 'then' Marker can be structurally related to the Than/on morpheme. If the Marker is a 'by', etc. Marker, its meaning with and without the Than/on morpheme is different (M.6.12.iv.), but if it is a 'then' morpheme, its meaning is the same with and without the Than/on morpheme; e.g. 'by', etc. Marker + Than/on morpheme:

$\circ,'i/tak/\emptyset,/i/\underline{!}/\underline{ka}\circ =$ than the man (c.f. $\circ,'i/tak/\emptyset,/i/\underline{!}\circ =$ from the man)

'then' Marker + Than/on morpheme:

$\circ;ti/m'ari/\sim,tam/s/any;/\underline{\check{a}:t}(/ho:k)/\underline{a:yt}\circ =$ I let you eat the food, then ..

(c.f. $\circ;ti/m'ari/\sim,tam/s/any;/\underline{\check{a}:t}(/ho:k)\circ$ - same meaning.)

iv.b. A 'then' Marker can be structurally related to a Than/on morpheme only if it is juxtaposed to a Pronominal morpheme as in the last example.

System M.6.11 informative ('so' adjunctival)
 suggestive

The two classes of 'so' Marker characterise Adjunct-groups of the same name (G.3.9.);

e.g. informative: $;;ti/m'ari/\sim,tam/\emptyset/\underline{\check{a}t};/\underline{a:yt},'i/gu:g/u/\sim,diw/\emptyset/i:nf; =$ I'll eat the food, so my mind is at rest.

suggestive: $;;ti/m'ari/\sim,tam/\emptyset/\underline{\check{a}t};/\underline{ay},'i/gu:g/o/!k,diw/s//a:; =$ I'll eat the food, so set your mind at rest!

System M.6.12 'if' ('if', etc. adjunctival)

'although'
 'when' (/˘ho:b/)
 'when' (/:ná:y/)
 'since' (/!kka/)
 'since' (/ʔb/)
 'whenever'
 'because'
 'as from when'

- i. There are nine 'if', etc. Marker morphemes, each of which is referred to by a typical meaning and, in the case of synonyms, by its exponent;

e.g. 'if' = 0;ti/m'ari/˘,tam/ø/an;/e/!k₀ = if I ate the food

'although' = 0;ti/m'ari/˘,tam/ø/an;/e/˘han₀ = although I ...

'when' (/˘ho:b/) = 0;ti/m'ari/˘,tam/ø/an;/e/˘ho:b₀ = when I ...

'when' (/:ná:y/) = 0;ti/m'ari/˘,tam/ø/an;/e/:ná:y₀ = when I ...

- ii. These nine Markers fall into three groups according to the classes of clause which they require (see C.4.3.):

- a. requiring present, preterite/past and negative clauses - 'if', 'although', 'because', 'when' (/˘ho:b/), 'when' (/:ná:y/);
 b. requiring present and preterite/past clauses - 'since' (/ʔb/), 'whenever';
 c. requiring preterite/past clauses - 'since' (/!kka/), 'as from when'

System M.6.13 'by' ('by', etc. adjunctival)

'in'
 'like'

- i. There are three 'by', etc. Markers, each of which is referred to by a typical meaning.

- ii.a. Each of these Markers can be structurally related either to groups or to clauses; with the 'by' Marker, either participial or adjectival clauses are possible, but with the other two Markers only adjectival clauses are possible

- ii.b. The 'by' Marker and the 'in' Marker, but not the 'like' Marker, are compatible with the Than/on morpheme, provided

they are structurally related to a group, not to a clause.

iv. The meanings of the three Markers vary according to whether they are structurally related to a group or to a clause, and, if related to a group, according to the presence or absence of the Than/on morpheme:

a. 'by' Marker with group, no Than/on - = by, with, from;

e.g. ;,me:k/∅,/i/!,'e/∅/:yǎ; = He came by donkey.

;;,me:k/∅,/i/!,'e:/fě; = He is here with a donkey.

;;,me:k/∅,/i/!,'i/∅/yhǐ; = He took it from a donkey.

" " with group and Than/on - = than;

e.g. ;,me:k/∅,/i/!/ka,∅/∅/hanyf:s; = He is better than a donkey.

" " with clause - no isolatable meaning;

e.g. ;;'o:/ktǎ:b/∅,∅/miri/:a;/!;'agri/∅/ǎn; = Having found the book, I read it.

;;'o:/ktǎ:b/∅,baǎ:/∅/marǐ;/∅,ka/'agri/∅/:ǎn; = Without finding the book I won't read it.

;;wi/'ó:r/∅,dabalo;/!,rih/∅/ǎn; = The boy being small, I saw him.

b. 'in' Marker with group, no Than/on - = in, about, among;

e.g. ;,me:k/∅,/i/!b,'e:/fě; = It is in a donkey.

;;,me:k/∅,/i/!b,hadi:d/∅/yǎ; = He talked about a donkey.

;;,yi/'ar/∅/∅,/e/!b,ngaǎ:l/∅, = one of the boys (one among the boys)

" " with group and Than/on - = to, on;

e.g. ;,me:k/∅,/i/!/da,'e/∅/:yǎ; = He came to/on a donkey.

" " with clause - no isolatable meaning;

e.g. ;;nda:i;/!b,šaga/∅/:m/yǎ; = He worked well..

c. 'like' Marker with group - = like

e.g. ;,me:k/∅,/i/!t,hi:re:r/∅/i:ni; = He walks like a donkey.

" " with clause - no isolatable meaning;

e.g. .;nda:i;/!t. = Good!

M.7. Pluraliser Morphemes

i. Pluralisers are constituents of verbal and nominal words; with the exceptions described in ii. below, all plural verbal and nominal words (W.1.4, 8, 18; W.2.3.) contain a Pluraliser among their constituents, and similarly all plural groups (G.1.7.; G.2.9.; G.3.5.; G.4.6.; G.5.5, 14; G.6.8.) are characterised by the presence of a Pluraliser as a constituent of their Head-words.

e.g. nominal words : $\circ g\check{a}w/\emptyset_{\circ} = \text{a house}$

$\circ gaw/\check{a}/:b_{\circ} = \text{houses}$

verbal words : $\circ tam/\emptyset/y\check{a}_{\circ} = \text{he ate it}$

$\circ tam/\emptyset/ya/\check{y}n_{\circ} = \text{they ate it}$

ii. The following plural words and groups do not thus contain a Pluraliser:

a. a nominal word contains no Pluraliser among its constituents if one of its constituents is a Subject-relative clause whose Predicator-group is marked as Plural by the presence of a Pluraliser, as described above; this exception is due to the impossibility of two Pluralisers being juxtaposed;

e.g. $\circ ;ti/m'ari/\check{y}, tam/\emptyset/e/\check{y}n;/t_{\circ} = \text{ones (fem.) who eat the food}$
 (This word contains a clause and a Marker morpheme /t/; it is plural because the last morpheme of the clause is a Pluraliser / $\check{y}n$ / - c.f. $;ti/m'ari/\check{y}, tam/\emptyset/e/\check{y}n;$ = they eat the food.)

b. a plural verbal word contains no Pluraliser among its constituents if its Marker morpheme is future or imperative (M.6.5.i.b.) or 1st. plural (M.6.5.iii.), since these classes of Marker are incompatible with the Pluraliser.

System M.7.1
 | nominal
 | verbal

These two Pluraliser morphemes are constituents of nominal and verbal words respectively.

M.8. Second-person Morphemes

i.a. Any word which is itself specifically 2nd.-person (W.1.4, 8, 11.) or which represents the Head in a specifically 2nd.-person group (G.4.6, 8, 10.), contains a Second-person morpheme among its constituents; and Second-person morphemes occur only as constituents of such words.

i.b. In some cases, only the presence of a Second-person morpheme distinguishes a 2nd.-person word from a word which is not 2nd.-person;

e.g. $\circ ti/\emptyset/ri\bar{b}/\underline{a}_\circ$ = you refused it
 $\circ ti/\emptyset/ri\bar{b}_\circ$ = she refused it
 $\circ \emptyset/w/\underline{a}_\circ$ = you are .. (as in ,,ba:ba/!b, $\circ \emptyset/w/a$, = you are a father.)
 $\circ \emptyset/u_\circ$ = he is .. (as in ,,ba:ba/!b, $\circ \emptyset/u$, = he is a father.)

ii.a. The following classes of Marker morpheme are compatible with Second-person morphemes:

2nd/3rd. (M.6.5.) ; e.g. $\circ tam/\emptyset/tini/\underline{a}_\circ$ = you eat it
 $\circ tam/\emptyset/tini_\circ$ = she eats it
 future (M.6.3.) ; e.g. $\circ tam/\emptyset/\underline{at}/\underline{a}/\text{?}_\circ$ = will you eat it?
 $\circ tam/\emptyset/\underline{at}_\circ$ = I'll eat it.
 equative (M.6.1.) ; e.g. $\circ \emptyset/w/\underline{a}_\circ$ = you are ...
 $\circ \emptyset/u_\circ$ = he is ...

(The impersonal equative Radical, which is incompatible with Marker morphemes, is also compatible with Second-person morphemes:

e.g. $\circ w/\underline{a}_\circ$ = you are ..., as in ,,i/tak/ \emptyset ,/i/!t, $\circ w/a$, = you are like the man; c.f. $\circ u_\circ$ = he is, ..., as in ,,i/tak/ \emptyset ,/i/!t, $\circ u$, = he is like the man.)

ii.b. The following classes of Marker require Second-person morphemes:

2nd. plural (M.6.5.); e.g. $\circ tam/\emptyset/te/:n/\underline{a}_\circ$ = you (plur.) eat it.
 imperative (M.6.5.i.b.); e.g. $\circ tam/\emptyset/'/\underline{a}_\circ$ = Eat it!

System M.8.1

class	i
	l

i. Second-person morphemes belong to two sequence-classes,

i and l. These two classes occur in different environments:

- a. class i morphemes are structurally related to any of the classes of Marker listed in ii. above, except the future class;
- b. class l morphemes are structurally related to the future Marker; they can also be structurally related to other classes of Marker under certain conditions, viz. that there is also a class i Second-person morpheme, and that the latter is followed by a class j or k morpheme. Thus a single word can contain two Second-person morphemes among its constituents, but words containing one and those containing two seem to be in free variation;

e.g. $\circ ti/\emptyset/rib/\sim a/ho:n/a_{\circ} = \circ ti/\emptyset/rib/\sim a/ho:n_{\circ} = \text{you refused us.}$

System M. 8.2

masculine
feminine
plural

These three classes of Second-person morpheme characterise different classes of 2nd.-person word and group;

e.g. $\circ tam/\emptyset/at/a/?_{\circ} = \text{Will you (masc.) eat it?}$

$\circ tam/\emptyset/at/i/?_{\circ} = \text{Will you (fem.) eat it?}$

$\circ tam/\emptyset/at/na/?_{\circ} = \text{Will you (plur.) eat it?}$

i.a. All three classes belong to both the sequence-classes of the previous system.

i.b. All three classes can be structurally related to imperative, future and equative Markers, and to impersonal equative Radicals, since all these classes are incompatible with the Pluraliser morpheme. Masculine and feminine, but not plural, Second-person morphemes can also be structurally related to 2nd/3rd. Markers, and plural, but not masculine or feminine, Second-person morphemes can also be structurally related to 2nd. plural Markers, since the Pluraliser is required by the latter, but is incompatible with the former.

e.g.

	<u>masc.</u>	<u>fem.</u>	<u>plur.</u>
imperative -	$\circ tam/\emptyset/t/a_{\circ}$	$\circ tam/\emptyset/'/i_{\circ}$	$\circ tam/\emptyset/'/a:na_{\circ}$
2nd/3rd. -	$\circ tam/\emptyset/tini/\sim a_{\circ}$	$\circ tam/\emptyset/tini/\sim i_{\circ}$	
2nd. plur. -			$\circ tam/\emptyset/te/:n/\sim a_{\circ}$

M.9. Modifier Morpheme

- i.a. There is one Modifier morpheme, whose meaning and exponent differ widely from one environment to another.
- i.b. This morpheme belongs to class a; i.e. it is always the first morpheme in a word.
- ii. The environments in which the Modifier occurs fall into four sets according to the Modifier's meaning:
- a. when structurally related to a permissive verbal Marker, the Modifier marks the word of which it is a constituent as an indirect imperative;
- e.g. $\text{báa:}/\text{ni}/\emptyset/\text{mǎ:r}_0 = \text{We are to find it.}$
 $\text{báa:}/\text{'i}/\emptyset/\text{mǎ:r}_0 = \text{He is to find it.}$
 (c.f. $\text{ni}/\emptyset/\text{mǎ:r}_0 = \text{Let's find it!}$)
- b. when structurally related to any other verbal Marker, the Modifier marks the word of which it is a constituent as negative;
- e.g. $\text{ká}/\text{tam}/\emptyset/\text{án}_0 = \text{I don't eat it.}$
 (c.f. $\text{tam}/\emptyset/\text{án}_0 = \text{I ate it.}$)
- c. when structurally related to a nominal Marker, the Modifier corresponds to the English definite article;
- e.g. $\text{'o:}/\text{ták}/\emptyset_0 = \text{the man}$
 (c.f. $\text{ták}/\emptyset_0 = \text{a man}$)
- d. when structurally related to an adjunctival Radical, the Modifier has no distinctive meaning;
- e.g. $\text{;ti}/\text{m'ari}/\text{tam}/\emptyset/\text{any};/\text{o}/\text{'b}_0/\text{'o:}/\text{kǎl} = \text{until I eat the food}$ (c.f. $\text{;ti}/\text{m'ari}/\text{tam}/\emptyset/\text{any};/\text{e}/\text{gǐl} = \text{same meaning; see M.1.22.ii.a.}$).
- iii.a. When the Modifier is structurally related to a nominal Marker, it is also structurally related to a Radical morpheme, a group or a clause;
- e.g. with morpheme: $\text{wi}/\text{'arǎ:w}/\emptyset_0 = \text{the friend}$
 (c.f. $\text{'arǎ:w}/\emptyset_0 = \text{a friend}$)
- with group: $\text{wi}/\text{'i}/\text{tak}/\emptyset/\text{/i}/\text{'b}_0 = \text{the one of the man}$
 (c.f. $\text{'i}/\text{tak}/\emptyset/\text{/i}/\text{'b}_0 = \text{one of the man}$)
- with clause: $\text{wi}/\text{'o:}/\text{ták}/\emptyset/\text{tam}/\text{is}/\text{yǎ};/\text{/b}_0 = \text{the one who fed the man}$ (c.f. $\text{'o:}/\text{ták}/\emptyset/\text{tam}/\text{is}/\text{yǎ};/\text{/b}_0 = \text{one who fed the man}$).

- iii.b. Since the first morpheme of a group or clause to which a Modifier is structurally related can also be a Modifier, two (or possibly more) Modifiers can be juxtaposed, as in
 $\text{w}i/,'i/tak/\emptyset,/i/'b_o = \text{the one of the man}$. The Modifier is the only morpheme which, when structurally related to a group or clause, precedes this group or clause.

M.10. Pronominal Morphemes

- i. The meanings of Pronominal morphemes vary according to the environment, as illustrated in the following examples:
- a. If the Pronominal is a constituent of a substantive nominal word (W.1.13), it corresponds to 'your', etc.;
- e.g. $'i/gaw/u/'k_o = \text{your house}$ - $'i/gaw/u/'_o = \text{his house}$
- b. If it is a constituent of a pronominal nominal word (W.1.13.), it defines the person-reference of the latter;
- e.g. $\text{bar}/u/'k_o = \text{you}$ - $\text{bar}/u/'_o = \text{he}$
 $\text{mihay}/\emptyset/a/'k_o = \text{three of you}$ - $\text{mihay}/\emptyset/a/'_o = \text{three of them}$.
- c. If it is a constituent of a comparative word (W.1.13, 21.), it corresponds to 'than you', etc.;
- e.g. $\text{inda};i;/\text{kaa};u/'k_o = \text{better than you}$ - $\text{inda};i;/\text{kaa};u/'_o = \text{better than him}$.
- d. If it is a constituent of an adjunctival word (not comparative), it corresponds to 'you', etc.;
- e.g. $\text{ge};b/\delta;k_o = \text{with you}$ - $\text{ge};b/\delta;_o = \text{with him}$.
- e. If it is a constituent of a verbal word, it corresponds to 'you', etc.;
- e.g. $\text{rih}/\emptyset/y\check{a}/\text{ho};k_o = \text{he saw you}$ - $\text{rih}/\emptyset/y\check{a}/\text{ho};n_o = \text{he saw us}$.
 (No 3rd. person Pronominal is possible in a verbal word - see M.10.1, below.)

- ii.a. Pronominals belong to sequence-class k; therefore if a Pronominal is a constituent of the last word of a group or clause, and the latter is structurally related to a class g, h or j morpheme, this morpheme must precede the Pronominal, thus separating it from the morphemes to which it is structurally

related;

e.g. Pronominal structurally contained by group:

$\circ w i / , ' i / s a n / \emptyset , / i / : u (/ ! k) \circ$ = the one of your brother (the group which represents the Root in this word is $, ' i / s a n / \emptyset . . . / ! k$, = your brother; the Pronominal $/ ! k /$ is separated from the rest of this group by the Genitival morpheme $/ i /$ (class g) and the Marker $/ : u /$ (class j).)

Pronominal structurally contained by clause:

$\circ ; t i / m ' a r i / \sim , t a m / s / a n ; / \check{a} : y t (/ h o : k) \circ$ = I let you eat the food, then ... (the clause which represents the Root in this word is $; t i / m ' a r i / \sim , t a m / s / a n . . . / h o : k$; = I let you eat the food; the Pronominal $/ h o : k /$ is separated from the rest of this clause by the Marker morpheme $/ \check{a} : y t /$ (class j).)

ii.b.

A Pronominal which is structurally related to the adjunctival Radical $/ h \acute{a} : y /$ = with, is always contained sequentially by the verbal word which is contained by the same clause as $/ u d i : y /$;
e.g. $; t i / m ' a r i / \sim , h \acute{a} : y , t a m / \emptyset / \acute{a} n (/ h o : k) ;$ = I ate the food with you (see NOTE W.3.).

System M.10.1

- 1st. singular
- 1st. plural
- 2nd. singular
- 2nd. plural
- 3rd. singular
- 3rd. plural

i.

In some cases, the different Pronominal morphemes characterise different classes of word (W.1.15., 24.).

ii.

In certain environments, 1st.- and 2nd-person Pronominals are possible, but 3rd.-person Pronominals are not. These environments are as follows:

a. in verbal words (whether the Pronominal is contained by the word structurally or sequentially, as described in M.10.ii.b. above);

e.g. $/ \circ r i h / \emptyset / \acute{a} n / h o : k \circ$ = I saw you.

but $\circ r i h / \emptyset / \acute{a} n \circ$ = I saw him/her/it/them.

- b. in comparative words (of which the Pronominal is a constituent), when these are juxtaposed to a following equative word;
 e.g. , , ;nda:i; /k̃aa/:o/!k, ∅/u, = He is better than you.
 but , , ;nda:i; /k̃aa/:b, ∅/u, = He is better.
 or = He is better than him/her, etc.
- c. in adjunctival words, in which the Root is represented by certain adjunctival Radicals (M.1.24.);
 e.g. ∅kihi/:δ:k ∅ = above you
 but ∅kihī: ∅ = above
 or = above him/her, etc.

M.11. Compounder Morpheme

The Compounder morpheme characterises, by its presence, all 'Complement-classes (C.3.). It occurs as a constituent of verbal words only, and has no English translation equivalent.

M.12. Optative Morpheme

- i. The Optative morpheme occurs as a constituent of verbal words, and requires Marker morphemes of the classes past, permissive, modified and imperative.
- ii.a. A word containing an Optative among its constituents always has the meaning of an as yet unfulfilled wish; when the word's Marker is of any class except past, however, its meaning is about the same with or without the Optative;
 e.g. imperative Marker - ∅/miri/∅/:a/!n ∅ = Find it!
 ∅/miri/∅/!a ∅ = Find it!
- ii.b. The meaning of a word whose Marker is past and which contains an Optative is different from one which does not contain an Optative;
 e.g. with Optative - ∅'i/∅/mi:r/ā:n ∅ = If only he would find it!
 without Optative - ∅'i/∅/mī:r ∅ = He used to find it.

M.13. Certainty Morphemes

System M.13.1

question
emphasis

- i. There are three question, but only one emphasis,

Certainty morphemes.

ii. The meanings of the two classes of Certainty morpheme are as follows:

a. the question morphemes mark a word contained by an unshifted clause as a question, but a word contained by a rankshifted clause as 'uncertain';

e.g. in unshifted clause: ;mi'ari/!t,'i/ø/mrĩ/han; = Did he find some food? (c.f. ;mi'ari/!t,'i/ø/mrĩ; = He found some food.)

in rankshifted clause: ;mi'ari/!t,ø/ø/manrĩ/han;/ay_o = He may find some food, so ... (c.f. ;mi'ari/!t,ø/ø/manrĩ;/ay_o = He'll find some food, so ...)

b. the emphasis morpheme marks the word containing it as in some way more emphatic than a corresponding word without the emphasis morpheme;

e.g. ;mi'ari/!t,'i/ø/mrĩ/hó:k; = He did find some food.

iii. Emphasis and question morphemes can be structurally related to the following classes of Marker:

a. the emphasis morpheme : to an equative Marker (or to an impersonal equative Radical);

e.g., ,ba:ba/!b,ø/u/hó:k, = He is a father, to any indicative verbal Marker;

e.g. tam/ø/i:ni/hó:k_o = He does eat it.

b. the question morpheme : to an equative Marker (etc. as above);

e.g., ,ba:ba/!b,ø/u/?_o = Is he a father?

to any indicative verbal Marker except the imperative;

e.g. tam/ø/i:ni/!?_o = Does he eat it?

iv. The emphasis morpheme belongs to sequence-class m, but the question morphemes are members of sequence-class j and of class m.

System M.13.2

}	class <u>j</u> (question)
	class <u>m</u>

i. Two question Certainty morphemes belong to sequence-

class m, and one belongs to class j. The two class m morphemes seem to have the same meaning, but one (/han/) can, while the other (/ʔ/) can not, occur, in words contained by rankshifted clauses, as described in M.13.1.ii.a. above. The class j morpheme can never be so contained.

- ii. The two morphemes in class m are referred to by their exponents - /han/ and /ʔ/. These three question morphemes can be structurally related to the following classes of morpheme:
- a. /han/ - to any of the classes listed in M.13.1.iii.b. above;
 e.g. $\text{tam}/\emptyset/\text{at}/\text{a}/\underline{\text{han}}_0 = \text{Will you eat it?}$
 $\text{tam}/\emptyset/\text{tini}/\text{a}/\underline{\text{han}}_0 = \text{Do you eat it?}$
 $\text{ba};\text{ba}/\text{b},\emptyset/\text{u}/\underline{\text{han}}_0 = \text{Is he a father?}$
- b. /ʔ/ - to future indicative verbal Marker or to equative Radical (with or without equative Marker);
 e.g. $\text{tam}/\emptyset/\text{at}/\text{a}/\underline{\text{ʔ}}_0 = \text{Will you eat it?}$
 $\text{ba};\text{ba}/\text{b},\emptyset/\text{u}/\underline{\text{ʔ}}_0 = \text{Is he a father?}$
- c. class j - to any indicative verbal Marker except the future;
 e.g. $\text{tam}/\emptyset/\text{tini}/\text{a}/\underline{\text{ʔ}}_0 = \text{Do you eat it?}$

M.14. Comparative Morpheme

- i. The Comparative morpheme corresponds to '-er' or 'more' (or '-est' or 'most' ?) in English;
 e.g. $\text{inda};\text{i};/\underline{\text{kaa}}/\text{b}_0 = \text{a better one}$
 c.f. $\text{inda};\text{i};/\text{b}_0 = \text{a good one.}$
- ii. It requires a clause or group;
 e.g. with clause: $\text{ti}/\text{m}'\text{ari}/\underline{\text{ʔ}},\text{tam}/\emptyset/\text{ya};/\underline{\text{kaa}}/\text{b}_0 = \text{one who ate the food more (c.f. } \text{ti}/\text{m}'\text{ari}/\underline{\text{ʔ}},\text{tam}/\emptyset/\text{y}\check{\text{a}};/\text{b}_0 = \text{one who ate the food)}$
 $\text{ʔ}/\text{ti}/\text{tak}\check{\text{a}}\text{t}/\emptyset,\text{rih}/\emptyset/\text{tan};/\text{e}/\underline{\text{kaa}}/\text{b}_0 = \text{the one whom the woman saw more}$
 (c.f. $\text{ʔ}/\text{ti}/\text{tak}\check{\text{a}}\text{t}/\emptyset,\text{rih}/\emptyset/\text{tan};/\text{e}/\text{b}_0 = \text{the one whom the woman saw}$)
- with group: $\text{yam}/\emptyset/\emptyset;/\text{e}/\underline{\text{kaa}}/\text{b}_0 = \text{a better watered one}$
 (c.f. $\text{yam}/\emptyset/\emptyset;/\text{e}/\text{b}_0 = \text{a well watered one}$)

M,15, Than/on Morpheme

The Than/on morpheme can be structurally related to a 'by', 'in' or 'then' adjunctival Marker (M,6,10, 13,). The exponent and the meaning of the Than/on morpheme vary according to the class of the adjunctival Marker = see the examples in M,6,10,iv,, M,6,13,iv, above,

M,16, Generaliser Morpheme

The Generaliser morpheme occurs as a constituent of nominal and adjunctival words. Its meaning varies according to the class of the word;

in nominal words, it means 'each' or 'any';

e.g. $\text{p} \text{tak}/\emptyset/\text{ka}_\text{p}$ = every man = c.f. $\text{p} \text{tak}/\emptyset$ = a man,

in adjunctival words, it indicates that the circumstances referred to by the word arise repeatedly;

e.g. $\text{igé:b}/\text{ka}, \text{šaga}/\text{m}/\text{i}/\text{ni}$; = He keeps on working with him,

e.f. $\text{igé:b}, \text{šaga}/\text{m}/\text{i}/\text{ni}$; = He works with him,

M,17, Conjunctive Morphemes

System M.17.1

coordinating
linking
contrastive
additive

- i. These four classes include one morpheme each; they are constituents of the following classes of word;
- coordinating morpheme = in verbal, nominal, adjunctival words;
linking morpheme = in verbal, equative words;
contrastive morpheme = in verbal words;
additive morpheme = in nominal, adjunctival words,

ii. The higher units in which words containing these four morphemes occur are as follows;

- a. verbal words with coordinating morpheme = in intensive sentences (S,1,) or in Complement-clauses (C,3,); in both cases, words with and without the coordinating morpheme are in free variation;
e.g. intensive sentence = $\text{;mi'ari}/\text{it}, \text{'a}/\emptyset/\text{mã:r}/\text{wa}, \text{'a}/\text{n}/\text{dĩ}$;

- = ; mi'ari/ft, 'a/ø/mǎ; r, 'a/n/dǎ; = I'm going to find some food,
 e, g. Complement-clause = ; mi'ari/ft, ø/miri/it/i/:wa; ø/ba'ø/ǎni,
 = ; mi'ari/ft, ø/miri/it/i; ø/ba'ø/ǎni, = I keep on finding food.
- b, nominal words with coordinating morpheme = in groups of the
 coordinating/apposing conjunction-class (G, O, iii, b, 5.);
 e, g. , 'u:/tak/ø/wa, ti/takát/ø/wa, = the man and the woman
- c, adjunctival words with coordinating morpheme = in groups of
 the coordinating conjunction-class (G, O, iii, b, 4.);
 e, g. , ; ti/m'ari/ø, tam/ø/any; /e/ik/wa, ; 'o:/bǔ;n/ø,
 gwa'ø/any; /e/ik/wa, = if I eat the food and if I drink the
 coffee
- d, verbal or equative words with linking morpheme = in Pre-final
 clauses (C, O, ii, b.);
 e, g. , mi'ari/ft, tam/ø/ǎni/; ; naa/ft, ká/ǎi;y/s/ǎn, = I eat the food
 and finish nothing.
- e, verbal words with contrastive morpheme = in Pre-final clauses
 in certain rankshifted sentences (C, O, ii, b.; G, 4, 15, iv.); words
 containing, and words not containing, the contrastive morpheme
 are in free variation;
 e, g. ; mi'ari/ft, tam/ø/át/ka; bǔ;n/ø, gwa'ø/át, 'a/ø/kě; =
 ; mi'ari/ft, tam/ø/át; bǔ;n/ø, gwa'ø/át, 'a/ø/kě; = I alternated
 between eating food and drinking coffee.
- f, nominal or adjunctival words with additive morpheme = in any
 uncoordinated group (except those representing the Root);
 e, g. , mi'ari/ft/han, = some food also

NOTES

NOTE M. 1.

The exponent of a particular morpheme may vary from one environment to another. In some cases, however, it is necessary to refer to all such different exponents of a particular morpheme together. In order to do this, the 'Lowest Common Multiple' of all the different exponents is quoted (and referred to as the 'generalised' exponent of the morpheme); for instance, the Radical whose generalised exponent is /m-ry/ = find, has

as exponents: /m-r/, /m-r-y/ and /m-y-r/, each in a different range of environments. Similarly, a particular grouping of morphemes can be quoted in a generalised exponent, subsuming the different exponents of the grouping found in different environments; e.g. the grouping of the Radical /tam/ and the causal Transitor is quoted as /tam/is/, as found in the environments o tam/is/yä and o tam/s/än.

NOTE M.2.

In addition to the CCC/y and CC classes of consonantal Radical (M.1.4.), two other sets should be mentioned;

- a. there are some Radicals containing two C-phonemes, the second of which is y; there are very few of these, however, and all are irregular (see Appendix B.);
- b. there are some synonymous pairs of Radicals, of which one contains a c⁺ formant (l or h) as a constituent of its first C-phoneme, while the second contains l or h as the only constituent of its second C-phoneme; thus the former belongs to the CC class, while the latter belongs to the CCC/y class. For instance, both the Radicals /d-l-r/ (CC) and /d-l-r/ (CCC/y) mean 'marry' or 'build'; e.g. o 'a/so:/d'ir and o 'a/s/dal'ir both mean 'I made him build it' or 'I let him marry her' (c.f. respectively o 'a/so:/rib (CC) = I made him refuse it, and 'a/s/dalib (CCC/y) = I made him collect it.)

NOTE M.3.

- i. At least some of the numeral Radicals (M.1.16, and NOTE M.4. below) can be followed by -a; without this -a they are cardinal, with it they are ordinal;

e.g. /miháy/ = three
/mihaya/ = third.

Provisionally, however, the ordinals are treated as indivisible adjectival Radicals.

- ii. Some agentive Marker morphemes (M.6.6.) can be followed by -l; again words containing this -l are treated as indivisible adjectival Radicals;

e.g. /tamanäl/ = greedy

c.f. iti/m'ari/, tam/ø/ana; = habitually eating food.

NOTE N.4.

- i, The numeral Radicals described in M.1.16, constitute an infinite set, but it may be possible to analyse all the Radicals in that set which mean 11-19, 21-99, 101-999, and 1,001 upwards, so that the set of numeral Radicals includes only 1-10, 20, 100 and 1,000, of which either one or more than one can occur as constituents of a single word. The set described in M.1.16, and that described below will be referred to as 'complex' and 'simple' numeral Radicals respectively.
- ii, Simple Radicals may or may not be linked by /wa/ or /a/ (c.f. the coordinating Conjunctive morpheme /wa/ = and). This 'linking' morpheme occurs after a Radical meaning 'ten' or 'hundred', provided another Radical follows.
- iii, The sequential relations of simple Radicals are as follows:
- a, the Radical 'thousand' precedes that meaning 'hundred' which in turn precedes those meaning 'ten' and 'twenty',
- b, if a Radical meaning 'thousand', 'hundred' or 'ten' is preceded by one meaning 'one' to 'nine', the two meanings are to be multiplied together; thus /miháy/tamũ;n/ = 30 (/miháy/ = 3; /tamũ;n/ = 10),
- c, if a Radical meaning 'thousand', 'hundred', 'ten' or 'twenty' is followed by a Radical meaning a lower number (with /wa/ or /a/ between the two Radicals), the two meanings are to be added together; thus /tamn/a/miháy/ = 13.
- iv, a, The exponents of the Radicals are as follows (for convenience, morpheme-boundaries are not marked before and after each Radical):
- 1 = ngaã;l (except after the linker /a/)
gwír (after the linker /a/)
(before a Pluraliser, the exponent of 'one' is ngaãl, as in _ongaal/ø/a/i_o = some of us; c.f. MP.1.18, ii, b.)
- | | | |
|-----------|--------------|---------------|
| 2 = mahlö | 6 = 'asagwír | 7 = 'asaramã |
| 3 = miháy | | 8 = 'asamiháy |
| 4 = fadig | | 9 = 'aššadig |
| 5 = 'ayĩ | | |

10 = tamīn (except before the linker /a/, and except after a Radical meaning 'three' to 'nine')

tamn (before the linker /a/, but not after 'three' to 'nine')

tamū:n (after 'three' to 'nine')

20 = tagwīg (except before the linker)

tagwg (before the linker)

100 = šé:b

1,000 = lif or 'alif (according to Roper),

iv, b,

There are clear similarities between /'ayī/ = 5, and /'aye/ = hand; the former could be analysed as containing a variant of the latter, thus being homonymous in a word such as _o'ayī/ø/it_o = five (feminine) with _o'ay/ø,/i/it_o = ones (fem.) of a hand. It is, however, simpler to treat 'ayī = 5 as a single morpheme,

iv, c,

Similarly, the Radicals meaning 6, 7, 8, 9 could perhaps be analysed as containing two Radicals and a linking morpheme, thus:

6 = /'as/a/gwir/ (c.f. /tamn/a/gwir/ = 11, where /gwir/ = 1)

7 = /'as/a/ramā/

8 = /'as/a/miháy/ (c.f. /miháy/ = 3)

9 = /'aš/ø/šadig/ (c.f. /šadig/ = 4)

iv, d,

The linking morpheme is always expounded by /wa/, except when immediately preceded by two juxtaposed C-phonemes, in which case it is expounded by /a/;

e.g. /miháy/tamū:n/wa/ngaš;l/ = 31

c.f. /tamn/a/gwir/ = 11

iv, e,

When these Radical-groupings are followed by a nominal Marker and a Genitiyal morpheme, the latter is expounded in most cases by /i, etc. (MP, 5, 1.); after the Radicals /ngaš;l/ = 1, and /'ayī/ = 5, however, the Genitiyal is expounded by /'na;i, etc. (, 'ay/ø,/i/ = of a hand, is also followed by /'na;i, etc.),

v,

A word in which the Root is represented by /šé:b/ = 100, can represent the element Complement, but not the element

Head, and therefore can be considered as an exception to the rule stated in W, O, I., There is also a substantive nominal Radical (M, 1, 16,) /šee/ = hundred, with which this numeral Radical should not be confused; the substantive is a constituent of words such as $\text{šee}^{\vee}/i;h_0$ = hundreds, which represent the element Head,

NOTE M.5.

There are two homonymous and synonymous morphemes /hó:k/, belonging to the classes Certainty and Radical morpheme respectively,

e.g. $\text{tam}/\emptyset/y\check{a}/\underline{hó:k}_0$ = He did eat it (Certainty morpheme);
 $;\text{'i}/\text{tak}/\emptyset, /i/\check{t}, \underline{hó:k}, \text{sak}/\emptyset/i;ni;$ = He acts like the man
 indeed, (Radical morpheme)

Similarly there are three almost homonymous morphemes which seem to have some meaning in common; they belong respectively to the 'if', etc. Marker, question Certainty, and additive Conjunctive classes (M, 6, 12,; M, 13, 1,; M, 17, 1,);

e.g. $\text{mi'ari}/\check{t}, /i/\emptyset/mri;/;e/\underline{han}_0$ = even though he found some
 food (Marker morpheme)
 $;\text{mi'ari}/\check{t}, /i/\emptyset/mr\check{i}/\underline{han};$ = Did he find some food?
 (Certainty morpheme)
 $;\text{'u};/\text{tak}/\emptyset/\underline{han},$ = the man too (Conjunctive morpheme)

NOTE M.6.

The Nominaliser morphemes described in M.4, are only the most 'productive' ones; there are a large number of items which at present are treated as single morphemes belonging to the class substantive nominal Radical, but whose exponents suggest at least an etymological connection with verbal Radicals; e.g. the nominal Radicals $;\text{mi'ari}/$ = food, and $/\text{'ó:r}/$ = child, may be related to the verbal Radical $/\text{'-r}/$ = feed, rear (e.g. children); no other verbal Radicals are known to be in such a relationship = in terms of exponence = to items here classed as nominal Radicals, so there is nothing to be gained from analysing mi'ari and 'ó:r as each consisting of a verbal Radical and a Nominaliser,

MORPHO-PHONOLOGYMP, O, Introduction

- i, This chapter will describe the (phonological) exponents of the members of the morpheme-classes described in the preceding chapter. Each section of this chapter will be numbered according to the number of the corresponding section in the preceding chapter.
- ii, Some formal items are expounded by more than one phonological item, of which some are in complementary distribution, and others are in free variation. Exponents (phonological items) which are in complementary distribution are grouped into a single 'variant set'; therefore exponents which can occur in the same environment must belong to different variant sets. For instance, there are four possible exponents of the nominal Pluraliser morpheme = /;ǎ/, /'/, /ʸ/ and /ø/; of these, /'/, /ʸ/ and /ø/ are in complementary distribution, but there are environments in which both /;ǎ/ and one of these three are possible;
 e.g. $\text{ }_0\text{;dabalo;}/;ǎ\text{/;b}_0 = \text{ }_0\text{;dabalo;}/ʸ\text{/;b}_0 = \text{small ones}$
 Thus the formal item 'nominal Pluraliser morpheme' is expounded by two variant sets, which contrast in some, though not all, environments.
- iii, a. It is convenient to divide morphemes in this chapter into six classes, in order to describe the circumstances in which the exponent of a morpheme contains an accent (' ʸ), and those in which it does not. These classes are called accent-classes, and are so defined that, in a given phonological word, no two members of the same accent-class can have an accent in their exponents;
 e.g. $\text{ }_0\text{'arǎ;w/t}_0 = \text{a friend (fem.)}$
 e. f. $\text{ }_0\text{'ara;w/tu/ik}_0 = \text{your friend (fem.)} = \text{the Radical /'arǎ;w/ and the Pronominal /ik/ belong to the same accent-class, and therefore only one of them can have an accent.}$
 (It should be noted that an accent which is part of the exponent

of a given morpheme is not necessarily phonologically a part of that exponent; e.g. it is possible for an accent written in one syllable to be phonologically a constituent of a phoneme in another syllable (see P.1.iii.d.);

e.g. in \circ 'ara:w/tu/ \vee \circ = my friend (fem.), the accent \vee is the exponent of the Pronominal morpheme, but phonologically it is a constituent of the V-phoneme a:..., the first part of which is part of the exponent of the Radical morpheme.)

iii, b.

The generalised exponent of a morpheme may or may not contain an accent; this accent is referred to as an 'inherent accent', and may or may not be 'realised' in a given environment. A morpheme's inherent accent is realised except when another morpheme which belongs to the same accent-class, and which has an inherent accent, follows it in the same phonological word. Thus, the inherent accent of /'arä:w/ is 'suppressed' by the following, inherently accented, Pronominal /!k/.

(One morpheme, the Genitival, can have two inherent accents - e.g. /Ÿnā:y/ - of which only the second is suppressed by a following inherently accented morpheme.)

iii, c.

The memberships of the six accent-classes (referred to as I, II, III, IV, V and VI) are related as follows to those of the fifteen sequence-classes (M.O.ii.b.);

I is coterminous with class a;

II " " " classes b - k (except those morphemes which belong to classes III, IV and V; but the Genitival (class g) expounded by /Ÿna:i, etc., and verbal Radicals (e) belong to both II and III)

III includes verbal Radical morphemes (class e - these belong also to class II, since such a morpheme always has a realised accent when representing the first of two Root elements - M.2.2.iv.a.); also the Genitival morpheme when expounded by /Ÿna:i, etc.

IV includes the Optative morpheme when expounded by /!n/ or /ä:n/

V includes a Pronominal morpheme when expounded by /heč:b/

VI is coterminous with classes l - o.

e.g. $\text{bá:}/\text{tamá}/\text{tama}/\text{:s}/\text{'}/\text{a:na}/\text{'n}/\text{heǎ:b}/\text{hó:k}_0$ = Don't keep on feeding me!

I III II IV V VI

iv. In this chapter differences of exponent which are due to the environment are described, but for simplicity any pair of exponents, one of which contains either : or an accent, but the other does not, are treated together; thus, wherever ' or ˇ appears in the exponent of a morpheme in the following description, it is to be understood that these formants are found in this exponent only when phonologically possible (: is possible only after a v-formant) or when allowed by the rules stated in iii. above. For instance, one of the exponents of the Pluraliser was given above as /ǎ/, but this particular exponent is found only after v-formants (e.g. $\text{dabalo}/\text{:ǎ}/\text{b}_0$), whereas /ǎ/ is found after c-formants (e.g. $\text{gaw}/\text{ǎ}/\text{:b}_0$ = houses.)

MP.1. Radical Morphemes

i.a. There are some Radical morphemes whose exponents have a final -r, -l or -n in all environments except before a feminine nominal Marker morpheme (whose first phoneme is always t). There are other Radicals with final -r, -l and -n of which this is not so, therefore this phenomenon cannot be described in purely phonological terms. The following Radicals do 'lose' their final -r, -l or -n before the feminine t :

/dawǐl/ = near (adjectival) - as in $\text{dawi}/\text{'t}_0$ = a near one

/ʼó:r/ = child (substantive) - as in $\text{ʼó}/\text{t}_0$ = a girl

/bé:n/ = that (deictic) - as in $\text{bé}/\text{t}_0$ = that one

/bar/ = he, you, etc. (pronominal) - as in $\text{ba}/\text{tu}/\text{'t}_0$ = she

/ngaǎ:l/ = one (numeral) - as in $\text{ngaa}/\text{'t}_0$ = one

(also -gwír, as in /tammagwír/ = eleven)

/h-r-r/ = tell lies (verbal) - as in $\text{hara}/\text{'t}_0$ = one who lies

For other special relations between the formants r and l, see NOTE MP.1.

i.b. The Radical (pronominal nominal) /kass/ = all, is expounded by /kas/ before the feminine t ; e.g. $\text{kas}/\text{tu}/\text{'t}_0$ = all of it (fem.) - c.f. $\text{kass}/\text{u}/\text{'t}_0$ = all of it (masc.).

- ii. There are some Radicals whose exponents contain a final V-phoneme, except before a Pronominal or Genitival morpheme;
 e.g. /ba:ba/ = father (substantive) - as in ba:ba/!b_0 = a father
 but ba:b/u^\sim_0 = my father
 /mahlö/ = two (numeral) - as in mahlö/ø/!b_0 = two
 but mahl/ø/a/!_0 = both of them
 /kihí:/ = above (adjunctival) - as in kihí:_0 = above
 but kih/ó:k_0 (or kihí/!ó:k_0)
 = above you
 (likewise all adjunctival Radicals with final -i:).

- iii.a. When the generalised exponent of a Radical contains the phoneme i between two C-phonemes, this i is absent wherever its absence does not involve the juxtaposition of three C-phonemes or of two C-phonemes and a phonological word-boundary;

e.g. /gwimád/ = long - as in tó:/;gwimád;/t_0 = the long one
 /dirǎ:r/ = dinner - as in 'o:/drǎ:r/ø_0 = the dinner
 /gidǐr/ = cooking-pot - as in 'i/gidr/u^\sim_0 = my pot
 but 'o:/gdǐr/ø_0 = the pot

- iii.b. On the other hand, if -i is the last phoneme in the Radical's generalised exponent, it can be replaced by -y before a V-phoneme;

e.g. /do:ba:ni/ = wedding - as in $\text{'i/do:ba:ny/ø/e}^\sim_0$ = my wedding
 c.f. do:ba:ni/^\sim_0 = a wedding.

(The same is true of other morphemes; for instance, the generalised exponent of one verbal Marker is /áni/, as in tam/ø/áni_0 = I eat it; before a Genitival /:e/, however, the exponent is /any/, as in tam/ø/any;/e/!k_0 = if I eat it)

MP.1.2
 consonantal (verbal Radical)
 syllabic

- i.a. Consonantal Radicals differ from syllabic Radicals, inter alia, in that the former are quoted as two or three C-phonemes, without V-phonemes, while the latter are quoted as one or more syllable, ie. with both C- and V-phonemes. In other words, a syllabic Radical determines both C- and V-phonemes in

any word containing it, whereas a consonantal Radical determines (in most cases) only C-phonemes;

e.g. syllabic - /dīw/ = sleep, as in $\text{°diw/s/án}_\text{°}$ = I let him sleep.

c.f. /tām/ = eat, as in $\text{°tam/s/án}_\text{°}$ = I fed him.

consonantal - /d-b-l/ = collect, as in $\text{°'a/s/dabil}_\text{°}$ = I let him collect it.

c.f. /k-r-'f/ = meet, as in $\text{°'a/s/karif}_\text{°}$ = I let him meet him.

i.b.

There are only three respects in which one or more V-phonemes of a word can be determined by a consonantal Radical:

1. Both C- and V-phonemes in the exponent of a short or strong Transitisor may vary according to the class (CC, CCC or CCy) of the Radical to which it is structurally related. (MP.2.)
2. The exponent of such a Transitisor can also contain different V-phonemes according to the presence or absence, in one of the Radical's C-phonemes, of ' or h. (MP.2.vi.f,g.).
3. When a consonantal Radical is structurally related to a weak Transitisor, the Radical's exponent contains a V-phoneme between each pair of C-phonemes. If the Radical is CC, this V-phoneme is (usually) o:; otherwise it is i;
e.g. /r-[~]b/ = refuse, as in $\text{°ro:b/ø/án}_\text{°}$ = I refused them.
(but /g-[~]d/ = throw - $\text{°ge:d/ø/án}_\text{°}$ = I threw them.)
/k-r-[~]'f/ = meet, as in $\text{°kirif/kirif/s/án}_\text{°}$ = I let him meet them (?)

(The same rules apply to the exponents of consonantal Radicals as to those of syllabic Radicals in the same environments - see c. below.)

Thus, the V-phonemes separating the C-phonemes of a consonantal Radical in a given word can be considered to be determined by the environment in one of two ways:

if the Transitisor is strong or short (i.e. precedes the Radical), these V-phonemes are a part of the Transitisor's discontinuous exponent - e.g. /s..a..f/ in $\text{°'a/s/dabil}_\text{°}$;

if the Transitisor is weak (i.e. follows the Radical), these V-phonemes are a part of the exponent of the Radical itself,

as in $\circ_{ro:b/s/\acute{a}n_{\circ}} =$ I made him refuse it, where the Radical is expounded by $/ro:b/$, and the Transitor by $/s/$. (When the generalised exponents of consonantal Radicals are quoted, the possibility of such exponents is ignored, so that the difference between syllabic and consonantal Radicals appears in their respective quotation-forms - e.g. $/r-\check{b}/$ as opposed to $/t\acute{a}m/$.)

i.c. In general, a Radical accompanied by weak Transitors has the same exponent in all environments. The only exceptions known are:

1. if a Radical occurs twice in the same word, its exponent is different from when it occurs once only. If the exponent is monosyllabic when it occurs once only, it has a final $-ä$ when it occurs twice; if it is polysyllabic when it occurs once, it has the same number of syllables when it occurs twice, but the V-phoneme before the last C-phoneme contains $\acute{}$;

e.g. $/t\acute{a}m/ - \circ_{tam\check{a}/tama/:s/\acute{a}n_{\circ}} =$ I kept on eating it.

$/r-\check{b}/ - \circ_{ro:b\check{a}/ro:ba/:s/\acute{a}n_{\circ}} =$ I kept on refusing it.

$/hadi:d/ - \circ_{hadf:d/hadf:d/s/\acute{a}n_{\circ}} =$ I kept on talking.

$/k-r-\acute{f}/ - \circ_{kirif/kirif/s/\acute{a}n_{\circ}} =$ I kept on meeting him.

(Again, such exponents are disregarded in the generalised exponents of Radicals.)

2. if the V-phoneme before the last C-phoneme of the Radical is i , this is absent wherever its absence does not involve the juxtaposition of three C-phonemes, as described in MP.1.iii.;

e.g. $\circ_{gidf/\emptyset/\acute{a}n_{\circ}} =$ I dared - c.f. $\circ_{gidif/\emptyset/t\check{a}_{\circ}} =$ she dared.

3. if a Radical is preceded by a Nominaliser and followed by a Pluraliser, and if the Radical's generalised exponent contains $\acute{}$ in its last V-phoneme, this $\acute{}$ may be absent;

e.g. $/\acute{i}:b\check{a}:b/ =$ travel - $\circ_{\emptyset/\acute{i}:bab/\emptyset/\acute{}/t_{\circ}} =$ journeys.

(c.f. MP.1.18.ii. below.)

ii.a. A consonantal Radical can determine one accent in the exponent of a word containing it; such Radicals may or may not contain an inherent accent, which may be $\check{}$ or $\acute{}$, and always precedes the last C-phoneme (excluding a final $-y$);

e.g. $/r-\check{b}/ =$ refuse, $/l-w/ =$ burn, $/d-\acute{f}/ =$ go.

ii.b. The general rule for the realisation of inherent accents (MP.O.iii.b.) does not cover the realisation of inherent accents in consonantal Radicals; for the latter, the following supplementary rules are needed (except where contradicted by the following, the rules in MP.O.iii.b. are valid also for these Radicals):

1. a ˘ accent is always suppressed after a strong or short Transitor, unless the Transitor's exponent contains *i*: or *ɛ*:, or is /siCɔC/ or /siCiC/ (see the table of exponents in MP.2. below);

e.g. /r-˘b/ in \circ 'a/n/ri:˘b \circ = I refuse it.

c.f. /l-w/ in \circ 'a/n/li:w \circ = I burn it.

/m-˘r-y/ in \circ 'a/s/ma˘r \circ = I made him find it.

c.f. /d-g-y/ in \circ 'a/s/dɔg \circ = I made him bring it back.

2. a ˙ accent is always suppressed except before a Second-person morpheme or a Pluraliser morpheme, and except after a strong or short Transitor expounded by /øCi:C, /øCɔ:C or /øCɛ:C;

e.g. /d-˙f/ in \circ ti/n/di:˙f/a \circ = you go.

c.f. /l-w/ in \circ ti/n/li:w/˙a \circ = you burn it.

/kw-˙s-y/ in \circ 'a/ø/kwi:˙s \circ = I used to pay him.

c.f. /d-g-y/ in \circ 'a/ø/di:˙g \circ = I used to bring it back.

iii. Every syllabic Radical which is compatible with a masc/fem. Nominaliser (M.1.9.) has an inherent accent in its last V-phoneme. This accent, which can be either ˘ or ˙, is realised only when the Radical is preceded by a Nominaliser;

e.g. /ɔib/ = fall, as in \circ 'u:/ø/ɔib/ø/ø \circ = the fall;

/dɛn/ = be silent, as in \circ 'u:/ø/dɛn/ø/ø \circ = the silence.

iv.a. A consonantal verbal Radical can be followed by a nominal Pluraliser (the latter being structurally related to the whole clause, of which the verbal Radical is a part). The exponent of this Pluraliser (see MP.7.) is determined by the verbal Radical, provided that the latter is structurally related to a non-/ana agentive Marker morpheme, and to a Transitor which is expounded by /'aCɔ:C, /øCaCɔ:C or /øCaCɔ:y. There are three possible exponents for the Pluraliser in this

environment: / \checkmark /, / \prime / or / \emptyset /, These exponents occur in the following more precisely defined environments;

1. / \checkmark / occurs when the Radical is CCy;

e.g. /d = g-y/ in \circ ti/; \emptyset /dagay/ \emptyset /; \checkmark /t \circ = the ones (fem.) who came back,

c.f. \circ ti/; \emptyset /dagá:y/ \emptyset /;t \circ = the one (fem.) who came back,

2. / \prime / occurs when the Radical is CC or CCC, and contains \checkmark or (sometimes) \prime as inherent accent;

e.g. /t = \checkmark b/ = fill, in \circ ti/; \prime a/tab/ \emptyset /; \prime /t \circ = the full ones

c.f. \circ ti/; \prime a/tă;b/ \emptyset /;t \circ = the full one,

e.g. / \checkmark w = š = \prime š/ = move, in \circ ti/; \emptyset /gwašš/ \emptyset /; \prime /t \circ = the ones who moved

c.f. \circ ti/; \emptyset /gwašš;š/ \emptyset /;t \circ = the one who moved,

3. / \emptyset / occurs when the Radical is CC or CCC, and contains no inherent accent, or is one of the remaining Radicals containing \prime (c.f. 2, above);

e.g. /l = w/ = burn, in \circ ti/; \prime a/lăw/ \emptyset /; \emptyset /t \circ = the ones who were burned

c.f. \circ ti/; \prime a/lă;w/ \emptyset /;t \circ = the one who was burned,

e.g. /k = r = \prime f/ , in \circ ti/; \emptyset /karăf/ \emptyset /; \emptyset /t \circ = the ones who came back

c.f. \circ ti/; \emptyset /kară;f/ \emptyset /;t \circ = the one who came back,

iv, b,

The following are some members of the two sets of Radicals containing \prime , mentioned in 2 and 3 above;

as in 2, above : / \checkmark = \prime f/ = trip, /š = \prime t/ = slip, / \checkmark w = \prime š/ = move

/ \checkmark n = \prime f/ = kneel, /f = t = \prime t/ = comb, / \checkmark w = š = \prime š/ = move,

as in 3, above : /b = \prime k/ = restrain, /l = \prime s/ = lack, /f = \prime f/ = pour,

/b = \prime f/ = break, /k = r = \prime f/ = meet, come back,

/k = l = \prime s/ = lean, /l = k = \prime k/ = misuse, /r = \checkmark = \prime s/ = roll,

MP.1.13 personal (equative Radical)

impersonal

personal ; / \emptyset / = as in \emptyset /u \circ = he is ... (e.g. ,ba:ba/fb, \emptyset /u \circ = He's a father,)

impersonal; /u/ = as in ${}_0u_0$ = he/it/she/they is/are,,,

(e.g.,,,, 'i/paib/Ø, /i/It, ${}_0u_1$ = He is/she is/they are like his/hor/their father,)

or /u:ytu/ = as in ${}_0u:ytu_0$ = it is,,,

(e.g.,,,, diw/Ø/any; /e/ik, ${}_0u:ytu_1$ = It is if I sleep,)

(/w/ or /u:ytu/ before a Second-person morpheme)

The above two exponents of the impersonal Radical are in free variation in at least some environments = e.g, in the example given above with /u:ytu/, /u/ is also possible, It is possible, however, that /u:ytu/ cannot be substituted for /u/ in the first example above,

MP. 1. 14
 i, accented-Modifier (adjectival Radical)
 unaccented-Modifier

The class of the adjectival Radical determines whether or not a preceding Modifier morpheme (MP, 9, ii, n,) is inherently accented: (the Modifier is structurally related to the whole clause, of which the adjectival Radical is a part); e.g, accented-Modifier = /nda:i/ = good, as in ${}_0'i;/nda:i;/\checkmark_0$
 = the good one

unaccented-Modifier = /dabalo/ = small, as in ${}_0'i;/dabalo;/\checkmark_0$
 = the small one,

ii, The exponent of a following nominal Marker morpheme also varies to some extent according to the class of the adjectival Radical (MP, 6, 9, i, c,);

e.g, /nda:i/ in ${}_0'i;/nda:i;/\checkmark_b_0$ = the good one (accusative)

/dabalo/ in ${}_0'i;/dabalo;/\checkmark_0$ = the small one (accusative)

(The examples in i, above are both nominative = the Marker therefore has the same exponent in both words,)

ii, The Genitiyal morpheme has various exponents (MP, 5,), which fall into two sets, referred to as "/Yna:i, etc," and "/i, etc," respectively, The /Yna:i, etc, set is possible after any adjectival Radical, but the /i, etc, set is possible only after unaccented-Modifier Radicals, and after some accented-Modifier

Radicals;

e.g. /dabalo/ in \circ ti/, 'i/; dabalo; / \emptyset ;/ nda:y/t \circ = the one of the
small one

or \circ ti/, 'i/; dabalo; / \emptyset ;/ y/t \circ = same meaning,

/nda:i/ in \circ ti/, 'i/; nda:i; / \emptyset ;/ nda:y/t \circ = the one of the
good one

but not * \circ ti/, 'i/; nda:i; / \emptyset ;/ y/t \circ .

The following are some examples of accented-Modifier Radicals which can, and some which cannot, be followed by the /i, etc. set:

with /i, etc.; /diru/ = brown, /li'o/ = satisfied (after drinking)

not with /i, etc.; /birma/ = untamed /gibli/ = lovely

/nda:i/ = good /gayi/ = new

/dawil/ = near /kwati/ = happy

/raba/ = male /gwimád/ = long

/rakwikw/ = thick /'abih/ = mean

/yiwě/ = thirsty /'aðami/ = young

iv. The nominal Pluraliser is expounded by two variant sets, which can be referred to as /;ǎ/ and /non-;ǎ/ respectively (MP, 7, 1, ii.), With some adjectival Radicals, both sets are possible, but with most only one is possible:

a, all accented-Modifier Radicals are followed only by the non-;ǎ/ set;

e.g. /nda:i/ in \circ nda:i; /ǎ/; b \circ = good ones

b, some unaccented-Modifier Radicals (see v, below) are followed only by the non-;ǎ/ set;

e.g. /nakǎš/ = short, as in \circ nakǎš; / \emptyset /; t \circ = short ones (fem.)

c, others are followed only by the /;ǎ/ set;

e.g. /bidǎigi;l/ = big, as in \circ bidǎigi;l; /ǎ/; t \circ = big ones

d, the rest can be followed either by the non-;ǎ/, or by the /;ǎ/, set;

e.g. /dabalo/ = small, as in \circ ; dabalo; /ǎ/; t \circ = small ones

or \circ ; dabalo; /; ǎ/; t \circ = same meaning,

e, there are two irregular accented-Modifier Radicals - /wǎn/ = big, and /dis/ = small - whose exponents before the Pluraliser

(always of the non-/:ǎ/ set) are respectively /wawĩn/ and /dadĩs/ (or, less commonly, /wĩn/ and /dĩs/).

v. The following are some examples of unaccented-Modifier Radicals belonging to the sets defined in b., c. and d. above:

as in b.:	/mihaya/ = third	/yiwě/ = thirsty
	/balawi/ = non-Beja	/hirri/ = free
	/nakáš/ = short	/'e:ra/ = white
	/so:tă:y/ = green	/'e:la/ = white
	/šibo/ = good	/hara:yri'i/ = mendacious.

as in c.:	/biđđigĩ:l/ = big	/ke:lĩm/ = unlucky
	/fagăr/ = diligent	/'adaro/ = white
	/tamanăl/ = greedy	/'abu:kato/ = talkative
	/šallik/ = few, little	/hadăl/ = black

as in d.:

/dabalo/ = small	, /nakašo/ = short,	/'adalo/ = white.
------------------	---------------------	-------------------

MP.1.18 Pluraliser-compatible (substantive nominal Radical)
 Pluraliser-requiring
 Pluraliser-incompatible

i.a. Both the /:ǎ/ and the non-/:ǎ/ sets of exponents are possible for the Pluraliser after some substantive Radicals, but after others only one of these sets is possible. The non-/:ǎ/ set includes three exponents - /v/, /' / and /ø/ - in complementary distribution; the difference between the environments in which /v/ and /' / occur can be described in purely phonological terms - see MP.7.1.iii,a,b. - but that between the environments in which either of these exponents occurs and the environments in which /ø/ occurs can not be thus described; therefore /v/ and /' / can be referred to together, as /v' /.

i.b. It is necessary, in describing the exponents of substantive Radicals with a following Pluraliser, and the exponents of this Pluraliser, to distinguish between Radicals whose last phoneme is V and C, and to distinguish within C-final Radicals between those in which the C is preceded by a V-phoneme containing ; , and those in which it is not (referred to

as v:C and vC Radicals respectively).

i.c.

The following combinations of substantive Radical (-V, -v:C, -vC) and Pluraliser (/:ǎ/, /'~/, /ø/) are possible:

1. -V Radical + /:ǎ/; e.g. mi'ari/:ǎ/:t_o = foods
2. -V Radical + /'~/; e.g. do:ba/'~/:t_o = brides
3. -V Radical + /'~/ or /:ǎ/; e.g. yoo/'~/:b_o = yoo/:ǎ/:b_o = oxen
4. -vC Radical + /:ǎ/; e.g. ragad/ǎ/:b_o = legs
5. -v:C Radical + /:ǎ/; e.g. hu:s/ǎ/:t_o = knives
6. -v:C Radical + /'~/; e.g. /barrǎ:d/ = teapot, in barrad/ø/ø/ = coffee cup, in /finjá:n/ = coffee cup, in finjan/ø/ø/
7. -v:C Radical + /ø/; e.g. ginif/ø/ø/ = noses
8. -v:C Radical + /:ǎ/ or /ø/; e.g. ni:s/ǎ/:b_o = ni:s/ø/ø/ = saddle (or saddles)

i.d.

The following are some members of the sets of Radicals defined above (the gender is given in brackets - M = masculine; F = feminine; C = common - M.1.17.):

- | | |
|--------------------------|--------------------------|
| 1. mi'ari (F) = food | di'abi (M) = male animal |
| 2. bi:le (M) = basket | laga (C) = calf |
| bire (C) = rain, sky | š'i'a (M) = cow |
| do:ba (C) = bride(groom) | gasani (M) = tent-peg |
| dibba (F) = pile | gara:bi (F) = path |
| du:ra (M) = uncle | kili'o (M) = shell |
| 3. yoo (M) = ox | |
| 4. bihár (M) = sea | dirikw (M) = trough |
| ngaráb (M) = sunset | nba'ǎǎ (M) = sword |
| ragád (M) = leg | yáf (M) = mouth, debt |
| sár (M) = skin | yát (F) = death |
| dáb (M) = character | gwib (C) = mouse |
| dabás (M) = rheumatism | gindif (M) = knee |
| | gi:sát (M) = heel |
| 5. bí:r (C) = date-palm | š'i:n (C) = mud |
| sū:g (M) = market | há:s (F) = knife |

- | | |
|--------------------------|------------------------|
| 6. barrā:d (M) = tea-pot | diwā:n (M) = water-pot |
| bikkā:r (M) = shanty | siyā:m (M) = grass |
| ba:sū:r (M) = howdah | kitā:b (M) = book |
| finjā:n (M) = coffee-cup | 'arā:w (C) = friend |
| darā:g (M) = cheek | 'i:bā:b (M) = louse |
| damā:n (M) = time | hasā:l (M) = head-rope |
| di:wā:n (M) = office | ha:yū:k (M) = star |
| 7. mé:k (C) = donkey | dirā:r (M) = dinner |
| fā:r (M) = flower | tā:t (F) = louse |
| lū:l (M) = cord | kaā:m (C) = camel |
| ni'ā:l (M) = bed | gind:f (M) = nose |
| yā:s (C) = dog | 'ō:r (C) = child |
| sā:s (M) = foundation | hatā:y (C) = horse |
| 8. nī:s (M) = saddle | |

i.e.

There are two irregular substantive Radicals = /tāk/ = man, and /takāt/ = woman = whose exponents before a Pluraliser (/v/ and /ø/ respectively) are 'suppletive', viz. /ndaa/ = men, and /mā'/ = women; thus $\text{ndaa}/v/;b_0$ = some men; $\text{mā'}/\emptyset/t_0$ = some women. (Before a Genitival, 'men' is expounded by /nd/; e.g. $\text{'e:}/nd/\emptyset/\emptyset;/i/;b_0$ = among the men; note that the exponent of the Genitival is also irregular in this word, since it is /i/, which is normally found only after singular groups - c.f. $\text{'yi}/\text{'araw}/\emptyset/\emptyset;/\emptyset/;b_0$ = among the friends)

ii.a.

Most -v:C Radicals have no /v/ before the C when followed by a non-/:ā/ Pluraliser;

e.g. /kitā:b/ in $\text{kitā:b}/\emptyset_0$ = a book, but $\text{kitab}/v/\emptyset_0$

ii.b.

The v-formants contained by the last V-phoneme need not be the same with as without a following Pluraliser. If the v-formant without the Pluraliser is i or u, and the ; found without the Pluraliser is absent before the Pluraliser, then only i is found before the Pluraliser; if the v-formant is e, a or o without the Pluraliser, it is a before the Pluraliser;

e.g. /'angwi:l/ in $\text{'angwi:l}/\emptyset_0$ = an ear - $\text{'angwil}/\emptyset/\emptyset_0$ = ears
 /gind:f/ in $\text{gind:f}/\emptyset_0$ = a nose - $\text{ginif}/\emptyset/\emptyset_0$ = noses

/mé:k/ in \circ $\underline{m\acute{e}:k}/\emptyset$ = a donkey - \circ $\underline{m\acute{a}k}/\emptyset/\emptyset$ = donkeys
 /kitǎ:b/ in \circ $\underline{kit\check{a}:b}/\emptyset$ = a book - \circ $\underline{kitab}/\emptyset/\emptyset$ = books
 /kaǎ:m/ in \circ $\underline{ka\check{a}:m}/\emptyset$ = a camel - \circ $\underline{ka\check{a}m}/\emptyset/\emptyset$ = camels
 /'ó:r/ in \circ $\underline{'\acute{o}:r}/\emptyset$ = a boy - \circ $\underline{'\acute{a}r}/\emptyset/\emptyset$ = boys

(After a Modifier, 'camel' is expounded by /kǎ:m/ or - before the Pluraliser - /kǎm/; e.g. \circ $\underline{'\acute{o}:k\check{a}:m}/\emptyset$ = the camel. Otherwise the presence of a Modifier makes no difference to the exponent of the Radical.)

ii.c. By far the most common v-formant in exponents without a following Pluraliser is a, as in /kitǎ:b/; the other v-formants were found only in the particular Radicals quoted above, except for u, which was found in a small number of other Radicals.

MP.2. Transitisor Morphemes

i.a. Some exponents of the thirteen Transitisor morphemes (four weak long, four strong long, five short) are shown in the tables below. Divergences from these exponents are described in sections iii onward, after some examples of words containing the exponents shown in the tables.

i.b. In these tables, the numbers in the column headed 'environment' refer to the class of the word of which the Transitisor is a constituent. This word may be verbal or nominal, and, if verbal, it is a member of one of the paradigm sets defined in Appendix C. The numbers in the following tables thus refer to the following classes of word:

1a	- preterite	verbal
1b	- future	"
	- imperative	"
	- neutral participial	"
	- agentive participial (with /ana/ Marker)	verbal.
2a	- past	verbal
2b	- permissive	"
	- indirect imperative	verbal
3pl.	- present - plural only	- verbal
3sg.	- present - singular only	- verbal

- 4a - prohibitive verbal
- 4ba - modified verbal
- 4bb - negative participial verbal
- 5 - agentive participial verbal (with non-/ana/ Marker)
- 6 - nominal

i.c. The exponent of a strong or short Transitisor is always discontinuous;

e.g. /s..a..f/ in \circ 'a/s/dabfl \circ = I made him collect it. The places in which the phonemes in such a Transitisor's exponent occur, relative to the C-phonemes of the Radical, are shown by marking the letters' places with C; thus the exponent of the causal short Transitisor in environments such as the above is sCaCiC. The last C-phoneme of a CCy Radical (i.e. a Radical containing three C-phonemes, the last of which is y) is marked as y, not as C.

i.d. For convenience, morpheme-boundaries are not marked in the tables, but are marked in the examples in ii. below. It would be too complicated to separate all the phonemes of a discontinuous Transitisor from the phonemes of the Radical, among which they occur; therefore only one boundary is shown between the Radical and the Transitisor, viz. before the Radical's first C-phoneme, as in \circ 'a/s/dabfl \circ (instead of the more correct \circ 'a/s/d(/a/)b(/f/)l \circ).

Exponents of Transitor morphemes (short)

Radical	Environment	Class of Transitor:				
		unmarked	deponent	causal	passive	joint
CC	1a	∅CiC	∅CáC	so:ciC	'ato:Cá:C	'amo:Cá:C
	1b	"	"	"	'ato:Ca:C	'amo:Ca:C
	2	i:ciC	i:tcic	su:ciC	'ato:ciC	'amo:ciC
	3pl.	e:ciC			tu:ciC	mu:ciC
	3sg.	nCi:C	e:tcí:C	so:ci:C	to:ci:C	mo:ci:C
	4	∅Ci:C	∅Cá:C	"	"	"
	5	—	'aCiC	so:CC	?	'amo:CC
	6	∅Ca:C	∅CaC	"	'ato:CC	"
CCC	1a	∅CiciC	∅CicáC	siCaCiC	'atCaCá:C	'amCaCá:C
	1b	"	"	"	'atCaCa:C	'amCaCa:C
	2	i:CCiC	tCiciC	sCiciC	'atCaCiC	'amCaCiC
	3pl.	e:CCiC			tCiciC	mCiciC
	3sg.	∅CanCi:C	tCaCi:C	sCaCi:C	tCaCi:C	mCaCi:C
	4	∅CaCi:C	∅CCá:C	"	"	"
	5	∅CaCiC	∅CaCáC	siCaCC	'atCaCC	'amCa:CC
	6	∅Cicá:C	∅CCá:C	"	'atCa:CC	'amCa:CC
CCy	1a	∅CiciY	∅Cicě	siCáC	'atCaCá:y	'amCaCá:y
	1b	"	"	"	'atCaCa:y	'amCaCa:y
	2a	∅Ci:C	tcic	sCic	'atCaCi	'amCaCi
	2b	∅Cá:C	tcicá	sCicá	tCic	mCic
	3pl.	∅Cě:C			tCiciY	mCiciY
	3sg.	∅CanCiY	tCaCiY	sCaCiY	tCaCiY	mCaCiY
	4	∅CaCiY	∅CCá:y	"	"	"
	5	∅CaC	∅CaCá:y	—	—	—
	6	∅Cicá:y	∅CCě:y	siCaC	'atCaC	'amCaCy
		∅Cicá:y				

Exponents of Transitors (long)strong Transitors

Radical	Environ- ment	Class of Transitor:			
		unmarked	causal	passive/ deponent	joint/passive/ deponent
CCC	1a	∅Ca:CiC	siCa:CiC	—	'ame:CCa:C
	1b	"	"	'atCa:Ca:C	'ame:CCa:C
	2	i:CCaC	sCi:CiC	tCi:CiC	'ame:CCiC
	3	e:CCi:C	sCa:Ci:C	tCa:Ci:C	mi:CCiC
	4	∅Ca:Ci:C	"	"	me:CCi:C
	6	∅Ca:CC	siCa:CC	—	"
CCy	1a	∅Ca:C	siCă:C	—	'ame:CCa:y
	1b	"	"	'atCa:Ca:y	'ame:CCa:y
	2a	i:CCi	sCi:C	tCa:Ci	'ame:CCi
	2b	i:CCă	sCi:Că	tCa:Că	mi:CCi
	3	e:CCi	sCa:Ci	tCa:Ci	mi:CCă
	4	∅Ca:Ci	"	"	me:CCi
	5	∅Ca:C	siCa:C	—	"
	6	∅CaC	"	—	'ame:CCiC

weak Transitors

Environment	unmarked	causal	passive/ deponent	joint
1,2,3,4a,6.	∅	is	am	sam
4ba	ăy	săy	amăy	samăy
4bb	ăy	săy	amăy	samăy

ii.a. Examples of words containing the exponents shown in the preceding tables are given below. Wherever a given exponent is found in more than one class of word, only one such class will be exemplified, viz.:

1a - 1st. singular preterite

1b - " " future

2a - " " past

2b - " " preterite

3pl. - 1st. plural present

3sg. - 1st. singular present

4a - masculine prohibitive

4ba - 1st. singular modified

4bb - negative participial (as found before a nominal Marker - see MP.9,ii.f. below.)

5 - agentive participial

6 - nominal (without Pluraliser or Modifier morphemes).

e.g. 1a - $\circ 'a/\emptyset/dg\dot{I}_\circ$ = I brought it back.

1b - $\circ \emptyset/digi/;at_\circ$ = I'll bring it back.

2a - $\circ 'a/\emptyset/d\dot{I};g_\circ$ = I used to bring it back.

2b - $\circ 'a/\emptyset/d\check{a};g_\circ$ = as in ; $'a/\emptyset/d\check{a};g_\circ$, $'a/n/d\dot{I};$ = I'm going to bring it back.

3pl. - $\circ ni/\emptyset/d\check{e};g_\circ$ = We bring it back.

3sg. - $\circ 'a/\emptyset/dang\dot{I}_\circ$ = I bring it back.

4a - $\circ b\check{a};/\emptyset/dagi/\emptyset/!a_\circ$ = Don't bring it back!

4ba - $\circ b/a;/\emptyset/dag\dot{I}_\circ$ - as in ; $b/a;/\emptyset/dag\dot{I}_\circ$, $'a/n/d\dot{I};$ = I'm not going to bring it back.

4bb - $\circ ba;/\emptyset/dag\dot{I}_\circ$ - as in $\circ ;ba;/\emptyset/dag\dot{I};/;b_\circ$ = one who does not bring it back

5 - $\circ \emptyset/dag/i_\circ$ - as in $\circ ;\emptyset/dag/i;/!b_\circ$ = one who brings it back

6 - $\circ \emptyset/\emptyset/dig\dot{u};y/\emptyset_\circ$ = (a) bringing-back

(Where the same exponent is found in two different environments with the same reference-number - e.g. in environments 1a and 1b only the first of these environments will be exemplified.)

ii.b. Short Transitor with CC Radical - /l- w/ = burn

	<u>unmarked</u>	<u>deponent</u>	<u>causal</u>
1	'a/ø/liw.	'a/ø/láw.	'a/so:/liw.
2	'/i:/liw.	'/i:t/liw.	'a/su:/liw.
3pl	n/e:/liw.	n/e:t/li:w.	ni/so:/li:w.
3sg	'a/n/li:w.	'a/n/e:t/li:w.	'a/ni/so:/li:w.
4	bá:/ø/li:w/ø/˘a.	bá:/ø/la:w/ø/˘a.	bá:/so:/li:w/ø/˘a.
5	—	'a/liw/ø.	so:/lw/i.
		<u>or</u> 'a/lä:w/ø.	
6	ø/ø/lá:w/ø.	ø/law/i/!t.	so:/lw/ó:y/t.
	<u>passive</u>	<u>joint</u>	
1a	'a/to:/lá:w.	'a/mo:/lá:w.	
1b	'ato:/la:w/át.	'amo:/la:w/át.	
	<u>or</u> 'ato:/lw/át.	'amo:/lw/át.	
2	'a/tu:/liw.	'a/mu:/liw.	
3	ni/to:/li:w.	ni/mo:/li:w.	
4	bá:/to:/li:w/ø/˘a.	bá:/mo:/li:w/ø/˘a.	
5	?	'amo:/lw/i.	
6	'ato:/lw/ó:y/t.	'amo:/lw/ó:y/t.	

ii.c. Short Transitor with CCC Radical - /d-b- l/ = collect

	<u>unmarked</u>	<u>deponent</u>	<u>causal</u>
1a	'a/ø/dbil.	'a/ø/dbál.	'a/s/dabil.
1b	ø/dibil/át.	ø/dibal/át.	si/dabl/át.
2	'/i:/dbil.	'a/t/dibil.	'a/s/dibil.
3pl	n/e:/dbil.	ni/t/dabi:l.	ni/s/dabi:l.
3sg	'a/ø/danbi:l.	'a/ni/t/dabi:l.	'a/ni/s/dabi:l.
4	bá:/ø/dabi:l/ø/˘a.	bá:/ø/dba:l/ø/˘a.	bá:/s/dabi:l/ø/˘a.
5	ø/dabıl/ø.	ø/dabäl/ø.	si/dabl/i.
		<u>or</u> ø/dabă:l/ø.	
6	ø/ø/dibú:l/ø.	mi/ø/dbé:l/t.	si/dabl/ó:y/t.

	<u>passive</u>	<u>joint</u>
1a	'a/t/dabá:l.	'a/m/dabá:l.
1b	'at/daba:l/át.	'am/daba:l/át.
	<u>or</u> 'at/dabl/át.	'am/dabl/át.
2	'a/t/dibíl.	'a/m/dibíl.
3	ni/t/dabí:l.	ni/m/dabí:l.
4	bá:/t/dabí:l/ø/ʔa.	bá:/m/dabí:l/ø/ʔa.
5	'at/da:bl/i.	'am/da:bl/i.
	<u>or</u> 'at/dabl/i.	
6	'at/dabl/ó:y/t.	'am/dabl/ó:y/t.

ii.d. Short Transitor with CCy Radical - /d- g-y/ = bring back.

	<u>unmarked</u>	<u>deponent</u>	<u>causal</u>
1a	'a/ø/dgĩ.	'a/ø/dgě.	'a/s/dág.
1b	ø/digi/:át.	ø/digo/:át.	si/dag/át.
2a	'a/ø/dĩ:g.	'a/t/dig.	'a/s/dig.
2b	'a/ø/dă:g.	'a/t/digă.	'a/s/digă.
3pl	ni/ø/dě:g.		
3sg	'a/ø/dangĩ.	ni/t/dagĩ.	ni/s/dagĩ.
4	bá:/ø/dagi/ø/ʔa.	bá:/ø/dga:y/ø/ʔa.	bá:/s/dagi/ø/ʔa.
5	ø/dag/i.	ø/dagá:y/ø.	—
6	ø/ø/digd:y/ø.	mi/ø/dgě:y/t.	si/dag/ó:y/t.

	<u>passive</u>	<u>joint</u>
1a	'a/t/dagá:y.	'a/m/dagá:y.
1b	'at/daga:y/át.	'am/daga:y/át.
	<u>or</u> 'at/dagi/:át.	'am/dagi/:át.
2a	'a/t/dig.	'a/m/dig.
	(<u>but</u> 'a/t/diggĩ.)	(<u>but</u> 'a/m/diggĩ.)
2b	'a/t/digă.	'a/m/digă.
3	ni/t/dagĩ.	ni/m/dagĩ.
4	bá:/t/dagi/ø/ʔa.	bá:/m/dagi/ø/ʔa.
5	—	—
6	'at/dag/ó:y/t.	'am/dagy/ó:y/t.

ii.e. Strong long Transitisor with CCC Radical - /d-b- l/ = collect

	<u>unmarked</u>	<u>causal</u>
1a	◦ 'a/ø/da:bfil.	◦ 'a/s/da:bfil.
1b	◦ ø/da:bl/át.	◦ si/da:bl/át.
2	◦ 'i:/dbál.	◦ 'a/s/di:bál.
3	◦ n/e:/dbfil.	◦ ni/s/da:bf:l.
4	◦ bá:/ø/da:bi:l/ø/˘a.	◦ bá:/s/da:bi:l/ø/˘a.
5	◦ ø/da:bl/i.	◦ si/da:bl/i.
6	◦ ø/dibl/i/!b.	◦ si/da:bl/ó:y/t.
	<u>passive/deponent</u>	<u>joint/passive/deponent</u>
1a	—	◦ 'a/me:/dbá:l.
1b	◦ 'at/da:ba:l/át.	◦ 'ame:/dba:l/át.
	<u>or</u> ◦ 'at/da:bl/át.	◦ 'ame:/dbil/át.
2	◦ 'a/t/di:bfil.	◦ 'a/mi:/dbfil.
3	◦ ni/t/da:bf:l.	◦ ni/me:/dbf:l.
4	◦ bá:/t/da:bi:l/ø/˘a.	◦ bá:/me:/dbi:l/ø/˘a.
5	—	—
6	—	◦ 'ame:/dibl/ó:y/t.

ii.f. Strong long Transitisor with CCy Radical - /d- g-y/ = bring back

	<u>unmarked</u>	<u>causal</u>
1a	◦ 'a/ø/dǎ:g.	◦ 'a/s/dǎ:g.
1b	◦ ø/da:g/át.	◦ si/da:g/át.
2a	◦ 'i:/dgǐ.	◦ 'a/s/dǐ:g.
2b	◦ 'i:/dgǎ.	◦ 'a/s/di:gǎ.
3	◦ n/e:/dgǐ.	◦ ni/s/da:gǐ.
4	◦ bá:/ø/da:gi/ø/˘a.	◦ bá:/s/da:gi/ø/˘a.
5	◦ ø/da:g/i.	◦ si/da:g/i.
6	◦ ø/dag/e.	◦ si/da:g/ó:y/t.

	<u>passive/deponent</u>	<u>joint/passive/deponent</u>
1a	—	'a/me:/dgá:y.
1b	'at/da:ga:y/át.	'ame:/dga:y/át.
	<u>or</u> 'at/da:gi:/át.	'ame:/dgi:/át.
2a	'a/b/da:gǐ.	'a/mi:/dgǐ.
2b	'a/t/da:gǎ.	'a/mi:/dgǎ.
3	ni/t/da:gǐ.	ni/me:/dgǐ.
4	bá:/t/da:gi/ø/Ya.	bá:/me:/dgi/ø/Ya.
5	—	—
6	—	'ame:/digy/ó:y/t.

ii.g. Weak long Transitor with syllabic Radical - /tǎm/ = eat

	<u>unmarked</u>	<u>causal</u>
1	tam/ø/án.	tam/s/án.
2	tam/ø/ǐ.	tam/s/ǐ.
3	tam/ø/nǎy.	tam/is/nǎy.
4a	bá:/tam/ø/'/a:.	bá:/tam/s/'/a:.
4ba	b/a:/tam/áy.	b/a:/tam/sáy.
4bb	ba:/tam/ǎy.	ba:/tam/sǎy.
5	—	—
6	tem/ø/ti/!b.	tam/is/ti/!b.
	<u>or</u> ø/tǎm/ø/ø.	
	<u>passive/deponent</u>	<u>joint</u>
1	tam/am/án.	tam/sam/án.
2	tam/am/ǐ.	tam/sam/ǐ.
3	tam/am/nǎy.	tam/sam/nǎy.
4a	bá:/tam/am/'/a:.	bá:/tam/sam/'/a:.
4ba	b/a:/tam/amáy.	b/a:/tam/samáy.
4bb	ba:/tam/amǎy.	ba:/tam/samǎy.
5	—	—
6	tam/am/ti/!b.	tam/sam/ti/!b.

iii. Alternative exponents shown in the tables

- a. In the environment 1b. there are some pairs of exponents in free variation;

e.g. 'ato:/la:w/át. = 'ato:/lw/át. = I'll be burned.

b. When the Radical is CCy and the Transitisor is short, two exponents are sometimes possible in environment 2a; these exponents are, however, in complementary distribution, since one is found only with a C-geminator, while the other is never found with a C-geminator;

e.g. $\circ 'a/t/dig_0$ = I used to come back, but $\circ 'a/t/digg\ddot{I}_0$ = same meaning, but contains a C-geminator, and therefore the Transitisor is expounded by $tCiC\ddot{I}$, not $tCiC$. (The C's in the tables indicate the place either of a single C-phoneme of the Radical, or of such a phoneme which is repeated because of the presence of a C-geminator morpheme, as here.)

iv. Homonymous exponents shown in the tables

Some of the exponents of the deponent short Transitisor will be seen to be identical to exponents of the passive short Transitisor in the same environments - see the examples in ii.c. and ii.d. above. It will also be seen, however, that the exponents are the same only in the environment of a CCC or CCy Radical; with a CC Radical the two Transitisors always have different exponents;

e.g. $\circ 'i/t/dag\ddot{I}_0$ = He comes back (deponent); or = $\circ 'i/t/dag\ddot{I}_0$ = He is brought back (c.f. $\circ 'e:t/li:w_0$ = It burns - $\circ 'i/to:/li:w_0$ = it is burned.)

v. Alternative exponents not shown in the tables

a. Under certain circumstances, a joint short Transitisor can have ms in its exponent, instead of m ; these exponents - with ms and with m - are in free variation. The circumstances under which ms is possible appear to be as follows;

1. when the first C-phoneme of the Radical is θ or h ;

e.g. $\circ 'a/ms/hat\ddot{a};t_0$ = $\circ 'a/m/hat\ddot{a};t_0$ = I broke it with him,

2. when the Radical is CC;

e.g. $\circ 'a/mso;/d\ddot{a};r_0$ = $\circ 'a/mo;/d\ddot{a};r_0$ = I killed it with him,

b. When a joint/passive/deponent Transitisor occurs with a CCy Radical (e.g. $/m^y r^y/$ = find), the latter's first C can be preceded by s ; this s excludes the y of the Radical, and the grouping of three phonemes, the first being this s , and the second and third being the first two C-phonemes

of the Radical, is treated like the three C-phonemes of a CCC Radical, as far as the exponent of the Transitisor is concerned; e.g. $\circ 'a/me:s/má:r_\circ = \circ 'a/me:/mrá:y_\circ =$ I found them with him.
c.f. $\circ 'a/me:/dbá:l_\circ =$ I collected them with him.

vi. Conditioned variants of exponents shown in the tables

a. Where *i* appears in the tables between two C-phonemes, this *i* is absent wherever its absence does not involve the juxtaposition of three C-phonemes or of two C-phonemes and a phonological word-boundary (c.f. MP.1.iii. for a similar feature shared by Radical morphemes);

e.g. $\circ tam/is/tá_\circ =$ she let him eat it. - c.f. $\circ tam/s/án_\circ =$ I let him eat it.

There are two exceptions to this rule:

1. the *i* is retained when a strong or short Transitisor is followed by a Second-person morpheme, without a Compounder after the latter;

e.g. $\circ si/dabil/\phi/\vee a_\circ =$ Make him collect it!

c.f. $\circ si/dabl/\phi/a/\vee_\circ =$ Make him collect it! (\vee / expounds the Compounder morpheme)

2. the *i* is retained when the following C-phoneme is followed by a 'so' Marker morpheme;

e.g. $\circ 'a/s/dabil;/ay_\circ$, as in $\circ ;'i/\phi/rab/e/\vee, 'a/s/dabil;/ay_\circ =$ I made him collect the luggage, so ...

c.f. $\circ 'a/s/dabl;/á:yt_\circ$, as in $\circ ;'i/\phi/rab/e/\vee, 'a/s/dabl;/á:yt_\circ =$ I made him collect the luggage, then ... (\vee / $\acute{a}:yt$ / expounds the 'then' Marker morpheme).

b. When the Radical contains \acute{d} , \acute{t} or \acute{s} , the *s* in a preceding (but not a following) Transitisor is replaced by \acute{s} ;

e.g. $\circ 'a/\acute{s}/kadib_\circ =$ I made him knot it;

c.f. $\circ 'a/s/katib_\circ =$ I made him write it.

c. When the *s* of a causal Transitisor precedes or follows *s* or \acute{s} , and is not shown in the tables as being separated from the latter by a long V-phoneme, these two *s*'s or \acute{s} 's are separated by *i*; ;

e.g. $\circ 'á/si:/salil_\circ =$ I made him cut it up.

$\circ 'ad\acute{s}/i:s/án_\circ =$ I made him forbid it.

d. When the Radical before a causal weak or a passive/deponent weak Transitisor has a final V-phoneme, the exponent of the Transitisor is /:s/ or /:m/, not /is/ or /am/ as shown in the tables;

e.g. $\circ\check{s}aga/\underline{m}/\check{a}n_{\circ}$ = I worked.

$\circ\check{s}aga/\underline{s}/\check{a}n_{\circ}$ = I made him work.

e. The 'a shown in the tables as preceding the m and t in the exponents of certain Transitors is present only after a C-phoneme or a word-boundary;

e.g. $\circ k'/it/\underline{a}m/dab\acute{a}:l_{\circ}$ = She does not collect it with him.

c.f. $\circ ti/m/kar\acute{a}:f_{\circ}$ = She collected it with him.

f. When the first C-phoneme of the Radical is ' or h, it must be separated from the following C-phoneme by a V-phoneme; if such a V is not shown in the tables, then the ' or h is followed by:

1. the long V-phoneme shown, in the tables, as part of the Transitisor, but preceding the Radical;

e.g. $\circ yi/\emptyset/'i:bik_{\circ}$ = He used to seize it. (c.f. $\circ '/i:/dbil_{\circ}$)

(In this case, the long V-phoneme occurs after, but not before, the Radical, as shown in the tables.)

2. a if no such long V-phoneme is shown in the table;

e.g. $\circ 'a/\emptyset/'abik_{\circ}$ = I seized it. (c.f. $\circ 'a/\emptyset/dbil_{\circ}$)

g. When the last C-phoneme of the Radical is ' or h, it is preceded by a in those positions in which i is shown in the tables; and similarly if the middle C-phoneme is ' or h, it is followed by a where i is shown in the tables;

e.g. $\circ 'a/\emptyset/fr\acute{a}'_{\circ}$ = I took it out (c.f. $\circ 'a/\emptyset/dbil_{\circ}$)

$\circ 'a/\emptyset/\check{d}h\acute{a}n_{\circ}$ = I lived

(Therefore the phonological distinction between unmarked and deponent Transitors is sometimes neutralised when the Radical contains ' or h as its middle or final C-phoneme;

e.g. $\circ 'a/\emptyset/fr\acute{a}'_{\circ}$ = I took it out (c.f. $\circ 'a/\emptyset/kr\acute{a}f_{\circ}$ = I met him/
brought him back.)

or = I went out (c.f. $\circ 'a/\emptyset/kr\acute{a}f_{\circ}$ = I came back.)

h. / / When the first C-phoneme of the Radical is s or š,

the t shown in the exponents of some Transitors comes after the s or š, instead of before it, as shown in the tables;

e.g. 'ištābī:b = he is seen (Radical /š-b-[˘]b/)

c.f. 'i/t/dābī:l = it is collected (Radical /d-b- l/).

'e:stī:' = he sits (Radical /s- ' /)

c.f. 'e:t/rī:m = he accompanies him (Radical /r- m/)

i. According to the rule stated in MP.O.iii., the accents shown in the tables are suppressed when followed by an inherently accented morpheme, except an inherently accented Radical; in the latter case, the accents shown in the table are suppressed only when the Radical's accent is realised, as described in MP.1.2.ii.;

e.g. nCī:C in 'a/n/lī:w = I burn it, but 'a/n/rī:[˘]b = I refuse it (Radicals: /l- w/ and /r-[˘]b/ respectively);

c.f. 'a/n/lī:w;/e/!k = if I burn it, and 'a/n/rī:b;/e/!k = if I refuse it (the accent is suppressed in both cases because of the following /!k/)

MP.3. C-geminator Morpheme

i.a. The exponents of the C-geminator morpheme can be grouped into three variant sets, referred to as 1, 2a and 2b respectively. In any environment in which set 2a can occur, set 2b can also occur, and vice versa; but set 1 may or may not be possible in the environments in which 2a and 2b are possible, and vice versa.

e.g. 1, 2a, 2b in free variation:

1 - ni/m/dalālī:w = We approach one another.

2a- ni/m/dallī:w = " " "

2b- ni/m/dallālī:w = " " "

e.g. 1, but not 2a, 2b, possible:

ni/mo:/māmī:r = We prepare one another.

e.g. 2a, 2b, but not 1, possible:

2a- 'a/s/dabbīl = I made him collect it.

2b- 'a/s/dabbābīl = " " "

i.b. The environments in which these sets occur are described in as general terms as possible; therefore it may be

impossible for a given set to occur with a particular Radical, even if it occurs with similar Radicals in otherwise identical environments. Thus, there are particular Radicals with which 2a, but not 2b, and others with which 2b, but not 2a, is possible; e.g. with /hadi:d/ = talk, only 2b is possible - as in $\text{haddadi:d}/\emptyset/\text{an}_0$; but with /šamat/ = scold, only 2a is possible - as in $\text{šanammat}/\emptyset/\text{an}_0$.

Such restrictions are disregarded in this description, in which environments are defined in more general, grammatical terms.

i.c. The following are the grammatical environments in which the three variant sets are found:

<u>Radical</u>	<u>Transitor</u>	<u>C-geminator</u>
monosyllabic	weak long	1 -
polysyllabic	" "	1 2a/b
CCC/y	unmarked strong long	1 -
	joint/pass/dep. strong long	1 -
	passive/deponent " "	- 2a/b
	causal " "	- 2a/b
any	unmarked short	- -
	deponent "	- -
CC	joint "	1 -
	causal "	1 -
	passive "	1 2a/b
CCC/y	joint "	1 2a/b
	passive "	- 2a/b
CCC	causal "	- 2a/b
CCy	" "	- -

ii.a. The C-geminator morpheme is expounded by the repetition of one of the C-phonemes of the Radical; this C may be repeated once, twice or three times. The C which is thus repeated may be the Radical's initial or penultimate C - referred to below as iC and pC respectively. The exponent of the C-geminator may include, in addition to the repeated C-phoneme, the V-phoneme a. Thus the exponents of the C-geminator, belonging to the variant sets 1, 2a and 2b, vary according to the environment, as shown in the following table. (In this table the phonemes

which are considered to expound the C-geminator are underlined,)

Radical	Environment		Exponent of C-geminator		
	Transitisor		set 1	set 2a	set 2b
1 any	weak		<u>iCaC</u>	<u>pCaC</u>	<u>pCCaC</u>
2 CCC/y	unmarked	strong	<u>pCaC</u>	"	"
			or <u>iC, Ca</u>		
3	joint/pass,	/dep, strong	<u>pCaC</u>	"	"
4	passive/deponent	"	"	<u>pCaC</u>	<u>pCCaC</u>
5	causal	"	"	<u>pCaC</u>	<u>pCCaC</u>
6 CC	joint	short	<u>pCaC</u>	"	"
7	causal	"	<u>pCaC</u>	"	"
8	passive	"	<u>pCaC</u>	<u>pCC</u>	<u>pCCaC</u>
9 CCC/y	joint	"	<u>pCaC</u>	<u>pCC</u>	<u>pCCaC</u>
10	passive	"	"	<u>pCC</u>	<u>pCCaC</u>
11 CCC	causal	'	"	<u>pCC</u>	<u>pCCaC</u>

e.g. (the words below are all 1st, plural present)

	set 1	set 2a	set 2b
1,	<u>hahadi</u> ;d/ø/nāy.	<u>šamamat</u> /ø/nāy.	<u>haddadi</u> ;d/ø/nāy.
	<u>tatam</u> /ø/nāy.		
2,	<u>n/e</u> ;d h abf;l.		
	or <u>n/e</u> ;d dh abf;l.		
3,	<u>ni/me</u> ;d h abf;l.		
4,		<u>ni/t</u> /da; h abf;l.	<u>ni/t</u> /da; hh abf;l.
5,		<u>ni/s</u> /da; h abf;l.	<u>ni/s</u> /da; hh abf;l.
6,	<u>ni/mo</u> ;/ r arf;b.		
7,	<u>ni/so</u> ;/ r arf;b.		
8,	<u>ni/to</u> ;/ r arf;b.	<u>ni/to</u> ;/ rr arf;b.	<u>ni/to</u> ;/ rrarf ;b.
9,	<u>ni/m</u> /d h abf;l.	<u>ni/m</u> /d hh abf;l.	<u>ni/m</u> /d h h h abf;l.
10,		<u>ni/t</u> /d h abf;l.	<u>ni/t</u> /d h h h abf;l.
11,		<u>ni/s</u> /d h abf;l.	<u>ni/s</u> /d h h h abf;l.

b. The exponents described above are found when the second C-phoneme of a CCC/y Radical is not ' or h ; if it is, the following exponents are found (only CCC Radicals were recorded, and those not with all classes of Transitisor);

	<u>Transitisor</u>	<u>set 1</u>	<u>set 2a</u>	<u>set 2b</u>
12	unmarked long strong	iC,,,Ca	-	-
13	causal " "	-	iC,,,CaC	iC,,,CCa
14	causal short	-	iC,,,C	iC,,,CCa
15	joint " "	iC,,,Ca	iC,,,CC	iC,,,CCa

e.g.	<u>set 1</u>	<u>set 2a</u>	<u>set 2b</u>
12	o n/e; /kka'f:l _o		
13		o ni/s/ka; kak'f:l _o	o ni/s/ka; kksak'f:l _o
14		o ni/s/kak'f:l _o	o ni/s/kakka'f:l _o
15	o ni/m/kaka'f:l _o	o ni/m/kakk'f:l _o	o ni/m/kakkak'f:l _o

ii.c. If the first C of a CC Radical contains a c-ferment followed by ' or h, the latter is absent from the exponent of the C-geminator;

e.g. o ni/so; /gwagwhi:m_o (Radical: /gwh-'m/ = sip)

c.f. o ni/so; /ra:fi:b_o (Radical: /r-'b/ = refuse)

HP, 4. Nominaliser Morphemes

<u>HP, 4.1</u>	<u>HP, 4.2</u>
masculine	prefixed
feminine	suffixed
masc/fem.	

There are five Nominaliser morphemes, each expounded by one variant set, as shown below:

<u>Nominaliser and environment</u>	<u>Exponent</u>
masculine prefixed	/ø/
" suffixed, with weak Transitisor	/iti/
" " , with unmarked strong Transitisor and CCC Radical	/i:/
" " , with unmarked strong Transitisor and CCy Radical	/ie/
feminine prefixed	/ni/
" suffixed, with clause	/fna:ɣ/
" " , with deponent Transitisor	/i:/
" " , with any other Transitisor	/iθ:ɣ/
masc/fem. prefixed	/ø/

- e.g. masculine: $\text{e}'i/\emptyset/\emptyset/\text{abu:l/u/f}_0 = \text{his collecting}$
 $\text{e}'i/\text{tam}/\emptyset/\text{ti:u/f}_0 = \text{his eating}$
 $\text{e}'i/\emptyset/\text{dibl}/\underline{i}/\text{u/f}_0 = \text{his pile}$
 $\text{e}'i/\emptyset/\text{takw}/\underline{e}/\text{u/f}_0 = \text{his cooking}$
- feminine: $\text{e}'ti/\underline{mi}/\emptyset/\text{kre:f/tu/f}_0 = \text{his returning}$
 $\text{e}'ti;/\emptyset/'akr/a;/\underline{na:y}/\text{tu/f}_0 = \text{his solid food}$
 $\text{e}'ti/\emptyset/\text{tab}/\underline{i}/\text{tu/f}_0 = \text{his being full (?)}$
 $\text{e}'ti/s/\text{dabl}/\underline{o:y}/\text{tu/f}_0 = \text{his making-him-collect-it}$
- masc/fem.: $\text{e}'i/\emptyset/\text{tam}/\emptyset/\text{u/f}_0 = \text{his porridge (masc.)}$
 $\text{e}'ti/\emptyset/\text{gam}/\emptyset/\text{tu/f}_0 = \text{his shout (fem.)}$

HP. 5. Genitival Morpheme

- i. The Genitival morpheme is expounded by five variant sets, not all of which are possible in all environments. It is convenient to group these five sets into two kinds, referred to respectively as / ina:i , etc. and / i , etc.
- ii. The Genitival is always immediately preceded by a group or a clause, to which it is also structurally related. If it is preceded by a clause, only the / i , etc. set is possible. e.g. $\text{e}'i;/\text{tam}/\emptyset/\text{an};/\underline{e}/\text{e}'_0 = \text{the one which I ate.}$ If, however, it is preceded by a group, one or other or both of the sets is possible, as follows:
- if the group is adjunctival, only / i , etc. is possible;
e.g. $\text{e}'i;/\text{tak}/\emptyset;/\underline{i}/\text{e}'_0 \text{geib};/\underline{i}/\text{ka}_0 = \text{than with the man}$
 - if the group is substantive nominal, only / i , etc. is possible.
e.g. $\text{e}'wi;/\text{e}'i;/\text{tak}/\emptyset;/\underline{i}/\text{e}'_0 = \text{the one of the man}$
 - if the group is epithet nominal, only / ina:i , etc. is possible except as described in d-f. below;
e.g. $\text{e}'wi;/\text{e}'i;/\text{iti}/\text{m'ari}/\text{tam}/\emptyset/\text{ya};/\emptyset;/\underline{\text{ina:i}}/\text{e}'_0 = \text{the one of the one who ate the food}$
 - if the group is epithet nominal, and its last Radical morpheme is a numeral Radical (except / ngea:i / = one, and / ay'i / = five) only / i , etc. is possible;
e.g. $\text{e}'i;/\text{yi}/\text{'araw}/\emptyset;/\text{e}'i;/\text{mahlo}/\emptyset;/\text{y}/\emptyset_0 = \text{the one of the two friends.}$
 - if the group is epithet nominal, and its last word is a verbal

word containing an /ana agentive Marker (11.6,7.), only /i, etc. is possible;

e.g. $\text{wi/,'i/;tam/}\emptyset\text{/ana;/}\emptyset\text{,/y/}\emptyset\text{}$ = the one of the gluttonous one
 f. if the group is epithet nominal, and its last Radical morpheme before the Genitival is one of those adjectival Radicals which are defined as occurring with either /Yna:i, etc. or /i, etc. (see MP.1.14,iii, above), both the latter are possible;

e.g. $\text{wi/,'i/;dabalo;/}\emptyset\text{,/Yna:i/}$ = $\text{wi/,'i/;dabalo;/}\emptyset\text{,/y/}\emptyset\text{}$ = the one of the small one.

iii.a. The members of the five variant sets, as found in different environments, are as follows:

<u>Environment</u>				<u>Exponent of Genitival</u>	
				<u>/i, etc.</u>	<u>/Yna:i, etc.</u> ...
with clause				/i:/ (or / \emptyset / = see b, below)	
with V-final masc, sing, group				/y/	/Yna:i/, /Yna:y/, or /Yna:yna:y/
"	"	plur,	"	/e/	/Yna:e/, /Yna:ee/, /Yna:ë:nee/ or /Yna:ë:ná:y/
"	fem,	sing,	"	/iti/	/Yna:ti/, /Yna:tí:ná:y/
"	"	plur,	"	/ite/	/Yna:te/, /Yna:të:nee/ or /Yna:të:ná:y/
with y-final masc, sing, group				/i/	/Yna:i/, /Yna:y/, or /Yna:yna:y/
					<u>etc.</u> (as with V-final group, except absence of ;)
with C-final masc, sing, group				/i/	/na:i/, /ná:y/, /ná:yna:;
"	"	plur,	"	/e/	/na:e/, /na:ee/, /na:ë:nee/ or /na:ë:ná:y/
(i.e., group with any C except y as final phoneme)					<u>etc.</u> (as with V-final group, except absence of ;)

iii.b. When a Genitival following a clause is itself followed by a Pronominal and certain Marker morphemes (see MP.6.10,iv,a.), the Genitival is expounded by / \emptyset /, not by /i:/ as in other circumstances.

iv. The possibility of the Genitival being expounded by more than one phonological item in a given environment can lead to some confusion - see NOTE MP.2.

MP, 6, Marker Morphemes

MP. 6.3	MP. 6.4	MP. 6.5	
preterite	prefixed	1st, singular (indicative verbal	Marker
past	suffixed	3rd, masculine	
permissive		2nd/3rd,	
modified		1st, plural	
present		3rd, plural	
imperative		2nd, plural	
future			

i, a, Imperative and future Markers are not members of all the person/gender/number classes (M, 6, 5,); it is therefore convenient to describe the exponents of these two morphemes separately from those of the morphemes belonging to the remaining classes of system M, 6, 3,, which do include members of all the person/gender/number classes (see M, 6, 5, i, b,),

i, b, As Roper (p, 42) remarks, there are some similarities between the exponents of present Markers in the environment of a weak Transitor, and the exponents of the preterite Markers in combination with an unmarked short Transitor and the irregular Radical /y-d/n-y/ = say; for the paradigms of these morphemes, see NOTE MP. 3.

ii, The exponents of the imperative and future Marker morphemes are as follows;

a, imperative; after weak Transitor = //

" strong or short Transitor = /ø/

e, g, tam/s//a_0 = Make him eat it;

si/dabil/ø/a_0 = Make him collect it;

b, future ; without Pronominal = /;at/

with Pronominal and weak Transitor = /;e;t/

" " and strong or short Transitor = /;

e, g, tam/s/at_0 = I'll make him eat it,

si/dabil/at_0 = I'll make him collect it,

tam/s/e:t/ø;k_0 = I'll make you eat it,

si/dabil/t/ø;k_0 = I'll make you collect it,

iii, The exponents of the remaining indicative Markers are shown below;

	Class (H.6.3/4.) and environment		Class (H.6.5.) and exponent					
			<u>1.sg.</u>	<u>3.m.</u>	<u>2/3.</u>	<u>1.pl.</u>	<u>3.pl.</u>	<u>2.pl.</u>
a, <u>suffixed</u>								
past or permissive		;ɣ	;ɣ	;tɣ	;nɣ	;ɟ	;tɟ	
preterite in all environments except the following,		;ɔn	;yɔ	;tɔ	;nɔ	;ya	;ta	
preterite before Genitiyal		;ɔn	;yan	;tan	;nan	;ya	;ta	
expounded by /i:/ or /ɸ/,								
preterite before Compounder, 'then' marker, Comparative,		;ɔn	;ya:y	;ta:y	;na:y	;ya	;ta	
present in all environments except the following,		;ɔni	;i:ni	;tini	;nɔy	ɔ	te	
present before Genitiyal		;ɔny	;iny	;tiny	;nay	ɔ	to	
expounded by /i:/ or /ɸ/,								
b, <u>prefixed</u>								
any class before V-phoneme		ɪ	t	n	ɪ	t		
past/permissive before /h	'a	yɪ	tɪ	nɪ	yɪ	tɪ		
		<u>or</u> yɪ						
" " before other C's	'a	ɪ	tɪ	nɪ	ɪ	tɪ		
		<u>or</u> ɪ						
preterite after Modifier	aa;	i;	it	in	i;	it		
" not " "								
before /h	'a	yɪ	tɪ	nɪ	yɪ	tɪ		
" other C's	'a	ɪ	tɪ	nɪ	ɪ	tɪ		
modified	a;	i;	it	in	i;	it		
present, with unmarked short Transitor and CCC/y Radical,	'a	ɸ	ɸ	nɪ	ɪ	tɪ		
present in other environments,	'a	ɪ	tɪ	nɪ	ɪ	tɪ		

Some examples of words containing these Markers are given below, where the first morpheme in an example is preceded by /, or the last morpheme is followed by /, not by ɔ, the example is not a complete word, Those preceded by / - e.g, /t/i:/dgã, - must be preceded by the Modifier /bãa:/ (or /bã/, in free variation) - thus the complete word here is bãa:/t/i:/dgã. A final / must be followed by a Marker morpheme, such as /!k/ ,

a, suffixed (with unmarked weak Transitor)

	<u>past/permissive</u>	(no Genitival)	<u>present</u>	(with Genitival)
1sg,	tam/ø/i,	tam/ø/ani,	tam/ø/any;/e/	
3m,	tam/ø/i,	tam/ø/i:ni,	tam/ø/in;/e/	
2/3,	tam/ø/ti,	tam/ø/tini,	tam/ø/tiny;/e/	
1pl,	tam/ø/nā,	tam/ø/nāy,	tam/ø/nay;/e/	
3pl,	tam/ø/i/ʔn,	tam/ø/e/ʔn,	tam/ø/e:/ni;/e/	
2pl,	tam/ø/ti:/n/ʔa,	tam/ø/te:/n/ʔa,	tam/ø/te:/n/ø;/e/	

	(no Genl. or Compr.)	<u>preterite</u>	(with Genitival)	(with Compounder)
1sg,	tam/ø/ān,	tam/ø/an;/e/	tam/ø/an/ʔ,	
3m,	tam/ø/yā,	tam/ø/yān;/e/	tam/ø/ya:y/ʔ,	
2/3,	tam/ø/tā,	tam/ø/tān;/e/	tam/ø/ta:y/ʔ,	
1pl,	tam/ø/nā,	tam/ø/nān;/e/	tam/ø/na:y/ʔ,	
3pl,	tam/ø/ya/ʔn,	tam/ø/ya:/ni;/e/	tam/ø/ya:/n/ʔ,	
2pl,	tam/ø/ta:/n/ʔa,	tam/ø/ta:/n/ø;/e/	tam/ø/ta:/n/ø/ʔ,	

b, prefixed, before V-phoneme (with unmarked strong long Transitor)

	<u>past</u>	<u>permissive</u>	<u>present</u>
1sg,	'/i:/dgī,	'/i:/dgā,	'/e:/dgī,
3m,	'/i:/dgī,	'/i:/dgā,	'/e:/dgī,
2/3,	t/i:/dgī,	t/i:/dgā,	t/e:/dgī,
1pl,	n/i:/dgī,	n/i:/dgā,	n/e:/dgī,
3pl,	'/i:/dgi/ʔn,	'/i:/dga/ʔn,	'/e:/dgi/ʔn,
2pl,	t/i:/dgi:/n/ʔa,	t/i:/ga:/n/ʔa,	t/e:/dgi:/n/ʔa,

c, prefixed, before C-phoneme (with unmarked short Transitor)

	<u>past</u>	<u>permissive</u>	<u>preterite</u> (no Modifier)
1sg,	'a/ø/dī:g,	'a/ø/dā:g,	'a/ø/dgī,
or	'i/ø/dī:g,	'i/ø/dā:g,	
3m,	'i/ø/dī:g,	'i/ø/dā:g,	'i/ø/dgī,
2/3,	ti/ø/dī:g,	ti/ø/dā:g,	ti/ø/dgī,
1pl,	ni/ø/dī:g,	ni/ø/dā:g,	ni/ø/dgī,
3pl,	'i/ø/di:g/ʔna,	'i/ø/da:g/ʔna,	'i/ø/dgi/ʔn,
2pl,	ti/ø/di:g/n/ʔa,	ti/ø/da:g/n/ʔa,	ti/ø/dgi:/n/ʔa,

	<u>preterite</u> (with Modifier)	<u>present</u> (unmarked Trans.)	(causal Transitisor)
1sg.	◦ k'/aa:/ø/dgĩ.	◦ 'a/ø/dangĩ.	◦ 'a/s/dagĩ.
3m.	◦ k'/ii:/ø/dgĩ.	◦ ø/ø/dangĩ.	◦ 'i/s/dagĩ.
2/3.	◦ k'/it/ø/digĩ.	◦ ø/ø/dangĩ.	◦ ti/s/dagĩ.
1pl.	◦ k'/in/ø/digĩ.	◦ ni/ø/dě:ɛ.	◦ ni/s/dagĩ.
3pl.	◦ k'/ii:/ø/dgi/ʔn.	◦ 'i/ø/de:g/ʔna.	◦ 'i/s/dagi/ʔn.
2pl.	◦ k'/it/ø/digi/:n/ʔa.	◦ ti/ø/de:g/n/ʔa.	◦ ti/s/dagi/:n/ʔa.

d, prefixed - modified

	(short Transitisor)	(weak Transitisor)
1sg.	◦ b/a:/ø/dagĩ.	◦ b/a:/tam/áy.
3m.	◦ b/i:/ø/dagĩ.	◦ b/i:/tam/áy.
2/3.	◦ b/it/ø/dagĩ.	◦ b/it/tam/áy.
1pl.	◦ b/in/ø/dagĩ.	◦ b/in/tam/áy.
3pl.	◦ b/i:/ø/dagi/ʔn.	◦ b/i:/tam/ay/ʔna.
2pl.	◦ b/it/ø/dagi/:n/ø.	◦ b/it/tam/ay/n/ʔa.

- HP. 6.6.
- preterite (participial verbal marker)
 - neutral
 - agentive { /ana
 - { non-/ana

The exponents of the preterite and neutral participial, and of the /ana and non-/ana agentive participial markers are as follows:

preterite - with weak Transitisor: /:a/

e.g. ◦ tam/ø/a.

with unmarked short Transitisor: /:a/

e.g. ◦ ø/liw/a.

with deponent short Transitisor: /:a/ or /:ǎ/

e.g. ◦ ø/law/a or ◦ ø/law/ǎ.

with other Transitors: /:ǎ/

e.g. ◦ so:/lw/ǎ.

neutral - with Modifier: /ø/

e.g. ◦ ba:/ø/li:w/ø.

without Modifier or Compounder: /:ǎ/

e.g. ◦ ø/liw/ǎ.

with Compounder and weak Transitor: /:e:t/ or /ɔ/

e.g. tam/ɔ/e:t/ɪ or tam/ɔ/ɔ/ɪ

with Compounder and strong/short Transitor: /:t/ or

e.g. ɔ/liw/t/ɪ or ɔ/liw/ɔ/ɪ

(When the Marker is contained by the first of two geminated words (W.1.2.1.), the exponent must be /ɔ/.)

/ana agentive - after C-phoneme: /ana/

e.g. tam/ɔ/ana

after V-phoneme: /:na/

e.g. di:no/ɔ/:na

non-/ana agentive - with long (strong) Transitor: /:i/

e.g. ɔ/da:bl/i

with causal or passive or joint short

Transitor: /:i/ ; e.g. si/dabl/i

with unmarked short Transitor and CCy

Radical: /:i/ ; e.g. ɔ/dag/i

with short Transitor expounded by 'aCIC

ɔCaCIC or ɔCaCɔC, and inherently accented

Radical: /' / ; e.g. 'a/kiš/

ɔ/lamid/

ɔ/šagwad/

with any other short Transitor or Radical:

e.g. ɔ/katim/ɔ , ɔ/kwabäl/ɔ , 'a/mä:ɔ/ɔ

ɔ/šagwä:d/ɔ

MP. 6.8

masculine singular (equative Marker)

masculine plural

feminine singular

feminine plural

The exponents of the four equative Marker morphemes are as follows:

masculine singular, without Second-person morpheme: /u/

with Second-person morpheme : /w/

masculine plural

: /a/

feminine singular, after /:t/ or /:t/ expounding feminine nominal Marker; /u/
 otherwise; /tu/

feminine plural, after /:t/ or /:t/ ... (as above); /a/
 otherwise; /ta/

- e.g. ,,ba;ba/;b, o/ u, = He is a father,
 ,,ba;ba/;b, o/ w/a, = You are a father,
 ,,ba;ba/~/;b, o/ a, = They are fathers,
 ,,ndee/:t, o/ u, = She is a mother,
 ,,to:/ndee/; o/ tu, = She is his mother
 ,,ndee/~/;t, o/ a, = They are mothers
 ,,te:/ndee/;/; o/ ta, = They are their mothers.

MP. 6. 9

masculine nominative (nominal Marker)

masculine accusative

feminine nominative

feminine accusative

The exponents of the four classes of nominal Marker vary according to four variables in the environment; viz.:

- the presence or absence of a Pronominal, Genitival or coordinating Conjunctive morpheme (/wa/ = and) immediately after the Marker; the presence or absence (if a Pronominal is present) of a Pluraliser before the Marker; and the presence or absence of an equative word immediately after the Marker;

- e.g. with Pronominal, but no Pluraliser: 'i/do;ba/;o/; o = her bridegroom
 " " and Pluraliser: 'i/do;ba/;/;e/; o = her bridegrooms

- without Pronominal: 'i/do;ba/~/ o = the bridegroom
 with Genitival : o, do;ba/;/;y/; o = one of a bridegroom
 without Genitival : o, do;ba/;b o = a bridegroom
 with /wa/ : 'i/do;ba/;/;wa o = and the bridegroom
 with equative word: ; 'i/do;ba/;/; o/ u, = He is the bridegroom
 without " " : 'i/do;ba/~/ o = the bridegroom.

b. the phoneme immediately preceding the Marker - this may be

C, V, r/l/n (see MP.1.i.a.) or /;y/ expounding the Genitival morpheme (see MP.5.iv.b.); there may or may not be an inherent accent between the Marker and the preceding syllable-boundary. (These possibilities are referred to respectively as -C, -V, -r/l/n, -;/y/ and +^v).

c. the unit and class to which the item immediately preceding the Marker belongs (this excludes the Pluraliser morpheme if this is expounded by the non-;/ǣ/ variant set). These items can be divided into two sets, referred to as 'nominal' and 'non-nominal' respectively (these names are chosen because the 'nominal' set does, but the 'non-nominal' set does not, include nominal Radical morphemes);

'nominal' - 1. nominal Radical morphemes; e.g. $'i/\underline{do:ba}/^v_0$ = the bridegroom

2. Nominaliser morphemes (or Transitisors or verbal Radicals preceded by Nominalisers);

e.g. $'i/\underline{tam}/\emptyset/\underline{ti}/^v_0$ = the eating

3. Pluraliser expounded by /;ǣ/;

e.g. $'i/;\underline{dabalo};/;\underline{a}/^v_0$ = the small ones

4. unaccented-Modifier adjectival Radicals;

e.g. $'i/;\underline{dabalo};/^v_0$ = the small one

5. verbal words containing the /ana agentive Marker;

e.g. $'i/;\underline{tam}/\emptyset/\underline{ana};/^v_0$ = the greedy one

6. verbal words containing the non-/ana agentive Marker and a Transitorisor expounded by $\emptyset CaXC$;

e.g. $'i/;\emptyset/\underline{\text{šagwǎd}}/\emptyset;/\emptyset_0$ = the washed one

'non-nominal' - 1. Genitival morpheme;

e.g. $'i/;ti/\underline{takat}/\emptyset;/\underline{ti}/^b_0$ = the one of the woman

2. Comparative morpheme;

e.g. $'i/;\underline{dabalo};/^v\text{kaa}/^b_0$ = the smaller one

3. accented-Modifier adjectival Radicals;

e.g. $'i/;\underline{nda:i};/^b_0$ = the good one

4. verbal words except those mentioned in 5, 6

above; e.g. $'i/;\underline{tam}/\emptyset/\underline{a};/^b_0$ = the one who ate it

d. the class and environment of the word of which the Marker is a constituent; the word may be 'undefined', 'defined' or

'defining':

undefined - an indefinite word representing the element Head, structurally related to no nominal word;

e.g. ,tāk/∅, = a man

,;dabalo;/!b, = a small one

defined - a definite word (except words containing the Radical /!n/ = this - see iii.b. below);

e.g. °'o:/tāk/∅, = the man

°'i;/dabalo;/!b, = the small one

or - an indefinite word representing the Head, and structurally related to a nominal word (or a comparative group) - see W.12,iii.a,b.;

e.g. ,;dabalo;/!b,tāk/∅, = a small man

defining - an indefinite word representing the element Complement;

e.g. ,;dabalo;/!b,tāk/∅, = a small man

or - an indefinite word representing the Head in a comparative group which itself represents the simple element Complement;

e.g. ,;dabalo;/!b,kaa/!b,tāk/∅, = a smaller man

ii.

The exponents of the four Marker morphemes (listed in the same order as at the head of this section) are as follows:...

a. not followed by Pronominal, etc..

1.	after -C or -r/l/n	- 'nominal'	:	/∅/	/∅/	/∅/	/∅/
2.	"	-C or -/:y/ + °	- 'non-nominal'	:	/∅/	/∅/	/t/ /t/
3.	"	-r/l/n	- " "	:	/∅/	/∅/	/!t/ /!t/
4.	"	-V(+ °)	- defined, 'nominal'	:	/!/	/!/	/!t/ /!t/
5.	"	-V	- undefined	:	/!/	/!b/	/!t/ /!t/
6.	"	-/:y/	- "	:	/!/	/!/	/!t/ /!t/
7.	"	-V or -/:y/	- defining	:	/!/	/!/	/!t/ /!t/
8.	"	-V	- defined, 'non-nominal'	:	/!/	/!b/	/!t/ /!t/
9.	"	-/:y/	- " " "	:	/!/	/!/	/!t/ /!t/
10.	"	-V + °	- undefined	:	/!/	/!b/	/!t/ /!t/
11.	"	" "	- defining	:	/!/	/!/	/!t/ /!t/
12.	"	" "	- defined, 'non-nominal':	:	/!/	/!b/	/!t/ /!t/

- e.g.1. $\circ 'i/ragád/\underline{\emptyset}_o =$ the leg (M-n/a. - i.e. masc., nom. or a c.)
 $\circ ti/takát/\underline{\emptyset}_o =$ the woman (F-n/a.)
2. $\circ 'i;/ba:/tam/\check{y};/\underline{\emptyset}_o =$ the one (M-n/a.) who doesn't eat it
 $\circ ti;/ba:/tam/\check{y};/\underline{t}_o =$ " " (F-n/a.) " " " "
 $\circ yi/, 'i/do:ba/\underline{\emptyset},/:y/\underline{\check{v}}/\underline{\emptyset}_o =$ the ones (M-n/a.) of the bride-
 groom
- $\circ ti/, 'i/do:ba/\underline{\emptyset},/:y/\underline{\check{v}}/\underline{\emptyset}_o =$ " " (F-n/a.) " " "
3. $\circ 'i;/dawil;/\underline{\emptyset}_o =$ the near one (M-n/a.)
 $\circ ti;/dawi;/\underline{t}_o =$ " " " (F-n/a.)
4. $\circ 'i/do:ba/\underline{\check{v}}_o =$ the bridegroom (M-n/a.)
 $\circ ti/do:ba/\underline{\check{v}}_o =$ the bride (F-n/a.)
 $\circ 'i/do:ba/\underline{\emptyset}/\underline{\check{v}}_o =$ the bridegrooms (M-n/a.)
 $\circ ti/do:ba/\underline{\emptyset}/\underline{\check{v}}_o =$ the brides (F-n/a.)
5. $\circ do:ba/\underline{\check{v}}_o =$ a bridegroom (M- nominative)
 $\circ do:ba/\underline{b}_o =$ " " (M- accusative)
 $\circ do:ba/\underline{t}_o =$ a bride (F-n/a.)
 $\circ ;nda:i;/\underline{\check{v}}_o =$ a good one (M- nominative)
 $\circ ;nda:i;/\underline{b}_o =$ " " (M- accusative)
 $\circ ;nda:i;/\underline{t}_o =$ " " (F-n/a.)
6. $\circ 'i/do:ba/\underline{\emptyset},/:y/\underline{\check{v}}_o =$ one (M-n/a.) of the bridegroom
 $\circ 'i/do:ba/\underline{\emptyset},/:y/\underline{t}_o =$ one (F-n/a.) of the bride
7. $\circ ;nda:i;/\underline{\check{v}}_o tak/\underline{\emptyset}, =$ a good man (M-n/a.)
 $\circ ;nda:i;/\underline{t}_o takát/\underline{\emptyset}, =$ a good woman (M-n/a.)
8. $\circ 'i;/nda:i;/\underline{\check{v}}_o =$ the good one (M-nominative)
 $\circ 'i;/nda:i;/\underline{b}_o =$ " " " (M-accusative)
 $\circ ti;/nda:i;/\underline{t}_o =$ " " " (F-n/a.)
9. $\circ wi/, 'i/do:ba/\underline{\emptyset},/:y/\underline{\check{v}}_o =$ the one (M-n/a.) of the bridegroom
 $\circ ti/, 'i/do:ba/\underline{\emptyset},/:y/\underline{t}_o =$ " " (F-n/a.) " " "
10. $\circ ;dabalo;/\underline{a}/\underline{\check{v}}_o =$ small ones (M- nominative)
 $\circ ;dabalo;/\underline{a}/\underline{b}_o =$ " " (M- accusative)
 $\circ ;dabalo;/\underline{a}/\underline{t}_o =$ " " (F-n/a.)
11. $\circ ;dabalo;/\underline{a}/\underline{\check{v}}_o do:ba/\underline{\emptyset}/\underline{\check{v}}_o =$ small bridegrooms (M-n/a.)
 $\circ ;dabalo;/\underline{a}/\underline{t}_o do:ba/\underline{\emptyset}/\underline{\check{v}}_o =$ small brides (F-n/a.)
12. $\circ 'i;/si/dabl/a;/\underline{\check{v}}_o =$ the one (M- nom.) who made him colle
 $\circ 'i;/si/dabl/\check{a};/\underline{b}_o =$ " " (M- acc.) " " " "
 $\circ ti;/si/dabl/\check{a};/\underline{t}_o =$ " " (F-n/a.) " " " "

(ii) b. followed by Pronominal

- | | | | | |
|------------------------|------|------|-------|-------|
| 1. not with Pluraliser | /i/ | /o/ | /itu/ | /ito/ |
| 2. with Pluraliser | /ia/ | /ie/ | /ita/ | /ite/ |

- e.g. 1. \circ 'i/san/u/ik_o = your brother (M- nominative)
 \circ 'i/san/o/ik_o = " " (M- accusative)
 \circ ti/kwaa/itu/ik_o = your sister (F- nominative)
 \circ ti/kwaa/ito/ik_o = " " (F- accusative)
2. \circ 'i/san/a/ia/ik_o = your brothers (M- nominative)
 \circ 'i/san/a/ie/ik_o = " " (M- accusative)
 \circ ti/kwaa/Ø/ita/ik_o = your sisters (F- nominative)
 \circ ti/kwaa/Ø/ite/ik_o = " " (F- accusative)

c. followed by Genitival

The Marker is always expounded by /Ø/

- e.g. \circ do:ba/Ø/iy/' = one of a bridegroom
 \circ do:ba/Ø/iti/b = one of a bride

d. followed by Conjunctive /wa/ = and

1. after -C, -r/l/n or -/iy/ = as in a, above
 2. after -V(+ °) = defined, 'nominal': // / // / // / // /
 3. after -V = undefined : // / //b/ //t/ //t/
 etc. etc.

(as in a, above, except that /v/ is replaced by //)

- e.g. 2. \circ 'i/do:ba/!wa_o = and the bridegroom (M-n/a.)
 \circ ti/do:ba/!wa_o = and the bride (F-n/a.)

e. followed by equative word

1. after -C, -r/l/n or -/iy/ = as in a, above
 2. after -V(+ °) = undefined = as in a, above
 3. " " = defined, 'non-nominal' = as in a, above
 4. " " = defined, 'nominal' = definite word; always ///
 5. " " = " " = indefinite word; always //v/

- e.g. 4. \circ 'i/do:ba/!Ø/u, = He is the bridegroom,
 \circ ti/do:ba/!Ø/tu, = She is the bride,
 5. \circ ;;dabalo;/v' do:ba/!Ø/u, = He is a small bridegroom,
 \circ ;;dabalo;/!t do:ba/!Ø/tu, = She is a small bride,

iii.a. If the Marker precedes the 1st. -person singular Pronominal morpheme /v/, the exponents shown in ii.b, above are in free variation, after a Pluraliser, with;

/i:/ /i:/ /iti:/ /iti:/

e.g. $\circ 'i/san/a/a/ \surd \circ = \circ 'i/san/a/i/ \surd \circ =$ my brothers

iii, b, The exponents of the Markers with the deictic Radical /in/ = this, are as follows:

1, without Pluraliser ; /'u/ /'o/ /tu/ /to/

2, with Pluraliser ; /'a/ /'e/ /ta/ /te/

thus; 1, $\circ 'u/in \circ$ $\circ 'o/in \circ$ $\circ tu/in \circ$ $\circ to/in \circ$
 2, $\circ 'a/in/\phi \circ$ $\circ 'e/in/\phi \circ$ $\circ ta/in/\phi \circ$ $\circ te/in/\phi \circ$

(The Radical /in/ is the only Radical which is preceded by the nominal Marker to which it is structurally related,)

iii, c, If a defining word is followed by the feminine Radical morpheme /naa/ = thing, matter, fact (this being a constituent of the next word after the defining word), the Marker of the defining word is expounded by /i/ or, less commonly, /t/, as shown above;

e.g. $\circ ;inda;i;/ \circ 'naa \surd \circ = \circ ;inda;i;/t \circ 'naa \surd \circ =$ something good

e.f. $\circ ;inda;i;/t \circ 'takat/\phi \circ =$ a good woman

MP. 6.10

'so' (adjunctival Marker) } informative
 } suggestive

'then'

'and'

'if', etc,

12, 'if'

'although'

'when' (/ʎho;ɓ/)

'when' (/in&i;y/)

'since' (/ʃkka/)

'since' (/ʃb/)

'whenever'

'because'

'as from when'

'by', etc,

13, 'by'

'in'

'like'

The exponents of the adjunctival Markers will be described in the order in which they are listed above,

i, 'so' Markers

The exponents of the two 'so' markers are shown below:

- a, informative; after C-final verbal word : /a:yt/
- after verbal word with final -a phoneme : /:yt/
- after verbal word with final V (not -a) : /iä:yt/
- after equative word containing a Second= person morpheme : /ia:yt/
- after other equative words : /:yt/

- e.g. o, 'a/ø/dbil;/a:yt₀ = I've collected it, so ...
- o, 'i/ø/dbil/'na;/:yt₀ = They've collected it, so ...
- o, 'a/ø/dgi;/iä:yt₀ = I've brought it back, so ...
- o, 'ara:w/ø/in, ø/w/a;/a:yt₀ = You're our friend, so ...
- o, 'ara:w/ø/in, ø/u;/:yt₀ = He's our friend, so ...

- b, suggestive; after C-final verbal word : /ay/
- after verbal word with final -a phoneme : /iy/
- after verbal word with final V(not -a) : /iäy/
- after equative word containing a Second= person morpheme : /ia:ay/
- after other equative words : /iy/

- e.g. o, 'a/ø/dbil;/ay₀ = I've collected it, so ...
- o, 'i/ø/dbil/'na;/:y₀ = They've collected it, so ...
- o, 'a/ø/dgi;/iäy₀ = I've brought it back, so ...
- o, 'ara:w/ø/in, ø/w/a;/:ay₀ = You're our friend, so ...
- o, 'ara:w/ø/in, ø/u;/:y₀ = He's our friend, so ...

ii, 'then' Marker

a, The 'then' marker is expounded by four variant sets, which include only one or two phonological items each; they are referred to by this item, or one of the two items;

- /it/ (except after a Pluraliser, where /i:t/ is found)
- /iä:it/
- /i:it/
- /iä:yt/

b, As far as is known, there is no difference of meaning between these sets;

- e.g. o, 'o;/ktä:b/ø, 'a/ø/mi:ri;/it₀ = o, 'o;/ktä:b/ø, 'a/ø/mi:ri;/ä:it₀
- = o, 'o;/ktä:b/ø, 'a/ø/mi:ri;/i:it₀ = I used to find the book, then ...

c. These four variant sets can not all occur in the same environments, with reference to the class of the verbal word which immediately precedes the Marker:

/it/	follows a preterite, present, past or negative word;
/i:it/	present or past word;
/i:it/	past word;
/i:yt/	preterite word,

iii, 'and' Marker

This is always expounded by /it/;

e.g. i' /i/∅/rab/e/∅, ∅/dibl/∅/a/∅; /it/ = Collect the luggage, then.

iv, 'if', etc. Markers

a. There are nine 'if', etc. Marker morphemes, which fall into two sets according to the exponent of the Genitival morpheme when the latter precedes a Pronominal, which precedes an 'if', etc. Marker. The two exponents of the Genitival in this environment are /e/ and /∅/ (see MP, 5, iii, b.); the members of the two sets of 'if', etc. Marker are:

with /∅/ expounding Genitival: 'if', 'although', 'when' (/ho:b/), 'since' (/kka/), 'as from when';

with /e/ expounding Genitival: 'when' (/ho:b/), 'when' (/ind:y/), 'since' (/yb/), 'whenever', 'because', 'as from when'. ('when' (/ho:b/) and 'as from when' appear in both these sets, but they probably occur with /∅/ in some dialects, with /e/ in others.)

b. The nine 'if', etc. Markers also fall into three sets according to the exponent of a preceding Pronominal morpheme. The latter may be /i:ok/, etc., /i:ok/, etc., or /it:ok/, etc. (see MP, 10, 1, ii, c, 7.). The members of the three sets of Marker are:

with /i:ok/, etc.: 'if', 'although', 'since' (/kka/);

" /it:ok/, etc.: 'because';

" /i:ok/, etc.: all other Markers.

c. The exponents of the nine Marker morphemes also vary according to the presence or absence of a Pronominal before them. Therefore the exponents of the morpheme-groupings:

Genitival + Marker, and Genitival + Pronominal + Marker, are shown below;

Marker	Genitival + Marker	Genitival + Pronoml. + Marker
'if'	/:e/!k _o	/ø(/d:k/)/ø _o
'although'	/:e/˘han _o	/ø(/d:k/)/han _o
'when' (/˘ho:b/)	/:e/˘ho:b _o	/:e(/:d:k/)/ho:b _o
		<u>or</u> /ø(/:d:k/)/ho:b _o
'when' (/:nd:y/)	/:e/:nd:y _o	/:e(/:d:k/)/nd:y _o
'since' (/!kka/)	/:e/!kka _o	/ø(/:d:k/)/ka _o
'since' (/˘h/)	/:e/˘b _o	/:e(/:d:k/)/ø _o
'whenever'	/:e/˘bka _o	/:e(/:d:k/)/ka _o
'because'	/:e/!tay _o	/:e(/:t:d:k/)/täy _o
	<u>or</u> /:e/!tayna:n _o	/:e(/:t:d:k/)/täynain _o
'as from when'	/:e/ho:bé:ka _o	/:e(/:d:k/)/ho:bé:ka _o
		<u>or</u> /ø(/d:k/)/ho:bé:ka _o
e.g. ;'ane/˘,rih/ø/an;/e/!k _o	= if I saw him	
;'ane/˘,rih/ø/an;/ø(/d:k/)/ø _o	= if I saw you	

'by', etc. Markers

There are three 'by', etc. Marker morphemes - 'by', 'in' and 'like'; their exponents are as follows:

a. 'by' - before a Pronominal, which is a constituent of the preceding nominal word: /:s/;

e.g. ;'i/gaw/ø,/i/:s(/d:k)_o = from your house

after a negative participial verbal word: /ø/;

e.g. ;baä:/tam/äy/ø;/ø_o = without eating

otherwise after a V-phoneme, without an inherent accent, or after /:y/: /!:/;

e.g. ;'i/gaw/ø,/i/!_o = from the house

;'tam/ø/a;/!_o = having eaten it

otherwise after a V-phoneme with an inherent accent: /:/

e.g. ;tam/ø/ě;/!_o = eating it

otherwise after a C-phoneme: /ø/

e.g. ;'i/inda:i;/ø,/˘nd:y/ø_o = from the good one

b. 'in' - before a Pronominal: /ø/

e.g. ;'i/gaw/ø,/i/ø(/:d:k)_o = in your house

otherwise before the Than/on morpheme: /˘/

e.g. ;'i/gaw/ø,/i/˘/da_o = to the house

otherwise after a V-phoneme: /ʔb/

e.g. $\circ, 'i/gaw/\emptyset, /i/\underline{ʔb}_\circ =$ in the house

otherwise after /:y/ : /ʋ/

e.g. $\circ, 'i/do:ba/\emptyset, /:y/\underline{ʋ}_\circ =$ about the bridegroom

otherwise after a C-phoneme: /∅/

e.g. $\circ, 'i/;nda:i;/\emptyset, /ʔna:y/\underline{\emptyset}_\circ =$ in the good one

c. 'like' - before a Pronominal: /!t/

e.g. $\circ, 'i/san/\emptyset, /i/!\underline{t}(/ho:k)_\circ =$ like your brother

otherwise after a V-phoneme or /:y/; /ʔt/

e.g. $\circ, 'i/san/\emptyset, /i/!\underline{t}_\circ =$ like the brother

otherwise after a C-phoneme: /t/

e.g. $\circ, 'i/;nda:i;/\emptyset, /ʔna:y/\underline{t}_\circ =$ like the good one

MP.7. Pluraliser Morphemes

MP.7.1 } verbal (pluraliser)
 } nominal

i. The exponents of the verbal Pluraliser morpheme are as follows:

a. after a V-phoneme: /ʔn/

e.g. $\circ, 'i/\emptyset/dgi/\underline{ʔn}_\circ =$ they brought it back

b. after a C-phoneme, before a nominal Marker: /ʋ/

e.g. $\circ, 'i/\emptyset/dbil/\underline{ʋ}_\circ$ (as in $\circ, ti/; 'i/\emptyset/dbil/\underline{ʋ}; /t_\circ =$ the ones (fem.) who collected it.)

c. after a C-phoneme, before a Second-person, Compounder or 'them' Marker morpheme: /n/

e.g. $\circ, ti/\emptyset/dbil/\underline{n}/\underline{ʋ}_\circ =$ you (plur.) collected it.

d. otherwise after a C-phoneme, with a consonantal Radical containing an inherent accent '(MP.1.2.ii.b.2.); /na/

e.g. $\circ, 'i/\emptyset/kri'f/\underline{na}_\circ =$ they met him

e. otherwise after a C-phoneme: /ʋna/

e.g. $\circ, 'i/\emptyset/dbil/\underline{ʋna}_\circ =$ they collected it

ii. The nominal Pluraliser is expounded by two variant sets referred to respectively as /:ǎ/ and non-/:ǎ/. These two sets are found in the following environments:

a. only, /:ǎ/ - after a Nominaliser expounded by /:i/ or /:ó:y/;

e.g. $\circ, 'i/\emptyset/dibl/i/:\underline{ǎ}/\underline{ʋ}_\circ =$ the piles

after certain substantive Radicals (MP.1.18.i.);

e.g. $\text{°}i/gaw/a/\text{°}$ = the houses

after certain adjectival Radicals (MP.1.14.iv.);

e.g. $\text{°}i;/bidḏigi:l;/a/\text{°}$ = the big ones

b. only non- $/;ā/$ = after a Nominaliser not expounded by $/;i/$ or $/;ay/$

e.g. $\text{°}ti/ϕ/'i;bab/ϕ/'/ϕ\text{°}$ = the journeys

after a Genitival;

e.g. $\text{°}yi/,'i/tak/ϕ,/i/\text{°};b\text{°}$ = the ones of the
man

after certain substantive Radicals (MP.1.18.i.)

e.g. $\text{°}e;/ktab/'/ϕ\text{°}$ = the books

after all nominal Radicals except substantive;

e.g. $\text{°}mahlḏ/ϕ;/b\text{°}$ = two

after certain adjectival Radicals (MP.1.14.iv.);

e.g. $\text{°}i;/inda;i;/\text{°};b\text{°}$ = the good ones

after any verbal word except those mentioned in c,

e.g. $\text{°}i;/ti/m'ari/\text{°}, tam/ϕ/a;/\text{°};b\text{°}$ = the ones
who ate the food

c. either $/;ā/$ or non- $/;ā/$ = after certain substantive Radicals
(MP.1.18.i.);

e.g. $\text{°}yoo/\text{°};b\text{°}$ = $\text{°}yoo;/ā;/b\text{°}$ = oxen

after certain adjectival Radicals (MP.1.14.iv.);

e.g. $\text{°};dabalo;/\text{°};b\text{°}$ = $\text{°};dabalo;/ā;/b\text{°}$ =
small ones

after negative participial verbal words;

e.g. $\text{°};ba;/tam/āy;/ϕ/ϕ\text{°}$ = $\text{°};ba;/tam/ay;/ā;/b\text{°}$
= ones who don't eat if

after agentive participial verbal words containing
the non- $/ana$ Marker and a Transitor expounded
by $ϕCaCāC$;

e.g. $\text{°};ϕ/šagwad/';/ϕ/ϕ\text{°}$ = $\text{°};ϕ/šagwad/ϕ;/ā;/b\text{°}$
= washed ones

iii.

The $/;ā/$ variant set includes only one phonological
item = $/;ā/$. The non- $/;ā/$ set includes three phonological items -
 $/;i/$, $/;ay/$ and $/ϕ/$, in complementary distribution. The three items

are found in the following environments (see ii.b,c. above):

a. /'/' - only after a C-phoneme which is preceded by a V-phoneme containing an inherent accent ˇ, viz.:

after Nominalisers;

e.g. ˚ti/ø/'i:bab/ø/'/ø˚ = the journeys
after certain substantive Radicals (MP.1.18.i.);

e.g. ˚barrad/'/ø˚ = tea-pots
after certain adjectival Radicals (MP.1.14.iv.)

e.g. ˚'i/;so:tay;/'/ø˚ = the green ones
after certain agentive verbal words containing the non-/a
Marker (MP.1.2.iv.a.);

e.g. ˚'i/;ø/gwašaš/ø;/'/ø˚ = the ones who moved

b. /ˇ/' - not after a C-phoneme which is preceded by a V-phoneme containing an inherent accent ˇ; otherwise, /ˇ/' occurs in all the environments listed above for /'/';

e.g. ˚yi/ø/himag/ø/ˇ/'/ø˚ = the hatred

˚'i/finjan/ˇ/'/ø˚ = the coffee-cups

˚'i/;nda:i/;/'/;b˚ = the good ones

˚'i/;ø/dagay/ø;/'/ø˚ = the ones who came back

/ˇ/' also occurs in the following environments;

after the Genitival when not expounded by /Ÿnd:y/;

e.g. ˚'i/tak/ø;/i/ˇ/'/;b = ones of the man

after the deictic Radicals /naa:/ = what, and /na:ka/ = how much;

e.g. ˚na:ka/ˇ/'/;b˚ = ,how many

after preterite participial verbal words;

e.g. ˚;tam/ø/a;/ˇ/'/;b˚ = ones who ate it

after agentive participial verbal words containing an /ana Marker;

e.g. ˚;tam/ø/ana;/ˇ/'/;b˚ = greedy ones

after agentive participial verbal words containing the non-/ana Marker and a Transitor not expounded by øCaCĀC or the exponents mentioned in MP.1.2.iv.a.;

e.g. ˚;ø/ba;đn/i;/ˇ/'/;b˚ = forgetful ones

c. /ø/' - in all environments in which the non-/;ā/ set is, but /ˇ/' and /'/' are not, possible, viz.:

after the Genitival when expounded by /ʔná:y/;

e.g. $\text{yí/,'i/;nda:i;/}\emptyset\text{/}\text{ʔná:y/}\emptyset\text{/}\emptyset_0$ = the ones of the
good one

after certain substantive Radicals (MP.1.18.i.);

e.g. $\text{gínif/}\emptyset\text{/}\emptyset_0$ = noses

after all nominal Radicals except substantives and the
deictics /naa:/ and /na:ka/;

e.g. $\text{bar/}\emptyset\text{/a/!}_0$ = they

after certain adjectival Radicals (MP.1.14.iv.);

e.g. $\text{;nakáš;/}\emptyset\text{/}\emptyset_0$ = short ones

after negative participial verbal words;

e.g. $\text{;ba:/tam/šy;/}\emptyset\text{/}\emptyset_0$ = ones who don't eat it

after agentive participial verbal words containing the
non-/ana Marker and a Transitisor expounded by $\emptyset\text{CaC}\emptyset\text{C}$;

e.g. $\text{;}\emptyset\text{/šagwad/';/}\emptyset\text{/}\emptyset_0$ = washed ones

after certain agentive participial verbal words containing
the non-/ana Marker (MP.1.2.iv.a.);

e.g. $\text{;}'a/lāw/}\emptyset\text{/}\emptyset\text{/}\emptyset_0$ = burned ones

MP.8. Second-person Morphemes

MP.8.1
class i
class l

MP.8.2
masculine
feminine
plural

i.

The exponents of a Second-person morpheme differ

according to the following variables in the environment:

- a. the class of word - verbal or equative - of which it is a constituent;
- b. the class of the Transitisor - strong/short or weak - and of the Marker - imperative or 'preterite, etc.' (the latter term refers to all indicative Markers except future and imperative) - if the Second-person morpheme is a constituent of a verbal word;
- c. the presence or absence, immediately after the Second-person morpheme, of a member of one of the two sets of morphemes, referred to as 'Compounder, etc.' and 'Conjunctive, etc.', whose members are as follows:
'Compounder, etc.': Compounder, Genitival, Comparative, Optative,

'then' Marker, 'and' Marker, nominal Marker; 'Conjunctive, etc.': linking Conjunctive, 'so' Marker, class question Certainty.

- d. the presence or absence of a Modifier morpheme as a constituent of the same word as the Second-person morpheme.
- e. the phoneme - i , a or a C-phoneme - immediately preceding the Second-person morpheme.
- f. the presence or absence, as a constituent of the same word, of a consonantal Radical containing an inherent accent '.

ii. The exponents of the three morphemes belonging to class 1 are: /:a/ (masc.) - /:i/ (fem.) - /:na/ (plur.).

iii. The exponents of the three morphemes belonging to class 1 listed in the order: masculine - feminine - plural, - are as follows:

a. in an equative word	: /a/	/:y/	/:na/
(all the following exponents are found in verbal words)			
b. with strong/short Transitisor, imperative Marker, and Radical containing '.	: /:a/	/:i/	/:na/
c. as b., but with other Radicals	: /Ya/	/Yi/	/Yna/
d. as b., but with preterite, etc. Markers:	: /:a/	/:i/	/:a/
e. as d., but with other Radicals	: /Ya/	/Yi/	/Ya/
f. with weak Transitisor, imperative Marker, and no Modifier	: /:a:/	/:i:/	/:a:na/
g. as f., but with Modifier	: /:a:/	/:ay/	/:a:na/
h. with weak Transitisor and preterite, etc. Marker; after -i	: /Ya/	/Y/	-
i. as h., but after -a	: /Y/	/Yy/	-
j. as h., but after C	: -	-	/va/

(the Second-person morphemes have the exponents shown above when not followed by Compounder, etc., or Conjunctive, etc. morphemes.)

k. with imperative Marker, before Compounder, etc.	: /:a/	/:i/	/:na/
l. as k., but with preterite, etc. Marker	: /ø/	/ø/	/ø/
m. as k., but before Conjunctive, etc.	: as in b,c. above,		
except that /:a/ (/Ya/) is in free variation with /:a:na/ (/Ya:na/)			

- n. with strong/short Transitor and preterite, etc. Marker;
before Conjunctive, etc. : as c:
- o. with weak Transitor and preterite, etc. Marker;
before Conjunctive, etc. (Conjunctive, 'so' only): as c.
- p. as o. but before Conjunctive, etc.
(Certainty only); after -i /:a/ /:i/ -
or /:/
- q. as p., but after -a /:a/ /:i/ -
or /:/ or /:y/
- r. as p., but after C /a/

MP.9. Modifier Morpheme

- i. The exponents of the Modifier morpheme differ according to the following variables in the environment:
- the class - verbal, adjunctival or nominal - of the word of which the Modifier is a constituent. If the word is verbal, it is indirect imperative, negative, modified, prohibitive or negative participial (see Appendix C); if it is nominal, it is either singular or plural.
 - the phoneme immediately following the Modifier; the phoneme may be '/h or C, i.e. any C-phoneme except ' or h.
 - (if the Modifier is a constituent of a nominal word), the item immediately preceding the word's Marker; this item may be 'nominal or 'non-nominal' (see MP.6.9.i.c.)
 - the number - one or several - of syllables between the Modifier and whichever of the following is sequentially the first after the Modifier:
 - a phonological word-boundary;
 - the Genitival expounded by /'na:i/, etc.
 - the Comparative morpheme;
 - the Generaliser morpheme;
 - a Conjunctive morpheme.
 - e.g. there is one syllable between the Modifier /'o:/ and a word-boundary in ${}^{\circ}'o:/t\acute{a}k/\emptyset_{\circ}$ = the man
the Genitival expounded by /'na:i/ etc. in ${}^{\circ}'o:/;gwm\acute{a}d;/\emptyset_{\circ}/n\acute{a}:y/\emptyset$ = from the long one
a Conjunctive morpheme in ${}^{\circ}'o:/t\acute{a}k/\emptyset/wa_{\circ}$ = and the man

- ii. The exponents of the Modifier morpheme are as follows:
- a. in indirect imperative verbal word : /báa:/
or /bá/
e.g. $\text{báa:}/\text{tam}/\emptyset/\text{Y}_0 = \text{bá}/\text{tam}/\emptyset/\text{Y}_0 =$ He is to eat.
 - b. in negative verbal word, with strong/short Transitor: /k'/
e.g. $\text{k'}/\text{ii:}/\emptyset/\text{dbil}_0 =$ He doesn't collect it.
 - c. as b., but with weak Transitor : /ká/
e.g. $\text{ká}/\text{tam}/\emptyset/\text{yá}_0 =$ He doesn't eat it.
 - d. in modified verbal word : /b/
e.g. $\text{b}/\text{i:}/\text{tam}/\text{áy}_0 =$ He's not to eat it.
 - e. in prohibitive verbal word: /bá:/ (masc. or plural), /bí:/ (fem.)
e.g. $\text{bá:}/\text{tam}/\emptyset/'/\text{a}_0 =$ Don't eat it! (masculine)
 $\text{bí:}/\text{tam}/\emptyset/'/\text{ay}_0 =$ " " (feminine)
 - f. in negative participial verbal words followed by:
nominal Marker: /ba:/; e.g. $\text{ba:}/\text{tam}/\text{áy}/\emptyset;/\text{t}_0 =$ one who does not eat it
adjunctival Marker: /baǎ:/; e.g. $\text{baǎ:}/\text{tam}/\text{áy}/\emptyset;/\emptyset_0 =$ without eating it
 - g. in adjunctival word, before one syllable : /'o:/
e.g. $\text{'o:}/\text{kíl}_0 =$ until (as in $\text{;tam}/\emptyset/\text{any};/\text{e}/\text{Yb}_0 \text{'o:}/\text{kíl}_0 =$ until I eat it)
 - h. as g., but before several syllables : /'i/
e.g. $\text{'i}/\text{gadám}_0 =$ beside him/her/it/etc.
(The following exponents are all found in nominal words, and are structurally related to nominal Markers; the Marker's exponents vary according to the class of the Marker, and are listed on the right in the order: masculine nominative - masc. accusative - feminine nom. - fem. accus.)
 - i. with 'nominal' item, before C and one syllable; in singular word : /'u:/ /'o:/ /tu:/ /to:
e.g. $\text{'u:}/\text{yá:s}/\emptyset_0 = \text{'o:}/\text{yá:s}/\emptyset_0 =$ the dog (nom. - acc.)
 $\text{tu:}/\text{yá:s}/\emptyset_0 = \text{to:}/\text{yá:s}/\emptyset_0 =$ the bitch (nom. - acc.)
 - j. as i., but in plural word : /'a:/ /'e:/ /ta:/ /te:
e.g. $\text{'a:}/\text{yás}/\emptyset/\emptyset_0 = \text{'e:}/\text{yás}/\emptyset/\emptyset_0 =$ the dogs
 $\text{ta:}/\text{yás}/\emptyset/\emptyset_0 = \text{te:}/\text{yás}/\emptyset/\emptyset_0 =$ the bitches

k. as either i. or j., but with several syllables

: /'i/ /'i/ /ti/ /ti/

e.g. \circ 'i/ragád/ \emptyset \circ = the leg

\circ 'i/ragad/a/ \sim \circ = the legs

l. as i., but before /h and either one or several syllables

: /wi/ /wi/ /ti/ /ti/

e.g. \circ wi/'ó:r/ \emptyset \circ = the boy (nominative or accusative)

\circ ti/'ó:r/ \emptyset \circ = the girl (" ")

m. as l., but in plural word

: /yi/ /yi/ /ti/ /ti/

e.g. \circ yi/'ár/ \emptyset / \emptyset \circ = the boys

\circ ti/'ár/ \emptyset / \emptyset \circ = the girls

n. as i.-m., but with 'non-nominal' item: as i.-m., but with

e.g. \circ 'd:/;win;/ \emptyset \circ = the big one

\circ 'i;/nda:i;/ \sim \circ = the good one

MP.10. Pronominal Morphemes

MP.10.1

1st. singular

1st. plural

2nd. singular

2nd. plural

3rd. singular

3rd. plural

i.

A pronominal morpheme may be a constituent of a verbal, nominal or adjunctival word, but be contained, sequentially, by a word of a different class; thus a Pronominal which is a constituent of a verbal word can be contained by a nominal or adjunctival word, and a Pronominal which is a constituent of an adjunctival word can be contained by a verbal word. For the reasons for this phenomenon, see M.10.iii.a.

e.g. \circ 'i;/tam/is/ya;/iò(/'k) \circ = the one who fed you (nominal word;

verbal word: \circ tam/is/ya.../'k \circ = he fed you)

\circ ;tam/is/ya:y;/'t(/ho:k) \circ = he fed you, then .. (adjunctival

word; verbal word: \circ tam/is/ya:y.../ho:k \circ = he fed you)

;há:y,tam/ \emptyset /yă(/ho:k); = He ate with you (verbal word:

\circ ;tam/ \emptyset /yă(/ho:k) \circ ; adjunctival word: \circ há:y.../ho:k \circ =

with you - see M.10.ii.b.)

ii.

The exponents of the six Pronominal morphemes vary according to the environment, one of the variables of which is the class of the word by which the Pronominal is contained, as explained above. The exponents of four of these Pronominals - 1st. singular, 2nd. singular, 3rd. singular and 3rd. plural, in that order - are shown below; for the exponents of the other two Pronominals - 1st. plural and 2nd. plural - see iii. below.

a. contained by verbal word, which also contains:

- | | | | | | |
|--|---|-----------|--------|---|---|
| 1. the future Marker | : | /ð/ | /ð:k/ | - | - |
| 2. the neutral participial
Marker and the Compounder | : | /heš:b/ | /ð:k/ | - | - |
| | | <u>or</u> | /ð/ | | |
| 3. any other Marker, or as 2.,
but without Compounder | : | /heš:b/ | /ho:k/ | - | - |

b. contained by nominal word, whose constituents also include:

- | | | | | | |
|---|---|-----|------|--------|----------|
| 1. a clause or group | : | /ʌ/ | /!k/ | /!/ | /ʌhina/ |
| 2. a substantive Radical and
the Generaliser morpheme | : | /ʌ/ | /!k/ | /ʌhi/ | /ʌhina/ |
| 3. as 2., but no Generaliser | : | /ʌ/ | /!k/ | /!/ | /ʌhina/ |
| 4. as 3., but followed by an
equative word | : | /ʌ/ | /!k/ | /ʌhi:/ | /ʌhina:/ |
| 5. a numeral or pronominal Radical and the 'Generaliser or
coordinating Conjunctive' | : | ? | /!k/ | /ʌhi/ | ? |
| 6. as 5., but no Generaliser
or Conjunctive morpheme | : | ? | /!k/ | /!/ | /!/ |
| 7. as 6., but followed by an
equative word | : | ? | /!k/ | /!s/ | /!s/ |

c. contained by adjunctival word, whose constituents also include:

- | | | | | | |
|--|---|---------|--------|-------|----------|
| 1. /'aby/ Radical (M.1.20.) | : | ? | /ð:k/ | /!/ | ? |
| 2. other Radicals | : | /:ð/ | /:ð:k/ | /:ð:/ | /:ðhina/ |
| 3. a group and the 'like' Marker | : | /heš:b/ | /ho:k/ | /ohi/ | /ohina/ |
| 4. as 3., but with the 'by' or 'in' Marker
and the Than/on morpheme | : | /:ð/ | /:ð:k/ | /ʌhi/ | /ʌhina/ |
| 5. as 4., but no Than/on | : | /:ð/ | /:ð:k/ | /:ð:/ | /:ðhina/ |
| 6. a clause and the 'then', 'and'
or 'by' Marker | : | /heš:b/ | /ho:k/ | - | - |

7. as 6., but with an 'if', etc. Marker: /:ð/ /:ð:k/ - -
 /:ð/ /:ð:k/ - -
 /:to/ /:to:k/ - -

(for these alternative exponents, see MP.6.10-13.iv.b.)

- e.g.a.1. \circ tam/s/e:t/ð:k \circ = I'll feed you.
 \circ tam/s/e:t/ð/:a/? \circ = Will you feed me?
 2. \circ tam/s/e:t/i/heð:b \circ = feeding me
 or \circ tam/s/e:t/ø/ð \circ = " "
 3. \circ tam/s/i:ni/heð:b \circ = He feeds me.
 \circ tam/s/i:ni/ho:k \circ = He feeds you.
 b.1. \circ 'i/;tam/s/i:ni;/:u(~/) \circ = the one who feeds me
 \circ 'i/;tam/s/i:ni;/:u(/k) \circ = " " " " you
 \circ 'i/,ba:b/ø,/i/:u(~/) \circ = the one of my father
 \circ 'i/,ba:b/ø,/i/:u(/k) \circ = " " " your "
 2. \circ naa/:tu/~/ka \circ = everything of mine
 \circ naa/:tu/~/hi/ka \circ = " " his
 3. \circ naa/:tu/~/ \circ = a thing of mine
 \circ naa/:tu/~/ \circ = a thing of his
 4. \circ naa/:to/~/ø/tu, \circ = it is a thing of mine
 \circ naa/:to/~/hi:/ø/tu, \circ = it is a thing of his
 5. \circ ngaa:l/u/~/hi/ka \circ = each one of them
 6. \circ ngaa:l/u/~/ \circ = one of them (nominative)
 \circ bar/o/~/ \circ = him
 7. \circ bar/o/~/s,ø/w/a, \circ = you are him (i.e. 'it is you')
 c.1. \circ 'aby/é: \circ = he himself
 2. \circ ge:b/ð: \circ = with him
 \circ ge:b/ð:k \circ = with you
 3. \circ ,ba:b/ø,/i/!t(/heð:b) \circ = like my father
 \circ ,ba:b/ø,/i/!t(/ho:k) \circ = like your father
 4. \circ 'i/san/ø,/i/ø(/:ð:k)/da \circ = to your brother
 \circ 'i/san/ø,/i/ø(/~/hi)/da \circ = to his brother
 5. \circ 'i/san/ø,/i/ø(/:ð:k) \circ = about your brother
 \circ 'i/san/ø,/i/ø(/:ð:) \circ = about his brother
 6. \circ ;tam/is/ya:y;/!t(/heð:b) \circ = he fed me, then ...
 \circ ;tam/is/ya:y;/!t(/ho:k) \circ = " " you, "
 7. for examples, see MP.6.10-13.iv.b.

- iii. The exponents of the 1st. plural and 2nd. plural Pronominal morphemes can be deduced from those of the 2nd. singular Pronominal in the same environment, as follows:
- a. 2nd. plural - add -na to the exponent of the 2nd. singular Pronominal, except when the Pronominal is structurally related to a pronominal or numeral Radical, in which case -na can, but need not be added;
- e.g. $\text{tam/s/e:t/}\underline{\text{d:kna}}$ = I'll feed you (plur.),
 $\text{ba:b/u/}\underline{\text{!kna}}$ = your (plur.) father
- c.f. $\text{tam/s/e:t/}\underline{\text{d:k}}$ = I'll feed you (sing.)
 $\text{ba:b/u/}\underline{\text{!k}}$ = your (sing.) father
- but $\text{bar/}\emptyset\text{/a/}\underline{\text{!kna}}$ = you (plur.)
 c.f. $\text{bar/u/}\underline{\text{!k}}$ = you (sing.)
- b. 1st. plural - replace -k in the exponent of the 2nd. singular Pronominal by -n;
- e.g. $\text{ba:b/u/}\underline{\text{!n}}$ = our father
 $\text{tam/s/i:ni/}\underline{\text{ho:n}}$ = he feeds us.
- c.f. $\text{ba:b/u/}\underline{\text{!k}}$ = your father
 $\text{tam/s/i:ni/}\underline{\text{ho:k}}$ = he feeds you.

MP.11. Compounder Morpheme

The exponents of the Compounder morpheme vary according to the class of the verbal word of which it is a constituent:

- a. in 2nd. or 3rd. plural preterite word : /ɪ/
 e.g. $\text{'i/}\emptyset\text{/dbil/n/}\underline{\text{ɪ}}$ = they collected it
- b. in other preterite words : /'/'
 e.g. $\text{'i/}\emptyset\text{/dbil/}\underline{\text{'}}$ = he collected it
- c. in a neutral word containing a Pronominal not expounded by /heʃ:b/ (MP.10.1.ii.a.2.) : /∅/
 e.g. $\emptyset\text{/kirif/t/}\emptyset\text{/}\underline{\text{d:k}}$ = meeting you
- d. in a neutral word not covered by c., and followed by the same word (W.1.2.i.) : /!/'/
 e.g. $\emptyset\text{/kirif/}\emptyset\text{/}\underline{\text{'}}$ $\emptyset\text{/kirif/t/}\underline{\text{ɪ}}$ = meeting him
- e. as d., but not followed by the same word : /ɪ/
 e.g. $\emptyset\text{/kirif/t/}\underline{\text{ɪ}}$ = meeting him

f. in preterite or participial word

: /~/

e.g. \emptyset /kirf/a/~₀ = having met him

MP.12. Optative Morpheme

The exponents of the Optative morpheme are as follows:

a. in an imperative or prohibitive verbal word : /!n/

e.g. \emptyset /dibil/ \emptyset /~a/!n₀ = Collect it!

\emptyset bá:/ \emptyset /dabi:l/ \emptyset /~a/!n₀ = Don't collect it!

b. in an indirect imperative verbal word : /!äy/

e.g. \emptyset baä:/!i:/dibil/äy₀ = He is to collect it.

c. in any other verbal word : /!á:n/

e.g. '!i:/dibil/á:n₀ = If only he would collect it!

\emptyset b/i:/ \emptyset /dabi:l/á:n₀ = He's not to collect it.

MP.13. Certainty Morphemes

MP.13.1

emphasis

question

²class j

class m

i. The emphasis morpheme is always expounded by /hó:k/

e.g. \emptyset tam/ \emptyset /yă/hó:k₀ = He did eat it.

ii. There are two class m question morphemes, each of which has only one exponent, viz. /han/ and /?/;

e.g. \emptyset tam/ \emptyset /yă/han₀ = Did he eat it?

\emptyset tam/ \emptyset /át/a/?₀ = Will you eat it?

iii. The class j question morpheme has two exponents, /~?/ and /!?/, which are found in the following environments:

a. /~?/ - after a Second-person morpheme;

e.g. \emptyset tam/ \emptyset /tini/:a/~?₀ = Do you eat it?

after the Pluraliser expounded by /~na/, except when followed by a Pronominal;

e.g. '!i/ \emptyset /krif/na/~?₀ = Did they meet him?

b. /!?/ - in any other environment;

e.g. '!i/ \emptyset /dibil/!?₀ = Did he collect it?

'i/ \emptyset /krif/na/!~/hó:k₀ = Did they meet you?

\emptyset tam/ \emptyset /ya/!?₀ = Did he eat it?

MP.14. Comparative Morpheme

The Comparative morpheme is expounded by /'kaa/ after a C-phoneme, by /~kaa/ after a V-phoneme;
e.g. ;biiddigi:l;/'kaa/'b_o = a bigger one
;dabalo;/~kaa/'b_o = a smaller one

MP.15. Than/on Morpheme

The Than/on morpheme is expounded as follows:
a. after a 'by' Marker : /ka/
e.g. ;'i/tak/ø;/i/'ka_o = than the man
b. after an 'in' Marker : /da/
e.g. ;'i/tak/ø;/i/'da_o = to the man
c. after a 'then' Marker : /a:yt/
e.g. ;tam/is/tiny;/'t(heš:b)/a:yt_o = she feeds me, t

MP.16. Generaliser Morpheme

The Generaliser morpheme is always expounded by /ka/;
e.g. ;naa/'t/ka_o = everything

MP.17. Conjunctive Morphemes

- MP.17.1
- coordinating
- linking
- contrastive
- additive

The four Conjunctive morphemes are expounded as follows:

- a. coordinating - before an equative word : /:wa:/
e.g. ;,wi/'ó:r/ø/wa,'o:/ták/ø/wa:;ø/a, = They are the boy and the man.
in other environments : /:wa/
e.g. ;'u:/ták/ø/wa,wí/'ó:r/ø/wa,tam/sam/e/'u;
= The man and the boy eat together.
- b. linking
- after Second-person morpheme : /:/
e.g. ;tam/ø/tini/'a/;_o = You eat it and ...
- in other environments : /'/'/
e.g. ;tam/ø/tini/'_o = She eats it and ...

- c. contrastive - in all environments : /ka/
 e.g. ;.tam/ø/át/ka;gwa' /ø/át., 'a/ø/kě; = I alter
 nated between eating and drinking.
- d. additive - in all environments : /han/
 e.g. °'u:/ták/ø/han° = the man too

NOTES

NOTE MP.1.

The contrast between the formants r and l frequently marks a semantic contrast, in which the Radical containing l means something smaller or less perfect than that containing r ;

e.g. /'e:ra/ = white - /'e:la/ = dirty white
 /'adaro/ = " - /'adalo/ = " "
 /ragád/ = leg - /lagád/ = insect's leg
 /t- r/ = compel, drive - /t- l/ = hunt, stalk
 /kw-b- r/ = remove - /kw-b- l/ = cover over

This feature of Beja was noted by Roper, whose vocabulary contains further examples.

NOTE MP.2.

The possibility of the Genitival morpheme being expounded by items such as /'ná:yá:y/ leads to some confusion, since a phonetically identical grouping of phonemes - /'ná:y/ø,/ná:y/ - can also expound two occurrences of the Genitival, separated by a Marker morpheme;

e.g. ;,hatǎ:y/ø,;ø/'akr/a;/ø,/'ná:yá:y/ø,'e/ø/:yǎ; = He came on a strong horse.

c.f. ;,hatǎ:y/ø,,;ø/'akr/a;/ø,/'ná:y/ø,/ná:y/ø,'e/ø/:yǎ; = He came on a horse of a strong one.

NOTE MP.3.

<u>present Markers</u>	<u>preterite Markers + /y-d/n-y/ = say</u>
1sg. /:áni/	°'a/ø/nǐ°
3m. /:f:ni/	°'i/ø/nǐ°
2/3. /:tini/	°tǐ/ø/nǐ°
1pl. /:náy/	°n/ø/é:n°
3pl. /:e/	°'/ø/e/ + /'n°
2pl. /:te/	°t/ø/e/ + /:n/'a°

THE WORDW.O. Element-classes and element-free classesi. Element-classes

There are two element-classes of word, whose members belong to the elements Head and Complement respectively; the two element-classes are referred to as Head- (or h-)words and as Complement- (or c-)words. All words which belong to the c-word class also belong to the h-word class (with one exception - see NOTE H.4.v.), but the converse is not true; for instance, the word $\circ; \text{dabal} \circ; / \vee \circ =$ a little one, belongs to both the Head and the Complement, while the word $\circ' \delta; r / \phi \circ =$ a boy, belongs only to the Head.

ii. Valency-classes

There are thus two valency-classes of word, referred to as h-only words and h/c-words;

e.g. h-only: $\circ' \delta; r / \phi \circ$, as in the groups $\circ' \delta; r / \phi \circ =$ a boy, and $\circ; \text{dabal} \circ; / \vee \circ' \delta; r / \phi \circ =$ a small boy
 h/c : $\circ; \text{dabal} \circ; / \vee \circ$, as in the group $\circ; \text{dabal} \circ; / \vee \circ =$ a small one, and the above group.

iii. Sequence-classes

a. Words fall into four sequence-classes, whose members are sequentially related as follows to any other constituent of the same group;

1. solo words must be the only constituent of the group;
2. non-preceding words can not precede another constituent;
3. non-following words can not follow another constituent;
4. free words do not determine their own sequential relations to other constituents.

b. If two free words are structurally related, their sequential relation to one another must be considered to be determined by the structure; the most common sequence is;

Complement + Head

In every case, whatever the sequence-classes of the structurally related words, this sequence is possible. Therefore, it follows that no non-preceding or solo word can ever represent the element Complement, and no non-following (or solo) word can ever be structurally related to an item representing the Complement.

W.S. Word-structure

i. a. The elements belonging to the unit-structure of the word are as follows (with abbreviated names in brackets);

Root	(Rt)	Pluraliser	(Pl)	Certainty	(Cy)
Transitisor	(Tr)	Second-person	(Sp)	Comparative	(Cr)
C-geminator	(CG)	Modifier	(Md)	Than/on	(Th)
Nominaliser	(Nm)	Pronominal	(Pr)	Generaliser	(Gn)
Genitival	(Gv)	Compounder	(Cd)	Conjunctive	(Cj)
Marker	(Mk)	Optative	(Op)		

i. b. The formula for word-structure is as follows:

$Md + Mk + Tr + CG + Rt + \underline{Rt}_o + Tr + Mk + Pl + Cr + Cy + Pr + Sp + Gn + Mk + Cj$

Nm Nm Sp Mk Th Cy

Gv Op

a b c d e e f g h i j k l m n o

i. c. It will be seen that the fifteen places of word-structure correspond to the fifteen sequence-classes of morpheme (see the table in M.O., p. 59.). That is, the members of a given sequence-class represent the element (or one of the elements) under which the name (a - o) of that sequence-class is written in the above formula. Thus, the three elements under which g is written are all represented, when occurring in that place, by members of the sequence-class g. The sequence-classes of morpheme correspond in this way, however, only to places in the unit-structure of the word; as the unit 'word' is broken down into classes, the number of places in the class-structure of each of these classes decreases but the morphemes occurring in these places are still considered as members of the same fifteen sequence-classes. Moreover, the sequence-classes are not defined with reference to the places of word-structure, since two juxtaposed morphemes, whose sequential relation to each other is determined by their respective sequence-classes, need not represent elements in the same word's structure (see M.O. ii. c.).

ii. The unit 'word' is divided in the following sections into classes, each of which has a class-structure; in many cases, the classes belonging to a given system have different class-

structures. The formulae for some of these class-structures are shown below, the classes belonging to each system being treated together (for the systems, see the table in W, 1, below).

System 1

verbal	;	$Md+Mk+Tr+Cg+Rt+\underline{Rt}+Tr+Mk+Pl+Sp+Cd+Pr+Sp+Cy+Cj$
equative	;	Cy Op
equative	;	$\underline{Rt}+Mk+Sp+Cy+Cj$
adjectival	;	\underline{Rt}
nominal	;	$Md+Nm+Tr+Cg+Rt+\underline{Rt}_o+Tr+Nm+Pl+Cr+Mk+Pr+Gn+Cj$ Gy
adjunctival	;	$Md+\underline{Rt}_o+Gy+Mk+Pr+Th+Gn+Mk+Cj$ Cr

System 2 (verbal)

compounded	;	$Mk+Tr+Cg+Rt+\underline{Rt}+Tr+Mk+Pl+Sp+Cd+Pr+Cj$
non-compounded	;	$Md+Mk+Tr+Cg+Rt+\underline{Rt}_o+Tr+Mk+Pl+Sp+Cy+Pr+Sp+Cy+Cj$

System 9 (equative)

personal	;	$\underline{Rt}+Mk+Sp+Cy+Cj$
impersonal	;	$\underline{Rt}+Sp+Cy+Cj$

System 11 (personal equative)

1st/3rd, -person	;	$\underline{Rt}+Mk+Cy+Cj$
2nd-person	;	$\underline{Rt}+Mk+Sp+Cy+Cj$

System 12 (nominal)

c-compatible	;	$Md+Nm+Tr+Cg+Rt+\underline{Rt}_o+Tr+Nm+Pl+Cr+Mk+Pr+Gn+Cj$ Gy
c-incompatible	;	$Md+\underline{Rt}_o+Gy+Pl+Cr+Mk+Pr+Gn+Cj$

System 13 (c-compatible nominal)

substantive	;	$Md+Nm+Tr+Cg+Rt+\underline{Rt}_o+Tr+Nm+Pl+Mk+Pr+Gn+Cj$
pronominal	;	$\underline{Rt}+Pl+Mk+Pr+Cj$
comparative	;	$\underline{Rt}_o+Gy+Pl+Cr+Mk+Pr+Gn+Cj$

System 14 (substantive c-compatible nominal)

possessed	;	$Md+Nm+Tr+Cg+Rt+\underline{Rt}_o+Tr+Nm+Pl+Mk+Pr+Gn+Cj$
non-possessed	;	" " " " " $Mk+Gn+Cj$

System 16 (substantive c-compatible nominal)

definite	;	$Md+Nm+Tr+Cg+Rt+\underline{Rt}_o+Tr+Nm+Pl+Mk+Pr+Gn+Cj$
indefinite	;	Nm " " " " " " " "

System 18 (c-compatible nominal)singular ; $Nd+Nm+Tr+Cg+Rt+Rt_0+Tr+Nm+Cr+Mk+Pr+Gn+Cj$ plural ; " " " " " $Nm+Pl+Cr+Mk+Pr+Gn+Cj$ System 20 (adjunctival)c-compatible ; $Md+Rt+Cr+Mk+Pr+Gn+Cj$ c-requiring ; $Rt+Gn+Cj$ c-incompatible ; $Rt_0+Gv+Mk+Pr+Th+Gn+Mk+Cj$ System 21 (c-compatible adjunctival)word-compatible ; $Rt+Gn+Cj$ group- " ; $Nd+Rt+Pr+Gn+Cj$ comparative ; $Rt+Cr+Mk+Pr+Gn+Cj$ System 23 (group-compatible c-compatible adjunctival)possessed ; $Md+Rt+Pr+Gn+Cj$ non-possessed ; $Nd+Rt+Gn+Cj$

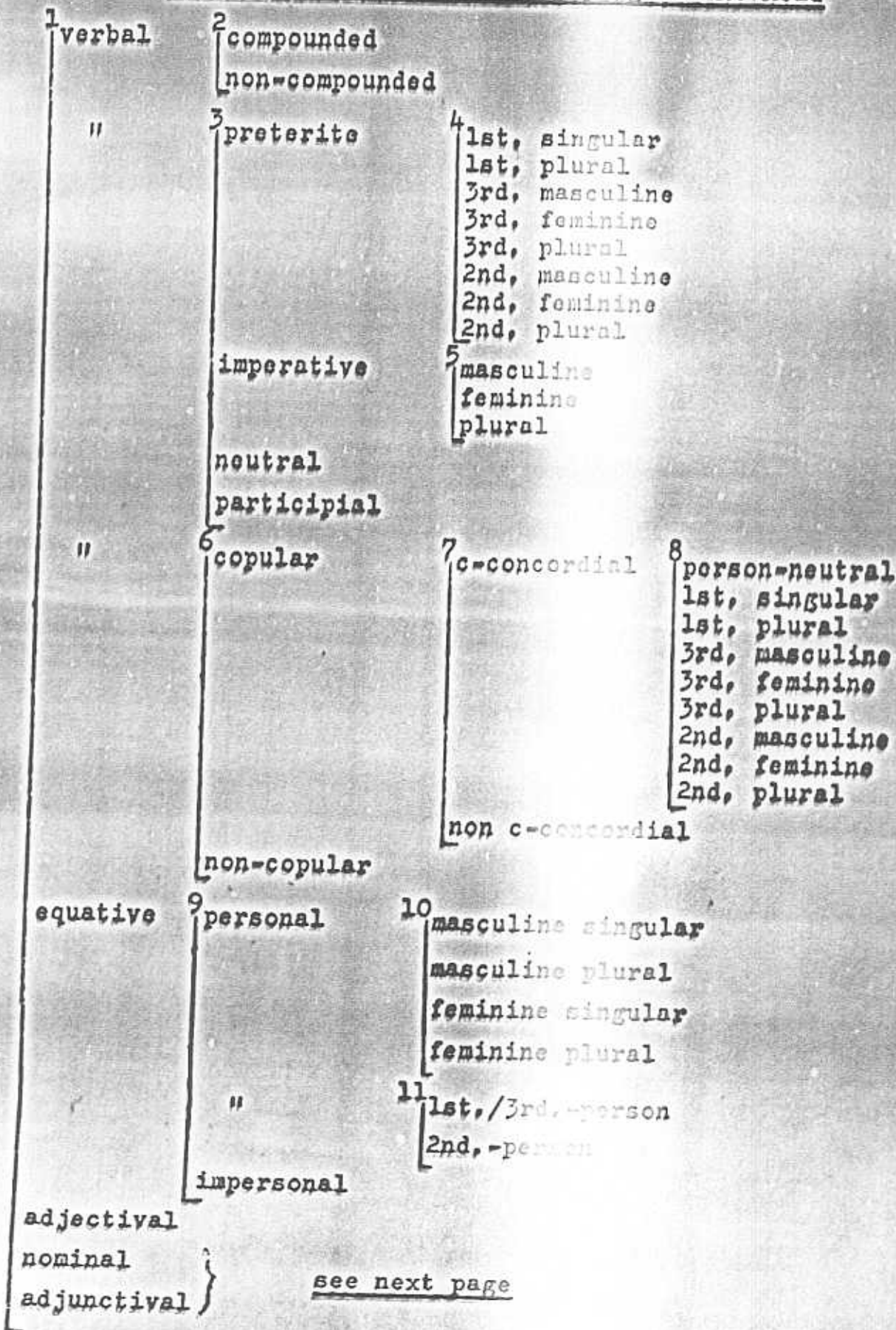
iii,a, It will be seen from the above that successive sub-divisions of a class yield sub-classes whose structures include increasingly few elements, an increasingly high proportion of which are obligatory; compare, for instance, the formula for equative words with that for personal equative words (System 10), and then with that for 1st./3rd-person equative words (System 11)

iii,b, At the end of each of the following sections, further details of the morphological differences between the classes described there will be found. Differences of structure, as described above, will be disregarded, and the differences will therefore involve only the classes of item which can be constituents of the members of the classes concerned.

W.1. Head-words

i, The systems applying to the element Head, and to the sub-divisions of it, are summarised in the tables below.

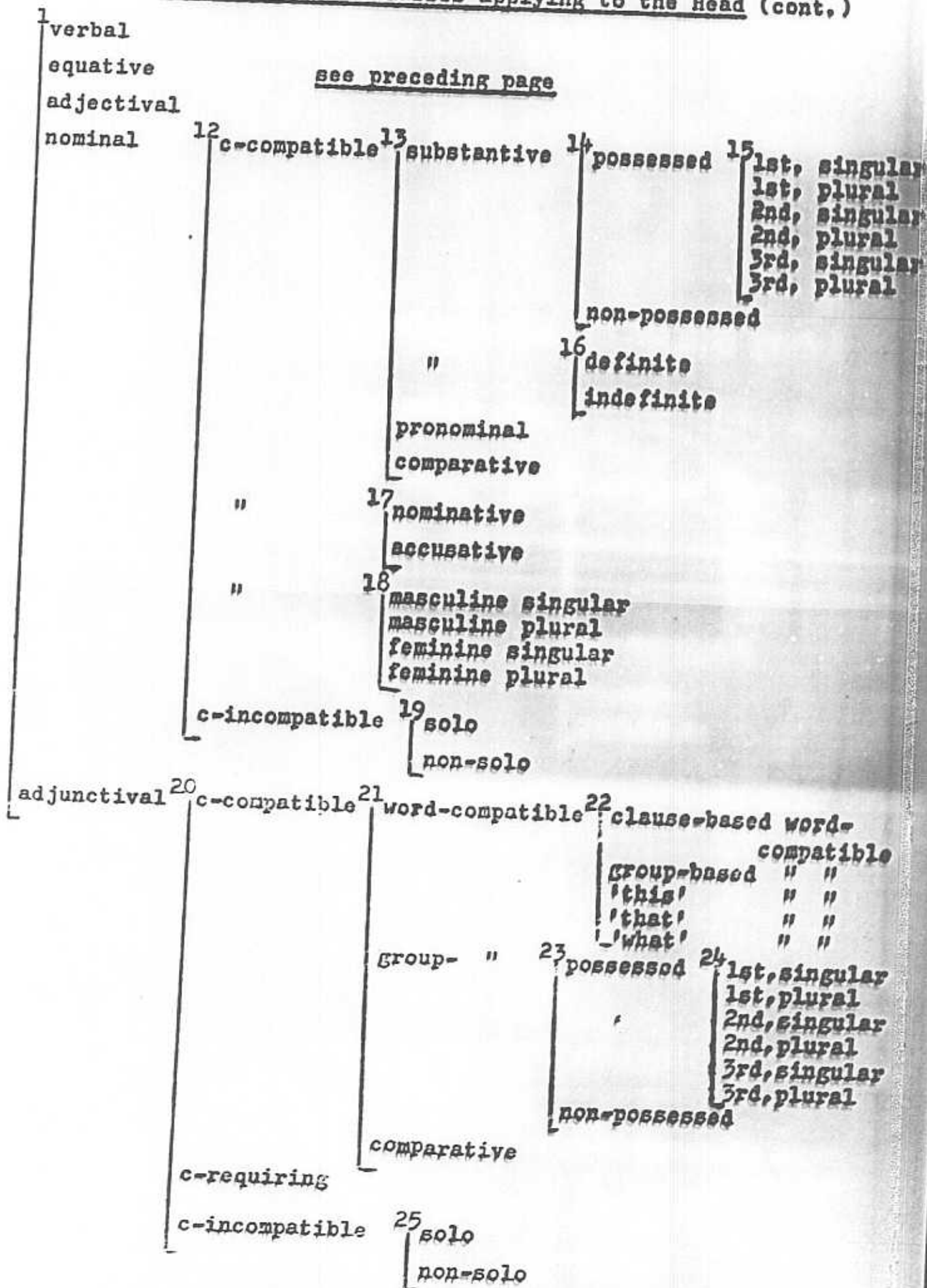
Systems of word-classes applying to the Head



see next page

Systems of word-classes applying to the Head (cont.)

see preceding page



ii. The following table shows the relation between the memberships of the element-free classes (valency- and sequence-classes) and of the element-bound classes belonging to some of the following systems; classes on the same line have the same memberships;

<u>element-bound classes</u>		<u>valency-</u> <u>classes</u>	<u>sequence-</u> <u>classes</u>		
1	verbal	h-only	free		
	equative	"	non-preceding		
	adjectival	"	solo		
	nominal	12	c-compatible	free	
				19	solo
	adjunctival	20	c-compatible	h/c	
				25	non-following
			c-requiring	h-only	free
				c-incompatible	"
	25	solo	"		solo
			non-solo	h/c	free

System W.1.1

- verbal
- equative
- adjectival
- nominal
- adjunctival

i. The five classes of h-word differ in the items to which they can be structurally related when representing the element Head;

a. verbal words are all considered to be compatible with clauses, and some are compatible with groups (W.1.6.);

e.g. with clause: ;diw/ø/e;t/ɪ; ba' / ø / ʌnɪ, = I keep on going to sleep,

with group ; ,ba;ba/!b, k' / ii: / ø / kě, = He isn't a father,

c, f, ,ba' / ø / ʌnɪ, = I lie (recumbant),

,k' / ii: / ø / kě, = He is not,

b. equative words all require groups;

e.g. / ,ba;ba/!b, ø / u, = He is a father,

(* ,ø / u, is not possible.)

c. adjectival words are incompatible with all items;

e.g. ,dabalo, = small

(An adjectival word always represents the Head in the Predicator-group of a clause which represents the element Root;

e.g. ;bar/u/! ,dabalo;/! = he being small;

o;winně:t,dabalo;/v = a very small one,)

d. nominal words may be compatible with a word or group, or may be incompatible with all items (W.1,12,);

e.g. with word: ;,dabalo;/v 'δ:r/ø, = a small boy

with group: ,, 'i/ba:ba/v, 'i/gaw/u/!, = his father's house
(his father, his house)

c.f. , 'δ:r/ø, = a boy

, 'i/gaw/u/!, = his house

e. adjunctival words may be compatible with a word or group (W.1,21,), or may require a word (W.1,20,) or may be incompatible with all items;

e.g. with word : ,, 'i/ba:b/ø,/i/v 'gě:b, = with his father

,, 'i/ba:b/ø,/i/v 'gadām, = beside his father

with group ; ,, 'i/ba:ba/v, 'hā:y, = with his father

c.f. ,gě:b, = with him/her/them/it

,hā:y, = " " " " "

(but * ,gadām, is not possible)

ii.

When an h-word is structurally related to another item, as described above, there may or may not be a concord relation between the two items. The following Complement + Head combinations are so related, in respect of the systems indicated;

a. clause + verbal word (Systems C,3,1-3; W.1,3-5,)

e.g. ;,diw/ø/an/';ba'/ø/ān, = I kept on going to sleep,

,;diw/ø/ya;y/';ba'/ø/yā, = He kept on going to sleep,

b. nominal or 1st/2nd.-person group + verbal word (Systems

G,5,3,4,13;W.1,8,)

e.g. ,,ba:ba/!b, 'k'/ii;/ø/kě, = He isn't a father,

,,ndee/!t, 'k'/it/ø/tě, = She isn't a mother,

c. nominal or 1st/2nd.-person group + equative word (Systems

e.g. ,,ba:ba/!b, ø/u, = He's a father,

G,5,3,4,13;W.1,10,11,)

,,ba:ba/v/;b, ø/a, = They're fathers,

d. comparative group (representing a simple Complement) + nominal word (Systems G.5.5,13;W.17,18.)

e.g. ,;dabalo;/[∨]kaa/[∨],_oba;ba/[∨], = a smaller father

,;dabalo;/[∨]kaa/!t,_ondee/[∨], = a smaller mother

e. group + possessed nominal word (Systems G.5.9,13;W.1.15.)

e.g. ,, 'i/ba;ba/[∨],_o'i/gaw/u/!k, = his father's house

,,bar/o/!k,_o'i/gaw/u/!k, = your house (you, your house)

f. group + possessed adjunctival word (Systems G.5.9,13;W.1.24.)

e.g. ,, 'i/ba;ba/[∨],_oge:b/δ;, = with his father

,,bar/o/!k,_oge:b/δ:k, = with you

g. word + nominal word (Systems W.2.2-4;W.1.16-18.)

e.g. ,;dabalo;/[∨]ba;ba/[∨], = a small father

,;dabalo;/!t,_ondee/[∨], = a small mother

iii.

The following Complement + Head combinations are not

related by concord;

a. adjunctival group + verbal or equative word

e.g. ,, , 'i/ba;b/∅,/i/!t,_ok'/ii;/∅/kě, = He's not like his father

,, , 'i/ba;b/∅,/i/!t,_ok'/it/∅/tě, = She's not like her father

b. group + comparative nominal or adjunctival word

e.g. ,, ;dabalo;/!naa/[∨],_o;nda;i;/[∨]kaa/!b, = one a little better.

c. group + non-possessed adjunctival word

e.g. ,, 'o:/gǎw/∅,_ohó:y, = in the house (the house, in it/them, etc.)

,, 'i/gaw/a/[∨],_ohó:y, = in the houses

d. adjunctival word + word

e.g. ,, yi/'ar/∅/∅,/e/!b,_o'ó:r/∅, = one of the boys (among the boys,
a boy)

,, yi/'ar/∅/∅,/e/!b,_o'ár/∅/∅, = some of the boys

e. nominal word + non-possessed adjunctival word

e.g. ,, 'i/ba:b/∅,/i/[∨]gé:b, = with his father

c.f. ,, 'i/ba:b/∅,/i/[∨]gǎw/∅, = the father's house (as ii.g.)

iv.a.

These five classes of word differ morphologically in the classes of morpheme which can occur as constituents in them (see the five 'containing-classes' of morpheme - M.O.iii.).

iv.b.

Verbal, equative and adjectival words can contain only morphemes, but nominal and adjunctival words can also contain groups or clauses (representing the element Root);

e.g. nominal word containing clause:

o₁ti/;ti/m'ari/˘,tam/ø/a;/!t_o = the one who ate the food
nominal word containing group:

o₁ti/,'i/ba:b/ø,/i/!t_o = the one of his father
adjunctival word containing clause:

o₁;ti/m'ari/˘,tam/ø/a;/!_o = having eaten the food
adjunctival word containing group:

o₁,'i/ba:b/ø,/i/!t_o = like his father

(For groups and clauses representing the Root, see G.6. and C.4.)

System W.1.2

compounded (verbal)
non-compounded

Compounded verbal words can be geminated, while non-compounded verbal words can not; the meaning of such gemination is not known;

e.g. ,šaga/:m/an/'_o šaga/:m/an/'_o, as in :

,;šaga/:m/an/'_o šaga/:m/an/'_o; 'a/ø/d'Ÿ, = I did work.

c.f. ,;šaga/:m/an/'_o; 'a/ø/d'Ÿ, - same meaning?

Compounded verbal words characterise all Complement-clauses (C.3.), in whose Predicator-groups they represent the Head-element, but non-compounded words do not occur in this environment.

Compounded words do, non-compounded words do not, contain a Compounder morpheme.

System W.1.3

preterite (verbal)
imperative
neutral
participial

When a verbal word is structurally related to a clause, both must belong to classes with the same name (c.f. C.3.1.); thus, a preterite clause can be structurally related only to a preterite word, an imperative clause to an imperative word, and so on.

e.g. preterite clause + preterite word:

, : 'o:/gǎw/ø, šu:m/ø/an/'; °ba'/ø/án, = I kept on entering the house.

imperative clause + imperative word:

, ; 'o:/gǎw/ø, šu:m/ø/ø/a/˘; °ba'/ø/'/a:, = Keep on entering the house!

For more details of this construction, see NOTE W.1.

1.

The members of these four classes of verbal word

belong to the following paradigm-sets (see Appendix C.):

preterite - to the preterite set;

imperative - to the imperative set;

participial - to the preterite participial or neutral participial sets;

neutral - to any other set.

System W.1.4

1st. singular (preterite verbal)

1st. plural

3rd. masculine

3rd. feminine

3rd. plural

2nd. masculine

2nd. feminine

2nd. plural

A preterite word structurally related to a clause must be of the same person/gender/number as the latter (see C.3.2.);

e.g. , ; diw/ø/an/'; °ba'/ø/án, = I kept on going to sleep.

, ; diw/ø/na:y/'; °ba'/ø/nǎ, = We " " "

, ; diw/ø/ya:y/'; °ba'/ø/yǎ, = He " " "

, ; diw/ø/ta:y/'; °ba'/ø/tǎ, = She " " "

, ; diw/ø/ya/:n/ĩ; °ba'/ø/ya/˘n, = They kept on going to sleep.

, ; diw/ø/ta:y/ø/'; °ba'/ø/ta/˘, = You (masc) " " "

, ; diw/ø/ta:y/ø/'/'; °ba'/ø/ta/˘y, = You (fem.) " " "

, ; diw/ø/ta/:n/ø/ĩ; °ba'/ø/ta/:n/˘a, = You (plur.) " " "

c.f. neutral clause + neutral word:

, ; diw/ø/e:t/ĩ; °ba'/ø/ánĩ, = I keep on going to sleep.

, ; diw/ø/e:t/ĩ; °ba'/ø/te/:n/˘a, = You (plur.) keep on going to sleep.

- ii. For the morphological differences between these eight classes, see Appendix C.i.b.

System W.1.5 { masculine (imperative verbal)
feminine
plural

Similarly, an imperative word which is structurally related to a clause must be of the same gender/number as the latter (C.3.3.);

e.g. ,;diw/∅/∅/a/∞;_ba'/∅/'/a:, = Keep on falling asleep! (ma.c.)
 ,;diw/∅/∅/i/∞;_ba'/∅/'/i:, = " " " (fe.c.)
 ,;diw/∅/∅/na/∞;_ba'/∅/'/a:na, = " " " (plur.)

The three classes of word are distinguished morphologically by the class of the Second-person morpheme contained by their members.

System W.1.6 { copular (verbal)
non-copular

- i. Copular words are compatible with groups, but non-copular words are not;

e.g. ,ba:ba/!b,_k'/ii:/∅/kě, = He's not a father.

- ii. Two Radicals, both irregular, are known to occur in copular words, viz. /kw- s/ = cause to be, and /'-k-t-y/ = be (see Appendix B.1.ii.b,c.). Verbal words containing other Radicals are considered to be non-copular.

System W.1.7 { Complement-concordial (copular verbal)
non-Complement-concordial

- i. There is person/gender/number concord between a c-concordial word and a structurally related nominal or 1st./2nd.-person group (G.5.1,2.), but not between a non-c-concordial word and such a group;

e.g. c-concordial: ,;nda:i;/!b,_k'/ii:/∅/kě, = He is not good.
 ,;nda:i;/!t,_k'/it/∅/tě, = She is not good.

- non-c-concordial: ,,,nda:i;/'b,_o'i/ø/kwă:s, = He made it
(masc.) good.
...,,,nda:i;/'t,_o'i/ø/kwă:s, = He made it
(fem.) good.

(Groups containing a group and a non-c-concordial verbal word show concord with Object-groups to which they are structurally related - see G.4.19.)

- ii. The two classes of word are morphologically distinguished as follows:
- c-concordial words contain the Radical /'-k-t-y/ = be, and an indicative Marker (i.e. a Marker which is specific as to person/gender/number);
 - non-c-concordial words contain /'-k-t-y/ and a participial Marker (i.e. one which is neutral as to person/gender/number), or the Radical /kw- s/ = cause to be, and any Marker.

System W.1.8

- person-neutral (c-concordial copular verbal)
- 1st. singular
 - 3rd. masculine
 - 3rd. feminine
 - 3rd. plural
 - 2nd. masculine
 - 2nd. feminine
 - 2nd. plural

- i.a. In general, a c-concordial word is compatible only with groups of the same person/gender/number, except that a person-neutral word is compatible with any such class of groups (G.5.4,5,14.);

e.g. 1st.-person singular group + 1st.-person singular word:

,,,diw/ø/anĩ;/:b,_ok'/aa:/ø/kě, = I can't sleep.

1st.-person singular group + person-neutral word:

,,,diw/ø/anĩ;/:b,_oø/'akăy/ø, = being able to sleep

3rd.-person masculine group + 3rd.-person masculine word:

,,,diw/ø/i:nĩ;/:b,_ok'/ii:/ø/kě, = He can't sleep.

3rd.-person masculine group + person-neutral word:

,,,diw/ø/i:nĩ;/:b,_oø/'akăy/ø, = being able to sleep

- i.b. One set of circumstances in which this concord between the group and the word can be broken is described in NOTE G.3.iii.
- ii. For the morphological differences between these eight classes of word, see Appendix C.i.b.

System W.1.9

personal (equative)

impersonal

- i.a. Any group which can be structurally related to a copular verbal word can also be structurally related to an equative word, and vice versa;

- e.g. ,,ba:ba/'b,_ok'/ii:/ø/kǎ, = He is not a father.
 ,,ba:ba/'b,_oø/u, = He is a father.
 ,,inda:i;/'b,_o'i/ø/kǎ, = He became good.
 ,,inda:i;/'b,_oø/u, = He is good.
 ,,,'i/ba:b/ø,/i/ʔt,_oø/'akǎy/ø, = being like his father
 ,,,'i/ba:b/ø,/i/ʔt,_ou, = He is like his father.

(or = She is ..., or = They are ...)

- i.b. The two classes of equative word - personal and impersonal - differ in the classes of group which they require; personal words require nominal, quotation (?) or 1st./2nd.-person groups (G.5.1,2.);

impersonal words require adjunctival groups (G.5.2.).e.g. personal : ,,ba:ba/'b,_oø/u, = He is a father.,,;diw/ø/i:nǎ;/:'b,_oø/u, = He can sleep.impersonal: ,,,'i/ba:b/ø,/i/ʔt,_ou, = He/she/they is/are like his/her/their father.,,;diw/ø/any;/e/'k,_ou, = It is if I sleep.

- ii. Personal and impersonal words contain respectively the personal and the impersonal equative Radical (M.1.13.).

System W.1.10

masculine singular (personal equative)

feminine singular

masculine plural

feminine plural

- i. Unlike impersonal equative words, personal words show gender/number concord with groups to which they are structurally

related;

- e.g. ,,'i/ba:ba/! ,_o∅/u, = He is his father,
 ,,'i/ba:ba/∅/! ,_o∅/a. = They are their fathers.
 ,,'to:/ndee/! ,_o∅/tu, = She is his mother.
 ,,'te:/ndee/∅/! ,_o∅/ta, = They are their mothers.

- ii. These four classes of equative word differ morphologically in the class of the Marker which their members contain - see M.6.8.

System W.1.11 1st./3rd.-person (personal equative)
 2nd.-person

- i. Similarly, the personal equative word shows person concord with the group(s) to which it is structurally related. Unlike verbal words, however, only two person-classes of equative word are distinguished. Both classes can be structurally related to nominal groups, but 1st./3rd.-person words can also be structurally related to 1st.-person groups, and the 2nd.-person class to 2nd.-person groups (G.5.4.);

e.g. ,,'ba:ba/!b ,_o∅/u, = He is a father,

or = I am a father,

,,';diw/∅/anĩ;/:b ,_o∅/u, = I can sleep,

,,'ba:ba/!b ,_o∅/w/a, = You are a father,

,,';diw/∅/tinĩ/∅;/:b ,_o∅/w/a, = You are a father,

- ii. 2nd.-person words do, but 1st./3rd.-person words do not contain a Second-person morpheme.

System W.1.12 c-compatible (nominal)
 c-incompatible

- i.a. Some nominal Head-words are, others are not, compatible with an item representing the Complement;

e.g. c-compatible: ,,'u/!n_owi/'δ:r/∅, = this boy

c.f. ,,'wi/'δ:r/∅, = the boy

c-incompatible: ,,'u/!n, = this one

- i.b. As stated above (W.O.i.), any word which can represent the Complement can also represent the Head, though the converse

is not true, No c-compatible word = e.g. ${}_0\text{wi}'\delta:r/\emptyset$ = the boy - can represent the Complement, but some c-incompatible words e.g. ${}_0'u'/n_0$ = this one = can,

ii, a, C-compatible words thus belong to the h-only valency-class, whereas some c-compatible words belong to the h-only, some to the h/c, valency-class (see W,1,19,),

ii, b, C-compatible words all belong to the free sequence-class, whereas again some c-incompatible words belong to the solo some to the non-following sequence-class = also see W,1,19, Thus, ${}_0\text{wi}'\delta:r/\emptyset_0$ is a free word, but ${}_0'u'/n_0$ is non-following, and therefore $*{}_0\text{wi}'\delta:r/\emptyset_0'u'/n_0$ is not possible,

iii, A nominal word representing the Head can be structural related to the following items (in which case the latter must represent the Complement);

a, nominal c-words (W,2,1,);

e.g. ${}_0'u'/n_0\text{wi}'\delta:r/\emptyset_0$ = this boy

${}_{;}\text{nda};i;/_\gamma_0\delta:r/\emptyset_0$ = a good boy

b, adjunctival c-words (W,2,1,);

e.g. ${}_{,}\text{yi}'\text{ar}/\emptyset/\emptyset_0/e;/\text{b}_0\delta:r/\emptyset_0$ = one of the boys (among the boys, a boy)

c, comparative groups representing a simple Complement element;

e.g. ${}_{,}\text{nda};i;/_\gamma\text{kaa}/_\gamma_0\delta:r/\emptyset_0$ = a better boy

d, nominal groups representing a complex Complement element;

e.g. ${}_{,}\text{'i}/\text{ba};\text{ba}/_\gamma_0\text{'i}/\text{gaw}/u/!_0$ = his father's house (his father, his house)

iv, The classes of word = c-compatible and c-incompatible are morphologically distinguished as follows;

a, a c-compatible word can contain among its constituents;

1, a substantive nominal Radical morpheme;

e.g. ${}_0\text{wi}'\delta:r/\emptyset_0$ = the boy

2, a pronominal (or numeral ?) Radical and a Pronominal;

e.g. ${}_0\text{bar}/u/!k_0$ = you

3, a verbal Radical, or a clause, and a Nominaliser;

e.g. ${}_0\text{ti}/s/\text{dabl}/\delta;y/\emptyset_0$ = the making-him-collect-it

${}_0\text{ti};/\emptyset/'\text{akr}/a;/_\gamma\text{na};y/\emptyset_0$ = the solid food

4, a Comparative morpheme;

e.g. ${}_0\text{'i};/\text{nda};i;/_\gamma\text{kaa}/_\gamma_0$ = the better one

b. a c-incompatible word can contain among its constituents:

1. a deictic or numeral Radical, but no Pronominal;

e.g. $\circ 'u/!n_{\circ} = \text{this one}$

$\circ \text{mah}l\delta/\emptyset/;b_{\circ} = \text{two}$

2. a clause or group, but no Comparative morpheme;

e.g. $\circ ;\text{nda};i;/\vee_{\circ} = \text{a good one}$

System W.1.13

substantive (c-compatible nominal)

pronominal

comparative

These three classes of word are compatible with the following items:

a. substantive words are compatible with;

1. nominal Complement-words;

e.g. $\circ 'u/!n_{\circ} \text{wi}/!d:r/\emptyset, = \text{this boy}$

$\circ ;\text{nda};i;/\vee_{\circ} 'd:r/\emptyset, = \text{a good boy}$

2. comparative nominal groups representing a simple Complement;

e.g. $\circ ;\text{nda};i;/\vee_{\circ} \text{kaa}/\vee_{\circ} 'd:r/\emptyset, = \text{a better boy}$

3. nominal groups representing a complex Complement;

e.g. $\circ ;\text{'i}/\text{ba};\text{ba}/\vee_{\circ} 'i/\text{gaw}/u/!, = \text{his father's house (his father, his house)}$

4. non-'than' adjunctival Complement-words (W.2.7.);

e.g. $\circ ;\text{yi}/!ar/\emptyset/\emptyset, /e/!b_{\circ} 'd:r/\emptyset, = \text{one of the boys (among the boys, a boy)}$

b. pronominal words are compatible with 'this' or 'that' Complement-words (W.2.6.);

e.g. $\circ 'u/!n_{\circ} \text{bar}/u/!k, = \text{bar}/u/!k, = \text{you}$

$\circ 'u/!n_{\circ} 'ane/\vee, = 'ane/\vee, = \text{I}$

$\circ 'u/!n_{\circ} \text{bar}/u/!, = \text{this one}$

$\circ \text{be};n/\emptyset_{\circ} \text{bar}/u/!, = \text{that one}$

(c.f. $\circ \text{bar}/u/!, = \text{he}$)

c. comparative words are compatible with;

1. comparative-compatible groups (G.5.13.);

e.g. $\circ ;\text{dabalo};/!_{\circ} \text{naa}/\vee, \circ ;\text{nda};i;/\vee_{\circ} \text{kaa}/\vee, = \text{one a little better}$

(c.f. $\circ ;\text{dabalo};/!_{\circ} \text{naa}/\vee, = \text{a small thing}$)

2. 'than' adjunctival words (W.2.7.);

e.g. ,, 'i/ba:b/ø, /i/! /ka_o;nda:i; /~kaa/√, = one better than
his father

ii. The three classes of word are morphologically distinguished as follows:

a. substantive words contain among their constituents:

1. substantive Radical morphemes (except /'anč/ = I, /hinŋn/ = we);

e.g. _owi/'ó:r/ø = the boy

2. Nominalisers, with verbal Radicals or with clauses;

e.g. _oti/s/dabl/ó;y/ø = the making-him-collect-it

b. pronominal words contain among their constituents:

1. pronominal or numeral Radicals;

e.g. _obar/u/!k_o = you

_ongaa:l/u/! = one of them

2. the substantive Radicals /'anč/ = I, /hinŋn/ = we;

e.g. _o'anč;/b_o = me

c. comparative words contain the Comparative morpheme;

e.g. _o;nda:i; /~kaa/√_o = a better one

System W.1.14 possessed (substantive, c-compatible nominal)
non-possessed

i.a. Possessed words are compatible with nominal groups representing a complex Complement element; non-possessed words are incompatible with such groups;

e.g. ,, 'i/ba:ba/√, _o'i/gaw/u/!, = his father's house (his father,
his house)

i.b. Both possessed and non-possessed words are compatible with the other items listed in W.1.13, i.a. above;

e.g. ,, ;nda:i; /~_o'ó:r/u/!, = a good son of his

,, ;nda:i; /~_o'ó:r/ø, = a good son

i.c. One exception is known to the above - a possessed word is incompatible with group-based Complement-words (W.2.6.);

e.g. ,, 'i/ba:b/ø, /i/√_ogăw/ø, = his father's house

but not *, ,, 'i/ba:b/ø, /i/√_ogaw/u/!, = his father's, his house.

ii. Possessed words do, non-possessed words do not, contain a Pronominal morpheme,

System W.1.15

- 1st. singular (possessed substantive c-compatible
- 1st. plural (nominal)
- 2nd. singular
- 2nd. plural
- 3rd. singular
- 3rd. plural

i. If a possessed word is structurally related to a group representing a complex Complement, both must be of the same person/number (see G.5.12,15.);

e.g. ,,'aně/:b,_o'i/gaw/u/√, = my house (me, my house)
 ,,'i/ba:ba/√,_o'i/gaw/u/!, = his father's house (his father, his house).

ii. The six classes of possessed word are morphologically distinguished by the class of the Pronominal morpheme which their members contain.

System W.1.16

- definite (substantive c-compatible nominal)
- indefinite

i.a. Indefinite, but not definite, words are compatible with indefinite Complement-words (W.2.4.), and also with comparative groups representing a simple Complement;

e.g. ,;nda:i;/√_o'δ:r/∅, = a good boy
 ,;nda:i;/√_o'kaa/√,_o'δ:r/∅, = a better boy
 (but not *,;nda:i;/√_o'wi/'δ:r/∅, or *,;nda:i;/√_o'kaa/√,_o'wi/'δ:r/∅,
 = the good (better) boy)

i.b. There are some definite Complement-words (see W.2.4,i.) with which definite, but not indefinite, words are compatible;

e.g. , 'u/!n_o'wi/'δ:r/∅, = this boy
 (but not *, 'u/!n_o'δ:r/∅,)

ii. Definite and indefinite Head-words are morphologically distinguished as follows:

a. definite words contain among their constituents:

1. the Modifier;

e.g. _o'wi/'δ:r/∅_o = the boy

2. a pronominal (or numeral ?) Radical morpheme;

e.g. _o'bar/u/!k_o = you

b. indefinite words contain neither of the above among their constituents;

e.g. $'\delta:r/\emptyset_0 = \text{a boy}$

System W.1.17

nominative (c-compatible nominal)
accusative

i. t_0 A nominal Head-word which is structurally related to either a nominal Complement-word, or t_0 a comparative group representing a simple Complement, must be of the same 'case' as the latter;

e.g. $'u/!n_0'u:/t\acute{a}k/\emptyset,$ = this man (nominative)

$'o/!n_0'o:/t\acute{a}k/\emptyset,$ = " " (accusative)

$;;nda:i;/\checkmark kaa/:u/\checkmark t\acute{a}k/\emptyset,$ = a man better than me (nomin.)

$;;nda:i;/\checkmark kaa/:o/\checkmark t\acute{a}k/\emptyset,$ = " " " (accus.)

ii. Nominative and accusative words contain nominative and accusative Marker morphemes respectively.

System W.1.18

masculine singular (c-compatible nominal)
masculine plural
feminine singular
feminine plural

i. Similarly, there is gender/number concord between such structurally related items as described above;

e.g. $;;dabalo;/\checkmark g\check{a}w/\emptyset,$ = a small house (masculine)

$;;dabalo;/:a/\checkmark gaw/a/\checkmark,$ = small houses

$;;dabalo;/!t_0 h\acute{u}:s/\emptyset,$ = a small knife (feminine)

$;;dabalo;/:\check{a}/:t_0 hu:s/a/\checkmark,$ = small knives

ii. Plural words do, singular words do not, contain the Pluraliser morpheme. Masculine and feminine words contain respectively masculine and feminine Marker morphemes.

System W.1.19

solo (c-incompatible nominal)
non-solo

i. C-incompatible nominal Head-words fall into two classes according to whether or not they can represent the element Complement. Those which cannot, are referred to as 'solo', and

those which can, as 'non-solo'. Thus $\circ'u/!n_{\circ}$ = this one, is 'non-solo', since it can represent the Complement, as in $\circ'u/!n_{\circ}wi/'\delta:r/\emptyset$, = this boy; but $\circ'i/;nda:i;/\checkmark_{\circ}$ = the good one, is 'solo', since it can represent only the Head. I.e., solo words belong to the h-only valency-class, and non-solo words belong to the h/c valency-class.

ii. Solo words also belong to the 'solo' sequence-class, since they cannot be structurally related to other items. Non-solo words belong to the 'non-following' sequence-class, since they can be structurally related to other items, but can never follow such items; thus, $\circ,wi/'\delta:r/\emptyset_{\circ}u/!n$, is not possible.

iii. The two classes of word are morphologically distinguished as follows:

a. solo words contain among their constituents:

1. the Modifier, and clauses or 'groups';

e.g. $\circ'i/;nda:i;/\checkmark_{\circ}$ = the good one

$\circ,wi/,'i/ba:b/\emptyset,/i/\checkmark_{\circ}$ = the one of his father

2. non-relative clauses (C.4.1.);

e.g. $\circ;'ane/\checkmark,diw/\emptyset/an;/e/\checkmark;ib_{\circ}$ = that I slept

3. non-definite Subject-relative clauses (C.4.7.);

e.g. $\circ;diw/\emptyset/an\checkmark;/:b_{\circ}$ = able to sleep (1st.-person singular)

b. non-solo words contain among their constituents:

1. deictic or numeral Radicals;

e.g. $\circ'u/!n_{\circ}$ = this one

$\circ,mahl\delta/\emptyset/:b_{\circ}$ = two

2. groups, but not the Modifier;

e.g. $\circ,'i/ba:b/\emptyset,/i/\checkmark_{\circ}$ = one of his father

3. Object- or Adjunct-relative clauses (C.4.1.), but not the

Modifier; e.g. $\circ;'ane/\checkmark,rih/\emptyset/an;/e/\checkmark_{\circ}$ = one whom I saw.

4. Subject-relative clauses (except those in a.3. above), but not the Modifier; e.g. $\circ;t\delta:y,tam/\emptyset/i:ni;/\checkmark_{\circ}$ = one who eats here.

System W.1.20

- c-compatible (adjunctival)
- c-requiring
- c-incompatible

i. Some adjunctival Head-words are compatible with, some are incompatible with, and others require, other items; when structurally related to the former, the latter always represent the Complement, therefore the former are referred to as 'Complement-compatible', 'Complement-incompatible' and 'Complement-requiring' respectively.

e.g. c-compatible: ,, 'i/ba:b/ø,/i/°gé:b, = with his father

c.f. ,gé:b, = with him/her/them/it

c-requiring : ,, 'i/ba:b/ø,/i/°gadām, = beside his father

(but not * ,gadām,)

c-incompatible: , 'afǎ, = last night

ii. C-compatible and c-requiring words can be structurally related to the following items:

a. c-compatible words can be structurally related to:

1. nominal groups;

e.g. ,, 'i/ba:ba/°há:y, = with his father

2. nominal words;

e.g. ,, 'i/ba:b/ø,/i/°gé:b, = with his father

3. adjunctival words;

e.g. ,, 'i/ba:b/ø,/i/!/ka;nda:i;/°kaa/Ÿb, = better (adverbial)
than his father

b. c-requiring words must be structurally related to nominal words;

e.g. ,, 'i/ba:b/ø,/i/°gadām, = beside his father

iii. Some c-incompatible words can be geminated;

e.g. ,fajǐl_o fajǐl, = every morning

c.f. ,fajǐl, = in the morning

v. The three classes of word are morphologically distinguished as follows:

a. c-compatible words contain among their constituents:

1. 'word-compatible' or 'group-compatible' adjunctival Radicals (H.1, 21)

e.g. °há:y_o = with him/her/them/it

°gé:b_o = " " " "

2. the Modifier and 'word/group-compatible' adjunctival Radicals;
 e.g. \circ 'i/gadäm \circ = beside him/her/them/it
3. the Comparative morpheme;
 e.g. \circ ;nda:i;/~kaa/ʔb \circ = better (adverbial)
- b. c-requiring words contain 'word/group-compatible' adjunctival Radicals, but not the Modifier;
 e.g. \circ gadäm \circ = with (as in ,, 'i/ba:b/ø,/i/~ \circ gadäm, = with his father)
- c. c-incompatible words contain among their constituents:
1. clauses or groups, but not the Comparative morpheme;
 e.g. \circ ;'anc/~,diw/ø/any;/e/!k \circ = if I sleep
 \circ ;'i/ba:b/ø,/i/! \circ = from his father
 2. 'solo' adjunctival Radicals (M.1.19.);
 e.g. \circ 'afä \circ = last night

System W.1.21

- word-compatible (c-compatible adjunctival)
- group-compatible
- comparative

- i. These three classes of word are compatible with words, with groups, and with words and/or groups, respectively;
 e.g. word-compatible: ,, 'i/ba:b/ø,/i/~ \circ gé:b, = with his father
 group- " : ,, 'i/ba:ba/~, \circ há:y, = " " "
 comparative : ,, 'i/ba:b/ø,/i/!/ka \circ ;dabalo;/! \circ naa/~, \circ ;nda:i;/~kaa/ʔb, = a little better than his father

- ii. For the classes of word and group with which these words are compatible, see W.1.22-24. below, and W.1.13. above (the same words and groups are possible with a comparative adjunctival as with a comparative nominal word).

- iii. The three classes of word are morphologically distinguished as follows:

- a. word-compatible words must contain 'word-compatible' adjunctival Radicals (M.1.21.);
 e.g. \circ gé:b \circ = with him/her/them/it
- b. group-compatible words contain among their constituents:

1. 'group-compatible' adjunctival Radicals;
e.g. há:y_0 = with him/etc.
2. 'word/group-compatible' adjunctival Radicals and the Modifier;
e.g. 'i/gadám_0 = beside him/etc.
- c. comparative words must contain the Comparative morpheme;
e.g. $\text{;nda:i;/}^\vee\text{kaa/}^\vee\text{b}_0$ = better

System W.1.22

clause-based word-compatible (word-compatible,			
group-based	"	"	c-compatible adjunctival)
'this'	"	"	
'that'	"	"	
'what'	"	"	

i.a. Each of these five classes of Head-word can be structurally related to a different class of Complement-word (see W.2.6.).

i.b. Such Complement-words can also be structurally related to nominal Head-words;

e.g. clause-based word + adjunctival Head-word:

$\text{;}'\text{ane/}^\vee\text{,diw/}\emptyset\text{/any;/e/}^\vee\text{b}_0\text{'o:/k}\tilde{\text{I}}\text{I,} = \text{until I sleep}$

(c.f. $\text{;}'\text{ane/}^\vee\text{,diw/}\emptyset\text{/any;/e/}^\vee\text{t}_0\text{to:/naa/}^\vee\text{,} = \text{the fact that I sleep. The Complement-word here is feminine, while that in the above is masculine - the latter cannot occur with a nominal word, as here.)$

group-based word + adjunctival Head-word:

$\text{;}'\text{i/ba:b/}\emptyset\text{,/i/}^\vee\text{g}\acute{\text{e}}\text{:b,} = \text{with his father}$

(c.f. $\text{;}'\text{i/ba:b/}\emptyset\text{,/i/}^\vee\text{g}\check{\text{a}}\text{w/}\emptyset\text{,} = \text{his father's house })$

'this' word + adjunctival Head-word:

$\text{'o/}^\vee\text{n}_0\text{ta'}\check{\text{a}}, = \text{now}$

(c.f. $\text{'o/}^\vee\text{n}_0\text{wi/'}\acute{\text{o}}\text{:r/}\emptyset\text{,} = \text{this boy })$

'that' word + adjunctival Head-word:

$\text{,b}\acute{\text{e}}\text{:n/}\emptyset\text{t}\acute{\text{o}}\text{:y,} = \text{there (but ,t}\acute{\text{o}}\text{:y,} = \text{here)}$

(c.f. $\text{,b}\acute{\text{e}}\text{:n/}\emptyset\text{wi/'}\acute{\text{o}}\text{:r/}\emptyset\text{,} = \text{that boy })$

'what' word + adjunctival Head-word:

$\text{,naa:/}^\vee\text{n}_0\text{t}\acute{\text{a}}\text{y,} = \text{whence}$

(c.f. $\text{,naa:/}^\vee\text{'}\acute{\text{o}}\text{:r/}\emptyset\text{,} = \text{which boy })$

i.c. It will be seen that in every case the word to which

the adjunctival word is structurally related is masculine singular, accusative.

- ii. These five classes of adjunctival word are morphologically distinguished by the class of the Radicals which their members contain - see M.1.22.

System W.1.23

- possessed (group-compatible, c-compatible adjunctival)
- non-possessed

- i. A possessed adjunctival word (like a possessed nominal word -see W.1.14.) must be of the same person/number as the groups to which it is structurally related. Such a restriction does not apply to non-possessed groups;

e.g. possessed: ,, 'o:/tá:k/ø, °ge;b/ó:, = with the man (the man, with him)

,, 'e:/ndaa/ø/°v, °ge:b/ðhina, = with the men (the men, with them)

non-possessed: ,, 'o:/tá:k/ø, °dahá:y, = for the man (the man, for him/them/etc.)

,, 'e:/ndaa/ø/°v, °dahá:y, = for the men

- i. The two classes of word are morphologically distinguished by the presence or absence of a Pronominal, as was the case with possessed and non-possessed nominal words above. If, however, a possessed adjunctival word contains the Radical /há:y/ = with him/them/etc., the Pronominal which must also be a constituent of the adjunctival word is contained sequentially by the verbal word which is indirectly contained by the same clause as the adjunctival word. (For more details, see NOTE W.2.)

System W.1.24

- 1st. singular (possessed group-compatible c-compatible adjunctival)
- 1st. plural
- 2nd. singular
- 2nd. plural
- 3rd. singular
- 3rd. plural

There is person/number concord between a possessed

adjunctival word and structurally related groups, in the same way as between possessed nominal words and such groups. Some adjunctival Radicals, however, are compatible with 1st.- and 2nd.-person Pronominals, but not with 3rd.-person Pronominals (W.1.24.); therefore words containing such Radicals do not belong to the classes 3rd. singular and 3rd. plural.

ii. The six classes of adjunctival word are morphologically distinguished by the classes of Pronominal which their members contain.

System W.1.25 { solo (c-incompatible adjunctival)
non-solo

i. As with c-incompatible nominal words, c-incompatible adjunctival words fall into two classes, according to the valency-class to which they belong. 'Solo' words belong to the h-only valency-class, while 'non-solo' words belong to the h/c valency-class (see W.1.19. for the parallel system of nominal words).

ii. Solo adjunctival words belong to the 'solo' sequence-class, but unlike non-solo nominal words, non-solo adjunctival words belong to the 'free' sequence-class. Thus, both the following groups are possible:

., 'i/ba:b/∅, /i/!/ka_o; nda:i; /~kaa/ʔb, = better than his father
; nda:i; /~kaa/ʔb, 'i/ba:b/∅, /i/!/ka, = " " "
(, 'i/ba:b/∅, /i/!/ka_o = than his father, is a non-solo adjunctival word.)

iii. The morphological differences between the two classes of adjunctival word are as follows:

a. solo words contain among their constituents:

1. clauses;

e.g. _o; diw/∅/any; /e/!k_o = if I sleep

2. groups, the 'in' Marker morpheme, and the Than/on morpheme;

e.g. _o, 'i/ba:b/∅, /i/!/da_o = to his father

3. 'solo' adjunctival Radical morphemes;

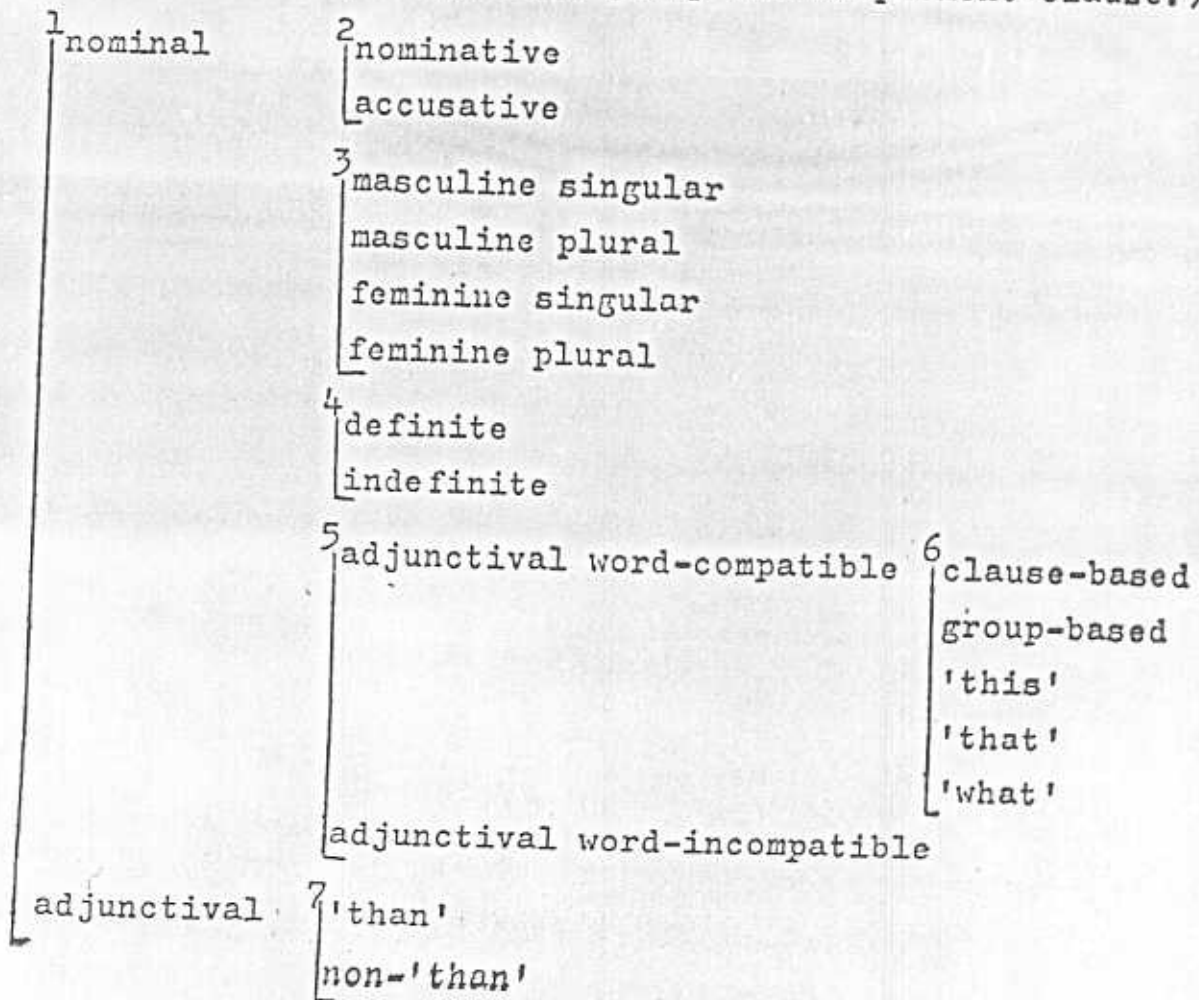
e.g. _o 'afă_o = last night

b. non-solo words contain among their constituents:

1. groups, but not the Than/on morpheme;
e.g. $\circ, yi/'ar/\emptyset/\emptyset, /e/!b_{\circ} =$ among the boys
2. groups, the 'by' Marker morpheme, and the Than/on morpheme;
e.g. $\circ, 'i/ba:b/\emptyset, /i/!ka_{\circ} =$ than his father

W.2. Complement-words

- i. The systems of classes distinguished within the class 'Complement-word' are summarised below. (The first of these systems applies, not to the element 'Complement' itself, but to a second element within this primary element; the system which applies to the primary element Complement includes the three classes: Complement-word, Complement-group and Complement-clause.)



- ii. All the members of the Complement-word class are also members of the Head-word class. The systems of classes into which the latter are divided are not, however, always parallel with those into which the former are divided.

- iii.a. If a word represents the Complement, it must always

be structurally related to a nominal or adjunctival Head-word.

iii.b. At least some nominal words represent a complex Complement element;

e.g. , 'ayi/ø/∞ 'asagwĩr/ø/ø hawl/a/∞, = five or six years

c.f. , 'ayi/ø/∞ hawl/a/∞, = five years

, 'asagwĩr/ø/ø hawl/a/∞, = six years

(In the first group, the words 'ayi/ø/∞ = five, and

'asagwĩr/ø/ø = six, are listed.)

System W.2.1

nominal

adjunctival

i. These two classes of c-word require the following items:

a. nominal words require:

1. substantive h-words;

e.g. , , 'i/ba:b/ø, /i/∞ gǎw/ø, = his father's house

, 'o/!n_o wi/'ó:r/ø, = this boy

2. pronominal h-words;

e.g. , 'o/!n_o bar/o/!k, = you

3. word-compatible adjunctival h-words;

e.g. , , 'i/ba:b/ø, /i/∞ gé:b, = with his father

, 'o/!n_o ta'ǎ, = now

4. c-requiring adjunctival h-words;

e.g. , , 'i/ba:b/ø, /i/∞ gadǎm, = beside his father

b. adjunctival words require:

1. substantive h-words;

e.g. , , yi/'ar/ø/ø, /e/!b_o 'ó:r/ø, = one of the boys (among
the boys, a boy)

2. comparative h-words (nominal or adjunctival);

e.g. , , 'i/ba:b/ø, /i/!/ka_o ;nda:i; /∞ kaa/∞, = one better than
his father

ii.a. The morphemes which are constituents of nominal and adjunctival words belong respectively to the 'nominal' and 'adjunctival' containing-item classes.

ii.b. The Root is always represented in adjunctival c-words by groups, but in nominal words it can be represented by morphemes groups or clauses.

System W.2.2 | nominative (nominal)
| accusative

Nominative and accusative c-words require nominative and accusative h-words respectively (see W.1.17.). They are morphologically distinguished by the class of the Marker morphemes contained by their members.

System W.2.3 | masculine singular (nominal)
| masculine plural
| feminine singular
| feminine plural

Similarly there is gender/number concord between nominal c-words and the nominal h-words to which they are structurally related (see W.1.18.). Masculine singular c-words, however, require either masculine singular nominal h-words, or adjunctival words - see W.1.22.i.c. (When structurally related to adjunctival words, such words must also be accusative.) The four classes of c-word are morphologically distinguished in the same way as the parallel classes of h-word (W.1.18.ii.).

System W.2.4 | definite (nominal)
| indefinite

i. Indefinite c-words require indefinite h-words (W.1.16.); definite c-words require definite or, in some cases, indefinite, h-words. (It is not known which definite c-words can, and which can not, be structurally related to both indefinite and definite h-words; some, such as 'u/!n_0 = this, certainly can not be structurally related to indefinite h-words.)

e.g. indefinite c-word + indefinite h-word:

,;nda:i;/~ 'o:r/\emptyset , = a good boy

definite c-word + definite h-word:

, 'u/!n wi/!o:r/\emptyset , = this boy

,; 'e:/tak/ \emptyset , 'i/ \emptyset /dir; \emptyset , 'u:/tak/ \emptyset , = the man who killed the man (taken from the recorded text)

definite c-word + indefinite h-word:

,; 'o:/ták/ø, 'i/ø/dír; /ø_o ták/ø, = a man who killed the man

ii.

Definite and indefinite c-words are morphologically

distinguished as follows:

a. definite words contain among their constituents:

1. the deictic Radicals /!n/ = this, /bé:n/ = that;

e.g. , 'u/!n_o 'u:/gǎw/ø, = this house

, bé:n/ø_o 'u:/gǎw/ø, = that house

2. proper groups (G.6.6.);

e.g. , , 'asma:n/ø, /i/!b_o 'o:/gǎw/ø, = Osman's house

(This group is accusative; the parallel nominative group:

* , , 'asma:n/ø, /i/!_o 'u:/gǎw/ø, is impossible.)

3. Adjunct-relative (or Object-relative ?) clauses;

e.g. , ; yi/'ár/ø/ø, hawa/ø/:i/:n; /e/!b_o 'o:/mhi:n/ø, = the place
where the children used to play (taken from the recorded
text)

4. non-relative clauses;

e.g. , ; 'ane/! , diw/ø/any; /e/!t_o to:/naa/! , = the fact that I am
sleeping

(c.f. , ; 'ane/! , diw/ø/any; /e/!_o naa/! , = same meaning, but
with indefinite h-word)

5. person-specific Subject-relative clauses (C.4.6.);

e.g. , ; 'o:/ták/ø, 'i/ø/dír; /ø_o 'u:/ták/ø, = the man who killed
the man

b. indefinite words contain among their constituents:

1. the deictic Radicals /naa:/ = what, /na:ka/ = how much;

e.g. , naa:/! ták/ø, = which man

2. common groups (G.6.6.);

e.g. , , 'i/ba:b/ø, /i/!_o gǎw/ø, = his father's house

3. person-neutral Subject-relative clauses;

e.g. , ; nda:i; /! ták/ø, = a good man

System W.2.5

adjunctival word-compatible (nominal)

adjunctival word-incompatible

Some nominal c-words can, others cannot, be structurally

related to adjunctival h-words. All those which can be thus related can also be structurally related to nominal h-words;

e.g. , 'o/!n_ota'ǎ, = now (adjunctival h-word)

c.f. , 'o/!n_owi/'ó:r/ø, = this boy (nominal h-word)

ii. The two classes are morphologically distinguished as follows:

a. adjunctival word-compatible words contain among their constituents

1. non-relative clauses;

e.g. , ;'ane/∞, diw/ø/any; /e/∞ gǐl, = until I sleep

2. groups, the masculine accusative Marker morpheme, and not the Pluraliser;

e.g. , , 'i/ba:b/ø, /i/∞ gé:b, = with his father

3. deictic Radical morphemes, the masculine accusative Marker, and not the Pluraliser;

e.g. , 'o/!n_ota'ǎ, = now

, naa;/∞ nǎdy, = whence

b. adjunctival word-incompatible words contain among their constituents:

1. Subject-, Object- or Adjunct-relative clauses;

e.g. , ;nda:i;/∞ ták/ø, = a good man

, ;'ane/∞, rih/ø/an; /e/∞ ták/ø, = a man whom I saw

2. all Markers except the masculine accusative;

e.g. , 'u/!n_o'u:/gǎw/ø, = this house

3. the Pluraliser morpheme;

e.g. , 'e/!n/ø 'i/gaw/a/∞, = these houses

System W.2.6

clause-based (adjunctival word-compatible nominal)

group-based

'this'

'that'

'what'

i.a. Each of these five classes of nominal c-word can be structurally related to one of the five parallel classes of adjunctival h-word described in W.1.22. above (q.v. for examples)

i.b. The class of c-word referred to as 'group-based' can also be structurally related to c-requiring adjunctival h-words

(W.1.20.);

e.g. ,,'i/bā:b/∅,/i/∞ gadām, = beside his father

- ii. The Root is represented in members of these five class by clauses, groups, /!n/ = this, /bé:n/ = that, and /naa:/ = which respectively.

System W.2.7 'than' (adjunctival)
non-'than'

- i. 'Than' c-words require comparative h-words, but non-'than' c-words require substantive h-words;
e.g. 'than': ,,'i/bā:b/∅,/i/!ka_o;nda:i;/∞kaa/∞, = one better than his father
non-'than': ,,yi/'ar/∅/∅,/e/!b_o'δ:r/∅, = one of the boys (among the boys, a boy)
- ii. 'Than' words contain the Than/on morpheme, but non-'than' words do not.

- - - - -
NOTES

NOTE W.1.

- i.a. Most clauses which can represent the Complement can also represent the Root (C.O.ii.), but the meaning of a group consisting of a clause and a word is not necessarily the sum of their respective meanings in other environments. For instance, the clause ;ti/m'ari/∞,tam/∅/an/∅; (in the adjunctival word ;ti/m'ari/∞,tam/∅/an/∅;/'t_o) means 'I ate the food', and the word ba'/∅/án_o, when the only constituent of its group, means 'I lay down'; therefore the clause ;;ti/m'ari/∞,tam/∅/an/∅;/'t,ba'/∅/án; means 'I ate the food and then I lay down.' On the other hand, the group consisting of the clause and the word viz. ,;ti/m'ari/∞,tam/∅/an/∞;ba'/∅/án, - means 'I kept on eating the food.'
- i.b. Such clause + word combinations are thus rather similar to English compound-words, in that the meaning of a given combination can not necessarily be deduced from the

meanings of its constituents in other environments. They also resemble English compounds in that the question of which combinations are, and which are not, possible requires lexical, rather than grammatical, treatment - there are a lot of 'border-line' combinations, which were accepted by some informants, but not by others.

ii.

It was found that certain h-words - such as $\text{ba}'/\emptyset/\text{an}$, above - are compatible with any clause of the appropriate grammatical class, while others were compatible with some such clauses, but not with others. Only words containing the Radical $/\text{ba}'/$ = lie, were accepted in all the combinations tested, but those containing $/\text{d-}'\text{-y}/$ = do, make; $/\text{h-y-w}/$ = give; and $/\text{yi'e}/$ = come, were accepted in most combinations. The table below shows some combinations of single-word clauses and h-words which were tested, and their acceptance or non-acceptance by one informant. (The words are represented in the table by their Radicals; thus, the table shows that the combination $/\text{k-r-}'\text{f}/ + / \text{ba}'/$ is possible, which means that a clause consisting of a single Predicator-group, consisting of a single verbal word, containing $/\text{k-r-}'\text{f}/$, can be structurally related to a verbal word containing $/\text{ba}'/$;
e.g. $;\text{'a}/\emptyset/\text{krif}'$; $\text{ba}'/\emptyset/\text{an}$, = I kept on meeting him.

<u>Radical in</u> <u>clause</u>	<u>Radical in h-word:</u>					
	$/\text{ba}'/$ = lie	$/\text{d-}'\text{-y}/$ = do	$/\text{yi'e}/$ = come	$/\text{t}\check{\text{x}}\text{m}/$ = eat	$/\text{'-}\check{\text{x}}/$ = leave	$/\text{s-}'\text{-y}/$ = sit
$/\text{k-r-}'\text{f}/$ = meet	+	+	+	+	0	+
$/\text{'a}\check{\text{s}}\check{\text{i}}\text{g}/$ = hurry	+	+	+	+	+	+
$/\text{hasam}/$ = pass	+	+	+	0	0	+
$/\text{'am}/$ = finish	+	0	0	0	0	0
$/\text{f-d- n}/$ = go away	+	+	0	+	0	+

ii.

Two further factors would have to be taken into account in studying the possible combinations of clauses and h-words: the other items contained by the clause, in addition to the verbal word containing the Radical quoted above; and the environment of the group consisting of the clause and h-word. For instance, it

was found that some combinations were possible, but only when the group thus constituted represented the Predicator in a rankshifted clause; for instance, the combination
 ;'aššig/ø/an/';_o'a/ø/d'ĭ, = I did hurry, was accepted in the environment
 ;'aššig/ø/an/';_o'a/ø/d'i;/ə/˘ho:b_o = when I did hurry, but not in an unshifted clause.

NOTE W.2.

- i. When a Pronominal morpheme is structurally related to the adjunctival Radical /há:y/ = with him/her/them/it, the two morphemes are never contained sequentially by the same word. The Pronominal is always contained by the verbal word representing the Head in the Predicator-group which is structurally related to the group in which the word containing /há:y/ represents the Head. Thus, in the clause: ;há:y,gi:g/ø/yă(/heš:b); = He took me away. (He went away with me.), there are two words:
 ;há:y...../heš:b_o = with me, and ;gi:g/ø/yă_o = he went away. The Pronominal /heš:b/ = me, must be structurally related to the Radical /há:y/, not to the rest of the word in which it is sequentially contained, since /heš:b/ is not possible in the latter except with /há:y/; i.e. the clause *;gi:g/ø/yă/heš:b; is not possible.
- ii. When not thus structurally related to a Pronominal, /há:y/ represents the Root in a group-compatible adjunctival Head-word; thus, compare with the above the clause:
 ;,'o:/tāk/ø, há:y,gi:g/ø/yă; = He took the man away. (He went away with the man.) Again, the clause *;'o:/tāk/ø,gi:g/ø/yă; is not possible.
- iii. Such constructions are very frequent;
 e.g. ;,'o:/tāk/ø, há:y,gi:g/ø/yă; = He took the man away. (He went away with the man.)
 ;,'o:/tāk/ø, há:y,'e/ø/:yă; = He brought the man. (He came with the man.)
 ;,'o:/tāk/ø, há:y,tam/ø/yă; = He fed the man. (He ate with the man.)

THE GROUP

G.O. Element-classes and element-free classes

i. Element-classes

Groups are constituents of members of three units: clauses, groups and words. As constituents of clauses, they represent the elements Predicator, Subject, Object and Adjunct; as constituents of groups, they represent the element Complement; as constituents of words, they represent the element Root. There are thus six element-classes of group:

Predicator-groups	("	")	P-groups);
Subject-groups	("	")	S-groups);
Object-groups	("	")	O-groups);
Adjunct-groups	("	")	A-groups);
Complement-groups	("	")	c-groups);
Root-groups	("	")	Rt-groups);

ii. Valency-classes

a. The above element-classes are not all disjoint; there are thus ten valency-classes of group;

- P-only groups;
- S-only groups;
- O-only groups;
- A-only groups;
- c-only groups;
- S/c -groups;
- A/c -groups;
- A/Rt/c-groups;
- O/Rt/c-groups;
- O/A/Rt/c-groups.

b. Some examples of these classes representing different elements are given below. The element represented by the group underlined in the examples is indicated in brackets after the name of its valency-class.

- P-only (P) ; ;'ane/ʸ,ti/m'ari/ʸ,tam/ø/áni; = I eat the food,
 ;'u:/ták/ø,;'ara:w/o/!n,ø/u; = The man is our friend
 ;winně;t,dabalo; = very small

- S-only (S) ; ;'u:/tāk/∅,diw/∅/i:ni; = The man is sleeping.
- O-only (O) ; ;;'ane/∇,diw/∅/any;/e/∇.b,hi:s/∅/i:ni; = He thinks
that I am sleeping.
- A-only (A) ; ;;'ane/∇,diw/∅/āt;/ay,bā;/ka:f/∅/'/a;; = I'm going
to sleep, so don't sing!
- c-only (c) ; ;,diw/∅/anī;/:b,∅/u, = I am able to sleep.
- S/c (S) ; ;;nda:i;/∇kaa/∇,k'/ii;/∅/hā;y; = There is not
a better one.
- S/c (c) ; ;,nda:i;/∇kaa/∇,tāk/∅, = a better man
- A/c (A) ; ;;diw/∅/any;/e/!k,kā/šaga;/m/ān; = If I sleep, I
don't work,
- A/c (c) ; ;,diw/∅/any;/e/!k,∅/u, = It is if I sleep.
- A/Rt/c (A) ; ;;'i/tak/∅,/i/∇,gē:b,tam/∅/ān; = I ate with the man.
- A/Rt/c (Rt); ∅,;'i/tak/∅,/i/∇,gē:b,/i/!/ka∅ = than with the man
- A/Rt/c (c) ; ;,;'i/tak/∅,/i/∇,gē:b,∅/u, = It is with the man
- O/Rt/c (O) ; ;;'o/!n,wi/'ō:r/∅,rih/∅/ān; = I saw this boy.
- O/Rt/c (Rt); ∅,;'o/!n,wi/'ō:r/∅,/i/!/ka∅ = than this boy
- O/Rt/c (c) ; ;,;'o/!n,wi/'ō:r/∅,∅/u, = He is this boy.
- O/A/Rt/c (O); ;;'o/!n,∅:/mhi:n/∅,rih/∅/ān; = I saw this place.
- O/A/Rt/c (A); ;;'o/!n,∅:/mhi:n/∅,/'e;/!š; = He lives in this place.
- O/A/Rt/c (Rt); ∅,;'o/!n,∅:/mhi:n/∅,/i/!/ka∅ = than this place
- O/A/Rt/c (c) ; ;,;'o/!n,∅:/mhi:n/∅,∅/u, = It is this place

c. These valency-classes of group are morphologically distinguished as follows;

1. P-only groups contain (among their constituents, as with all the following) verbal, equative and adjectival h-words;
2. S-only groups contain nominal h-words containing nominative Marker morphemes, but not the Comparative morpheme;
3. O-only groups contain nominal h-words containing non-relative clauses;
4. A-only groups contain adjunctival h-words containing groups and the Than/on morpheme; (certain other groups are also A-only, but are easier to define syntactically than morphologically - see G, 3, 6, ii, a,)
5. c-only groups contain certain solo nominal h-words - as defined in W, 1, 19, iii, a, 3.

6. S/c groups contain nominal h-words which contain the Comparative morpheme and nominal Markers;
7. A/c groups contain any adjunctival h-words, except those defined in 4, above or in 8, below;
8. A/Rt/c groups contain c-requiring, word-compatible or group-compatible adjunctival h-words (W.1,20,21.);
9. O/Rt/c groups contain certain substantive h-words (G,2,6,ii.), and any pronominal h-words containing accusative Markers;
10. O/A/Rt/c groups contain the remaining substantive h-words which contain accusative Markers (c.f. 9, above), and also any comparative and non-solo nominal h-words containing such Markers, and certain solo nominal h-words containing such Markers, as defined in W.1,19,iii,a,1.

iii. Conjunction-classes

a. Groups fall into six classes, according to their ability or inability to represent complex elements, and according to their relation to other constituents of such a complex element, if they can represent one.

b. The syntactic characteristics of these classes are as follows:

1. solo groups represent simple elements only;

e.g. ;diw/ø/i:ni; = He is sleeping - the structure of this clause is P; i.e. the group ;diw/ø/i:ni; represents the Predicator, which is simple.

2. solo/apposed groups represent either simple or complex elements, and, when representing a complex elements, they can be apposed to other constituents. Some such groups can represent the elements Subject or Complement, while others can represent the elements Object, Adjunct, Complement or Root; of these elements, all except the Complement must be complex, but the latter can be either simple or complex, and be represented by the same item (though this has a different meaning, and sometimes also a different phonological exponent, in each case - see G,5,6,ii.)

e.g. ,;inda:i;/^Ykaa/!t,_o'o:/to/! = a better daughter of hers
or = a better one's daughter (a better one, her daughter)

(in the first case, the group ,;inda:i;/^Ykaa/!t, represents

a simple sub-division of the primary element Complement, while in the second case it represents a complex one,)

3. apposing groups represent complex elements, and are apposed to other constituents;

e.g. ;'u:/tāk/∅,'i;/inda;i;/∞,diw/∅/i;ni; = the good man is sleeping (clause-structure; $S_0 + P$; the groups , 'u:/tāk/∅, = the man, and , 'i;/inda;i;/∞, = the good one, are apposed, and together represent the (complex) Subject,)

4. coordinating groups represent complex elements, and are coordinated to other constituents;

e.g. ;;tam/∅/any;/e/!k/wa,;diw/∅/any;/e/!k/wa,kā/dayyar/∅/ān; = If I eat and if I sleep, I don't get tired, (clause-structure; $A_0 + P$)

5. coordinating/apposing groups represent complex elements, and are either coordinated or apposed to other constituents, according to the letters' class; if the latter are also coordinating/apposing, the relation between the constituents is coordination; otherwise, it is apposition, and the groups thus apposed are always constituents of a sub-element;

e.g. ;'u:/tāk/∅/wa,wi/'ō;r/∅/wa,tam/sam/e/ʔn; = The man and the boy are eating together (clause-structure; $S_0 + P$, the complex Subject being represented by two coordinated groups, both of which are coordinating/apposing,)

c.f. ;'u:/tāk/∅/wa,'ara;w/u/!n,wi/'ō;r/∅/wa,tam/sam/e/ʔn; = The man - our friend - and the boy are eating together, (Clause-structure again; $S_0 + P$; the complex Subject element is represented by a sub-element coordinated to a coordinating/apposing group; the sub-element is itself represented by a coordinating/apposing group apposed to an apposing group,)

c.f. ;'u:/tāk/∅,'i;/inda;i;/!/wa,wi/'ō;r/∅/wa,tam/sam/e/ʔn; = The good man and the boy are eating together, (Analysis as the preceding, but the order of the constituents of the sub-element is reversed,)

6. listing groups represent complex elements (except when representing the element Root, whose constituents, when complex,

can never be listed); listing groups are listed to other constituents of the same element;

e.g. ;tam/ø/any;/e/!k, ;šaga;/m/any;/e/!k, dayyar/ø/ani; = if I eat or if I work, I get tired,

(iii)c, These six classes of group differ morphologically as follows;

solo groups contain verbal, equative or adjunctival h-words; impersonal, quotation and 1st/2nd-person groups (G,1,1; G,2,1; G,5,2; G,6,2.) whose h-word does not contain the coordinating Conjunctive morpheme /wa/ = and, are also solo;

solo/apposing groups contain comparative nominal h-words which do not contain /wa/ = and;

apposing groups contain nominal words which are not comparative and which do not contain /wa/ = and;

coordinating groups contain adjunctival h-words which contain /wa/ = and; all impersonal, quotation and 1st./2nd.-person groups (see above) whose h-word contains /wa/ are also coordinating;

coordinating/apposing groups contain nominal h-words which contain /wa/ = and;

listing groups contain adjunctival h-words which do not contain /wa/ = and,

d, It will be seen that coordinating, and coordinating/apposing, groups are distinguished morphologically from other groups by the presence of /wa/ = and in their h-words. The former two classes of group will be referred to as 'coordinative' in the following sections, all other groups being 'non-coordinative'. Any coordinative group can be matched by a non-coordinative group which is morphologically identical except for the absence of /wa/, though the converse is not true,

e.g. coordinative; ;'u;/tāk/ø/wa, = and the man

non-coordinative; ;'u;/tāk/ø, = the man

coordinative; ;tam/ø/any;/e/!k/wa, = and if I eat it

non-coordinative; ;tam/ø/any;/e/!k, = if I eat it

e, The members of the classes solo/apposing, apposing and coordinating/apposing fall into two classes, referred to as

'substantive' and 'epithet' (the members of these two classes belong to the 'non-epithet' and 'epithet' sequence-classes respectively = see iv, below). The following combinations of substantive and epithet groups can represent complex elements:

- 1, substantive or epithet group coordinated to substantive or epithet group;

e.g. , 'u:/tāk/∅/wa, wi/'ō:r/∅/wa, = the man and the boy
 , 'u:/tāk/∅/wa, 'i;/nda:i;/!/wa, = the man and the good one

- 2, substantive group apposed to epithet group;

e.g. , 'u:/tāk/∅, 'i;/nda:i;/', = the good man (the man, the good one)

- 3, substantive group apposed to substantive group;

e.g. , 'u:/tāk/∅, 'ara:w/u/'n, = the man, our friend

The above combinations are possible whether they represent clause-elements (Subject, Object, Adjunct), the group-element Complement, or the word-element Root (except that coordination is not possible between the constituents of a complex Root);

e.g. coordinated groups representing the Object;

, 'o:/tāk/∅/wa, wi/'ō:r/∅/wa, rih/∅/ān; = I saw the man and the boy,

coordinated groups representing the Complement;

, 'o:/tāk/∅/wa, wi/'ō:r/∅/wa, o'k'/ii;/∅/ke/'n, = They are not the man and the boy

apposed groups representing the Object;

, 'o:/tāk/∅, 'i;/nda:i;/?b, rih/∅/ān; = I saw the good man, (I saw the man, the good one,)

apposed groups representing the Complement;

, 'o:/tāk/∅, 'i;/nda:i;/?b, o'k'/ii;/∅/kē, = He is not the good man, (He is not the man, the good one,)

apposed groups representing the Root;

o'ti/, 'o:/tāk/∅, 'i;/nda:i;/∅, /?nā:y/t, = the one of the good man (the one of the man, the good one)

(iii)f. If a substantive and an epithet group are apposed to one another, they must both be of the same gender/number, and both must be either definite or indefinite;

e, G, ;ba;ba/ʃb,inda;i;/ʃb,ʼa/ø/ktě;n; = I know a good father,
 ;ba;ba/ʸ/ʃb,inda;i;/ʸ/ʃb,ʼa/ø/ktě;n; = I know good fathers,
 ;indee/ʃt,inda;i;/ʃt,ʼa/ø/ktě;n; = I know a good mother,
 ;indee/ʸ/ʃt,inda;i;/ʸ/ʃt,ʼa/ø/ktě;n; = I know good mothers,
 c, f, ;'i/ʃa;ba/ʸ,ʼi/inda;i;/ʃb,ʼa/ø/ktě;n; = I know the good father
 .. (I know the father, the good one,)

Such concord restrictions do not apply between apposed substantive groups;

e, G, ;takát/t,ti/'o;/to/ʃ,ʼi/s/da'ir; = He let him marry a woman, his daughter, (taken from the recorded text) - the two substantive groups ,takát/t, = a woman, and /ti/'o;/to/ʃ, = his daughter, are apposed, but the first is indefinite, while the second is definite,

(iii) G, The morphological differences between substantive and epithet groups are as follows;

substantive groups contain substantive or pronominal nominal h-words;

e, G, ,wi/'ó;r/ø, = the boy
 ,bar/u/ʃk, = you

epithet groups contain;

1, non-solo nominal h-words;

e, G, ,inda;i;/ʸ, = a good one

(Such words can represent either the Head, as in this example, or the Complement, as in ;inda;i;/ʸ,ták/ø, = a good man, this being a substantive group, Therefore any group such as the latter can be matched by two apposed groups, such as ,ták/ø,inda;i;/ʸ, = a good man (a man, a good one),)

2, solo nominal h-words containing the Modifier (W, 1, 19, iii, a, 1.)

e, G, ,ʼi/inda;i;/ʸ, = the good one

3, comparative nominal h-words;

e, G, ,inda;i;/ʸkaa/ʸ, = a better one

iv, Sequence-classes

a, Groups are either 'epithet' or 'non-epithet', If an epithet group is apposed to a non-epithet group, the former must follow the latter; thus, the group-combination

,ʼu;ták/ø,ʼi/inda;i;/ʸ, = the man, the good one, is possible,

but *, 'i;/nda:i;/', 'u;/tak/ø, is not,

- b, All groups are non-epithet except those which belong to element-bound classes named 'epithet' or 'comparative'. I.e. the sequence-class 'epithet' is coterminous with the class referred to in iii.e, above as 'epithet'.

v, Interrelations of the above classes

- a, The following table shows which of the above classes intersect with each other, or with the element-bound classes described below. Classes shown in the table on the same line have some members in common.
- b, Under the column 'conjunction-classes', only 'non-coordinative' classes (iii.d, above) are shown, since it is to be understood that each such class (with some exceptions - see c, below) is paralleled by a 'coordinative' class. Coordinative and non-coordinative classes are, however, distinguished in the systems below.
- c, The only non-coordinative groups which are not thus paralleled by coordinative groups are:
- 1, those belonging to the Predicator element-class;
 - 2, those representing the Element Root;
 - 3, nominative comparative groups representing the Complement (such groups must represent a simple, not a complex, Complement element and therefore can never be coordinated.)
- d, All other non-coordinative groups are paralleled by coordinative groups; the latter belong either to the coordinating or to the coordinating/apposing conjunction-class, as follows:
- 1, a coordinating group parallels every solo or linking group;
 - 2, a coordinating/apposing group parallels every solo/apposing or apposing group. (Both these statements are, of course, subject to the exceptions listed above.)

Interrelations of group-classes

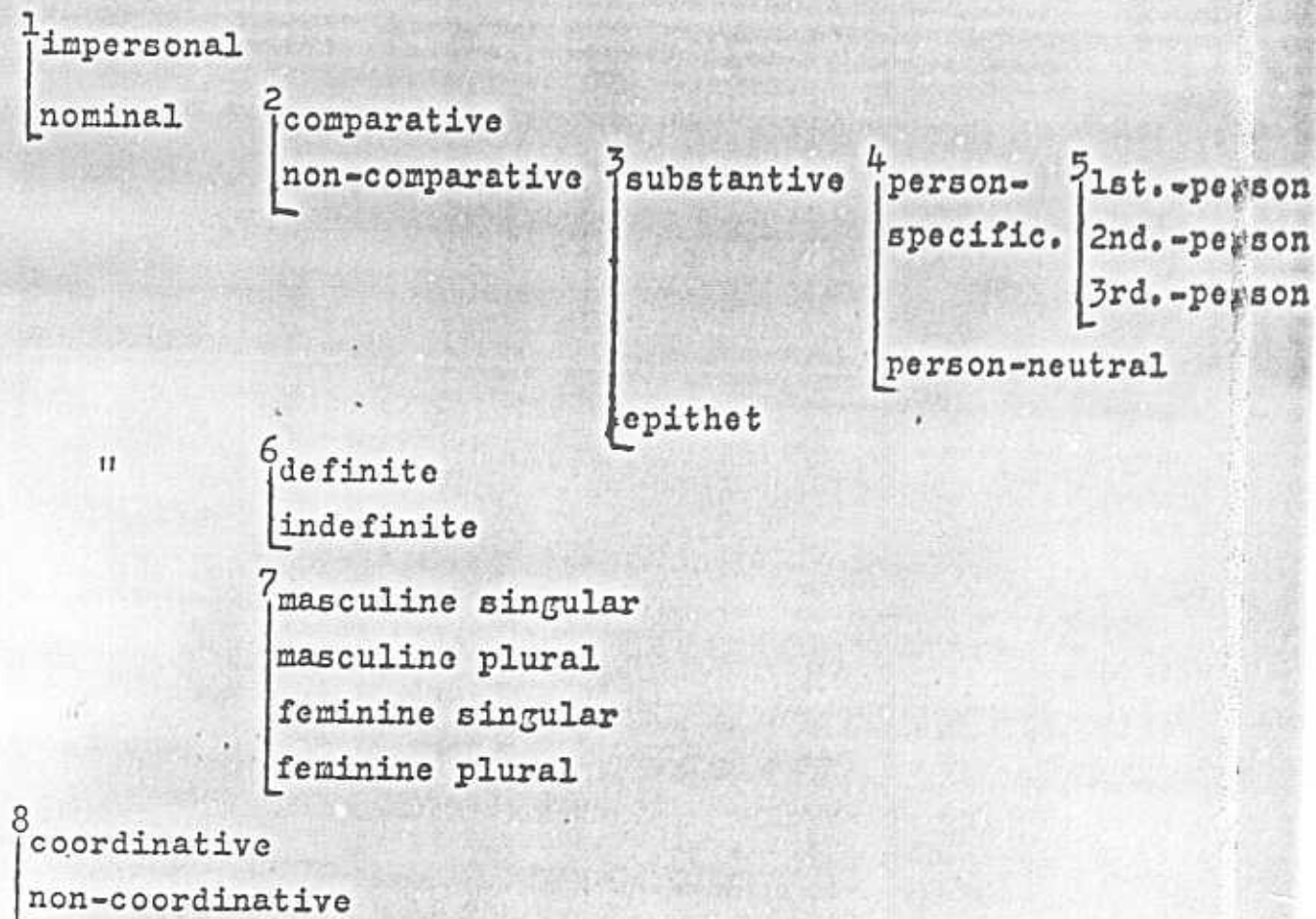
element-classes	element-bound classes	valency-classes	conjunction-classes	sequence-classes
S	¹ impersonal ² nominal ³ non-comparative " :- ³ substantive ³ epithet	S-only S/c S-only "	solo solo/apposing apposing "	non-epithet epithet non-epithet epithet
O	¹ quotation ² nominal ⁴ comparative ⁵ non- " :- ⁵ substantive ⁶ epithet	³ O-only ³ O/Rt/c ⁴ O/A/Rt/c ⁶ O/Rt/c ⁶ O/A/Rt/c "	solo " solo/apposing apposing " "	non-epithet " epithet non-epithet " epithet
A	¹ nominal ² comparative ³ non- " :- ³ substantive ³ epithet ⁶ adjunctival ⁶ A-only ⁶ A/c ⁶ A/Rt/c	O/A/Rt/c " " A-only A/c A/Rt/c	solo/apposing apposing " linking " "	epithet non-epithet epithet non-epithet " "
P	all classes	P-only	solo	non-epithet
c	¹ copular ² adjunctival; :- ³ A/c ³ A/Rt/c quotation 1st/2nd-person ⁶ nominal ⁶ comparative; :- ⁶ nominative ⁶ accusative ⁶ non-compar. :- ⁹ substantive ¹⁰ epithet	A/c A/Rt/c O/Rt/c c-only S/c O/A/Rt/c O/Rt/c O/A/Rt/c "	linking " solo " solo/apposing " apposing " "	non-epithet " " " epithet " non-epithet " epithet
Rt	¹ non-nominal ² quotation ² adjunctival ³ nominal ³ comparative ⁴ non- " :- ⁴ substantive ⁵ epithet	O/Rt/c A/Rt/c O/A/Rt/c O/Rt/c O/A/Rt/c "	solo linking solo apposing " "	non-epithet " epithet non-epithet " epithet

G.S. Group-structures

The unit-structure of the group includes only two elements: Complement and Head. In describing the morphological differences between classes of group, the Complement can in most cases be disregarded, since such differences are shown by the class of the Head-word. The possibility of a Complement, and the class of item which can represent the Complement, are determined by the Head-word, as described in the preceding chapter.

G.1. Subject-groups

- i. In a Subject-group, the Head is always represented by a nominal word containing a nominative Marker morpheme among its constituents.
- ii. The classes into which the element-class Subject-group is divided are summarised below.



System G.1.1
 impersonal
 nominal

i. Impersonal S-groups require impersonal or semi-personal P-groups (G.4.3.), while nominal S-groups require personal or semi-personal P-groups;

e.g. impersonal S-group + semi-personal P-group:

; 'i/; sak/∅/an;/e/∞, , , 'i/tak/∅,/i/∞t, o u; = It was like the man
that I acted

impersonal S-group + impersonal P-group:

; 'i/; diw/∅/an;/e/∞, , , tam/∅/an;/e/∞ho:b, o u; = It was when I at
that I slept.

nominal S-group + semi-personal P-group:

; wi/'∂:r/∅, , , 'i/tak/∅,/i/∞t, o u; = The boy is like the man,

nominal S-group + personal P-group:

; wi/'∂:r/∅, diw/∅/i:ni; = The boy is sleeping.

ii. Impersonal and nominal S-groups belong to the following element-free classes:

a. valency-classes: all impersonal groups belong to the S-only class, but some nominal groups belong to the S-only class, others to the S/c class.

b. conjunction-classes: impersonal groups are solo or coordinating, but nominal groups are solo/apposing, apposing or coordinating/apposing.

c. sequence-classes: all impersonal groups are non-epithet, but some nominal groups are epithet, some are non-epithet.

iii. All groups are nominal except those which consist of a nominal h-word, which contains among its constituents the Modifier morpheme and an Adjunct-relative clause; the Marker morpheme in such words is always masculine nominative.

System G.1.2
 comparative (nominal)
 non-comparative

i. Comparative and non-comparative groups belong to the following element-free classes:

- a. valency-classes: comparative groups belong to the S/c class, non-comparative groups to the S-only class.
- b. conjunction-classes: comparative groups belong to either the solo/apposing or the coordinating/apposing classes, but non-comparative groups belong to either the apposing or the coordinating/apposing classes.
- c. sequence-classes: all comparative groups belong to the epithet class, but non-comparative groups belong either to the epithet or to the non-epithet class.

ii. In comparative, but not in non-comparative, groups, the Head is represented by comparative nominal words.

System G.1.3 | substantive (non-comparative nominal)
| epithet

The syntactic and morphological differences between substantive and epithet S-groups are as described in G.O.iii.e. above;

- e.g. substantive: ,wi/'ó:r/ø, = the boy
 ,;'ane/∞,rih/ø/an;/e/∞,'ó:r/ø, = a boy I saw
 ,bar/u/'k, = you
- epithet: ,;nda:i;/∞, = a good one
 ,'f;/winně:t,nda:i;/∞, = the very good one

System G.1.4 | person-neutral (substantive non-comparative nominal)
| person-specific

- i.a. Both S-groups and P-groups (G.4.2.) fall into two classes: person-neutral and person-specific.
- i.b. If a P-group is person-neutral, it is compatible with any class of nominal S-group;
- e.g. ;'u:/ták/ø,tam/ø/a; = the man having eaten
 ;hinŷn/ø/ø,tam/ø/a; = we having eaten
- i.c. If a P-group is person-specific, it is compatible with only one class of S-group: if it is 1st.- or 2nd.-person, one of the constituents of the Subject (which is always complex) must be 1st.- or 2nd.-person S-group respectively, but if the P-group is

3rd.-person, the groups representing the Subject need not include a person-specific group (if they do, however, this must be 3rd.-person). Thus a person-specific group, of any class, can be a constituent of the same element as a person-neutral group; e.g. ;ba:b/u/!k,'ane/√,;dayyar/ø/a;/!b,ø/u; = I, your father, am tired.

i.d. If two person-specific groups are apposed, they must both be of the same person (and gender/number);

e.g. ,bar/ø/a/!k,kass/ø/a/!k, = you, all of you

ii. All groups are person-neutral (including epithet and comparative groups) except those whose h-word is a pronominal word (W.1.13.).

System G.1.5 { 1st.-person (person-specific substantive non-comparative
2nd.-person nominal)
3rd.-person

i. As explained in G.1.4.i. above, there is person-concord between a person-specific P-group and a structurally related person-specific S-group.

ii. The three person-classes of S-group are morphologically distinguished as follows:

a. 1st.-person groups contain pronominal h-words which contain no Pronominal morpheme, but contain the Radicals /'aně/ = I, or /hinĭn/ = we;

b. 2nd.- and 3rd.-person groups contain pronominal h-words which do contain Pronominal morphemes, and pronominal Radicals.

System G.1.6 { definite (nominal)
indefinite

i. If a substantive group is apposed to an epithet group, both must be definite, or both must be indefinite (as explained in G.O.iii.f. above).

ii. Definite and indefinite groups are morphologically distinguished as follows:

a. definite groups contain among their constituents:

1. h-words which contain the Modifier among their constituents;

e.g. , 'u/!n_owi/'ó:r/ø, = this boy
 , 'i/;nda:i;/v, = the good one
 2. h-words containing /!n/ = this or /bé:n/ = that among their constituents;

e.g. , 'u/!n, = this one (as in: , 'u/!n_owi/'ó:r/ø, 'u/!n, = this boy, the group , 'u/!n, being apposed to the group , 'u/!n_owi/'ó:r/ø, = this boy; groups such as the former can be apposed only to those such as the latter, in which the same word represents the Complement.)
 3. pronominal h-words;

e.g. , bar/u/!k, = you
 4. group-based words (representing the Complement) in which the Root is represented by a definite group;

e.g. , , 'i/tak/ø, /i/v_ogǎw/ø, = the man's house (as in: , , 'i/tak/ø, /i/v_ogǎw/ø, 'i/;dabalo;/v, = the man's small house (the man's house, the small one).)
- b. indefinite groups contain among their constituents h-words which do not contain the Modifier; such groups do not contain c-words as defined in a.4. above;
- e.g. , 'ó:r/ø, = a boy
 , ;nda:i;/v_o'ó:r/ø, = a good boy
 , , tak/ø, /i/v_ogǎw/ø, = a man's house (as in: , , tak/ø, /i/v_ogǎw/ø, ;dabalo;/v, = a man's small house (a man's house, a small one).)

System G.1.7

masculine singular (nominal)
masculine plural
feminine singular
feminine plural

- a. There is gender/number concord between apposed substantive and epithet S-groups, as described in G.O.iii.f,
- b. There is also gender/number concord between structurally related nominal S-groups and person-specific P-groups (G.4,6,7.),
- i. In masculine and feminine S-groups, the Head is

represented by words containing masculine and feminine Markers respectively; in plural, but not in singular, groups, this word also contains the Pluraliser;

e.g. masc. sing.; ,ba:ba/ʃb, = a father = ,inda:i;/ʃb, = a good one
 masc. plur.; ,ba:ba/ʋ/;b, = fathers = ,inda:i;/ʋ/;b, = good one
 fem. sing.; ,ndee/ʃt, = a mother = ,inda:i;/ʃt, = a good one
 fem. plur.; ,ndee/ʋ/;t, = mothers = ,inda:i;/ʋ/;t, = good one
 (The Pluraliser which characterises plural groups may or may not be a constituent of the h-word itself = see M.7.ii.a.)

System G.1.8 | coordinative
 | non-coordinative

i. Both impersonal and nominal S-groups can be either coordinative or non-coordinative; the two classes thus belong to the following conjunction-classes;

a. coordinative impersonal groups belong to the coordinating class;
 " nominal groups belong to the coordinating/apposing class.

e.g. ;'i;/tam/ø/an;/e/!wa, 'i;/diw/ø/an;/e/!wa,, 'i/gaw/ø,/i/ʃb,
 = It was in the house that I ate and that I slept,
 ;'u:/tāk/ø/wa, wi/'ɔ:r/ø/wa, tam/sam/e/ʃn; = The man and the boy eat together.

b. non-coordinative impersonal groups belong to the solo class;
 " nominal groups belong to the apposed or solo/apposed class.

e.g. ;'i;/tam/ø/an;/e/ʋ,, 'i/gaw/ø,/i/ʃb, o;u; = It was in the house that I ate,
 ;'u:/tāk/ø, tam/sam/i;ni; = The man eats with him.

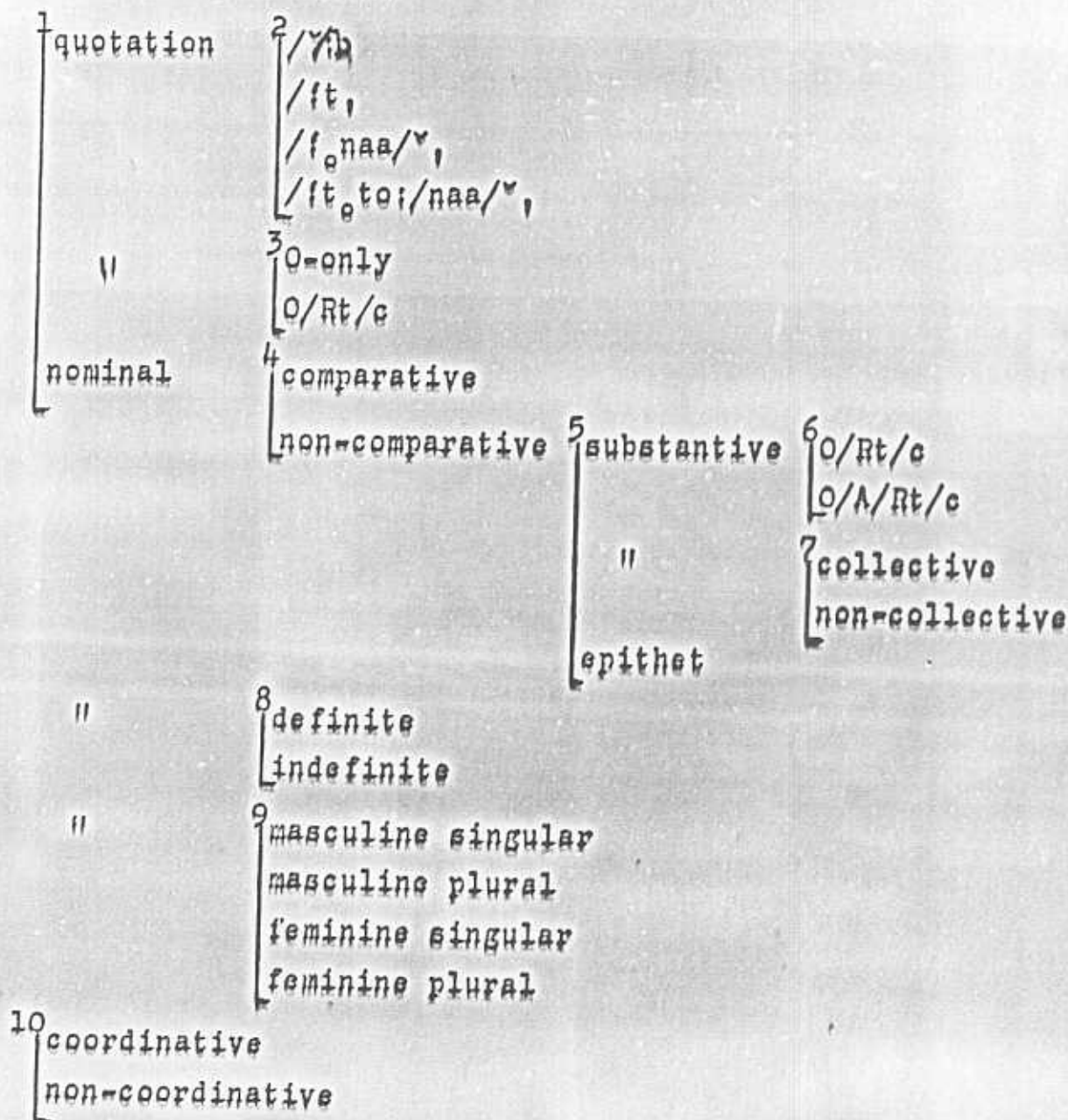
ii. As always, coordinative groups are morphologically distinguished from non-coordinative groups by the presence of /wa/ = and, in the formers' h-words.

G.2. Object-groups

i. In any O-group, the Head is represented by a nominal word which contains an accusative Marker morpheme among its constituents.

ii.

The classes into which this element-class is divided are summarised below:



System G.2.1

1	quotation
	nominal

1.

Quotation O-groups require quoting P-groups (G.4.14), but nominal groups require any of the three classes in system G.4.14.

e.g. quotation O-group: ;wi/'δ:r/ø,ti/m'ari/ʔ,tam/ø/yan;/e/!to:/'naa/ʔ,'a/ø/ma:siw; = I heard (the fact) that the boy at the food,

nominal O-group: ;wi/'ara:w/o/ʔ,'a/ø/ma:siw; = I heard my friend,

ii. Quotation and nominal O-groups belong to the following element-free classes:

- a, valency-classes; quotation groups are O-only or O/Rt/c, but nominal groups are O/Rt/c or O/A/Rt/c.
- b, conjunction-classes; quotation groups are solo or coordinating, but nominal groups are apposing, solo/apposing or coordinating/apposing.
- c, sequence-classes; all quotation groups are non-epithet, but some nominal groups are epithet, some non-epithet.

iii. Quotation groups contain, as a constituent of either the h-word or the c-word, non-relative clauses; but nominal groups cannot contain such clauses as constituents of their constituent words.

System G.2.2 /v/:b, (quotation)

/!t,

/!naa/v,

/!t_oto:/naa/v,

i. Quotation O-groups fall into four classes, whose members require different classes of P-group (G.4.18.);

e.g. ;;'ane/v,diw/ø/i;/:e/v/:b,hi:s/ø/i:ni; = He thinks that I used to sleep,

;'ane/v,diw/ø/i;/:e/!t,'are/ø/i:ni; = He likes me to sleep,

;'ane/v,diw/ø/i;/:e/!naa/v,ø/ø/rankwĩ; = He is afraid of my sleeping,

;'ane/v,diw/ø/i;/:e/!t_oto:/naa/v,ø/ø/hanbĩ; = He prevents my sleeping.

ii. The four classes of O-group differ morphologically as follows;

- a, /v/:b, groups contain as their only constituent a word which contains a Pluraliser and the masculine accusative Marker;
- b, /!t, groups contain as their only constituent a word which contains no Pluraliser, but the feminine accusative Marker;
- c, /!naa/v, groups contain two words; the first, representing the Complement, contains the feminine Marker, but no Pluraliser; the second, representing the Head, contains the Radical

/naa/ (feminine) = thing, fact, but does not contain the Modifier;

d. /!t_oto:/naa/√, groups are morphologically like /!_onaa/√, groups, except that the second word contains the Modifier morpheme.

System G.2.3 O-only (quotation)

O/Rt/c

i. Quotation groups belong either to the O-only or to the O/Rt/c valency-classes.

ii. Of the four classes distinguished in the preceding system, /√/:b, and /!t, groups are O-only, and the other two are O/Rt/c.

System G.2.4 comparative (nominal)

non-comparative

i. Comparative O-groups belong to the O/A/Rt/c valency-class, but non-comparative O-groups belong either to the O/A/Rt/√ or to the O/Rt/c valency-class. For the conjunction- and sequence-classes to which comparative and non-comparative classes belong, see G.1.2, above.

ii. In comparative, but not in non-comparative, O-groups the Head is represented by comparative nominal words.

System G.2.5 substantive (non-comparative nominal)

epithet

i. All epithet O-groups are considered to belong to the O/A/Rt/c valency-class, while some substantive O-groups belong to the O/A/Rt/c, some to the O/Rt/c valency-class.

ii. For other differences, syntactic and morphological, between substantive and epithet groups, see G.O.iii.e.-g. and G.O.iv.

System G.2.6 O/Rt/c (substantive non-comparative nominal)

O/A/Rt/c

Some substantive groups belong to the O/Rt/c valency-

class, others to the O/A/Rt/c class; for examples, see G.O.ii.b.

ii.

All substantive O-groups are O/Rt/c except those in which the Head is represented by words containing certain Radicals; only two such Radicals are known: /dó:r/ = time, and /mihf:n/ = place;

e.g. ;naa:/^v mihf:n/ø, 'e:/fě; = In what place does he live?

;naa:/^v mihf:n/ø, rih/ø/ta/ʔ; = What place did you see?

(in the first example, the group underlined represents the Adjunct, in the second it represents the Object.)

c.f. ;naa:/^v ták/ø, rih/ø/ta/ʔ; = Which man did you see?

System G.2.7

collective (substantive non-comparative nominal)
non-collective

i.

A non-collective O-group is incompatible with 'collective' P-groups (G.4.21.), but requires a non-collective P-group; a collective O-group, on the other hand, requires either collective or non-collective P-groups.

e.g. collective O-group + collective P-group:

;yi/'awe/ø/^v, 'a/ø/da:bil; = I collected the stones.

collective O-group + non-collective P-group:

;yi/'awe/ø/^v, 'a/ø/dbil; = I collected the stones.

non-collective O-group + non-collective P-group:

;wi/'awe/^v, 'a/ø/dbil; = I collected the stone.

(but *;wi/'awe/^v, 'a/ø/da:bil; is not possible.)

ii.

The morphological differences between collective and non-collective O-groups are not known. Probably most groups in which the h-word contains a Pluraliser - e.g. ,yi/'awe/ø/^v, = the stones - are collective, and most groups in which it does not contain a Pluraliser - e.g. ,wi/'awe/^v, = the stone - are non-collective. There are exceptions to this rule, however; for instance, , 'i/ø/rab/e/^v, = the luggage, is collective, although its h-word contains no Pluraliser, and on the other hand , 'e:/yam/^v/ø, = the water, is (probably) non-collective, although its h-word contains a Pluraliser.

System G.2.8 definite (nominal)

indefinite

See System G.1.6.

System G.2.9 masculine singular (nominal)

masculine plural

feminine singular

feminine plural

See System G.1.7. (Whereas there is gender/number concord between S-groups and all person-specific P-groups, in respect of Systems G.4.6,7., there is such concord only between O-groups and copular P-groups, in respect of System G.4.20.)

System G.2.10 coordinative

non-coordinative

i. Both quotation and nominal O-groups can belong either to the coordinative or to the non-coordinative class; the two classes thus belong to the following conjunction-classes:

a. coordinative quotation groups belong to the coordinating class;
" nominal groups belong to the coordinating/apposing class;

e.g. ;;tam/ø/i;/:e/!t/wa,;diw/ø/i;/:e/!t/wa,'are/ø/:f:ni; = He likes me to eat and to sleep.

; 'o:/tāk/ø/wa,wi/'ó:r/ø/wa,rih/ø/án; = I saw the man and the boy.

b. non-coordinative quotation groups belong to the solo class;
" nominal groups belong to the apposing or solo/apposing class;

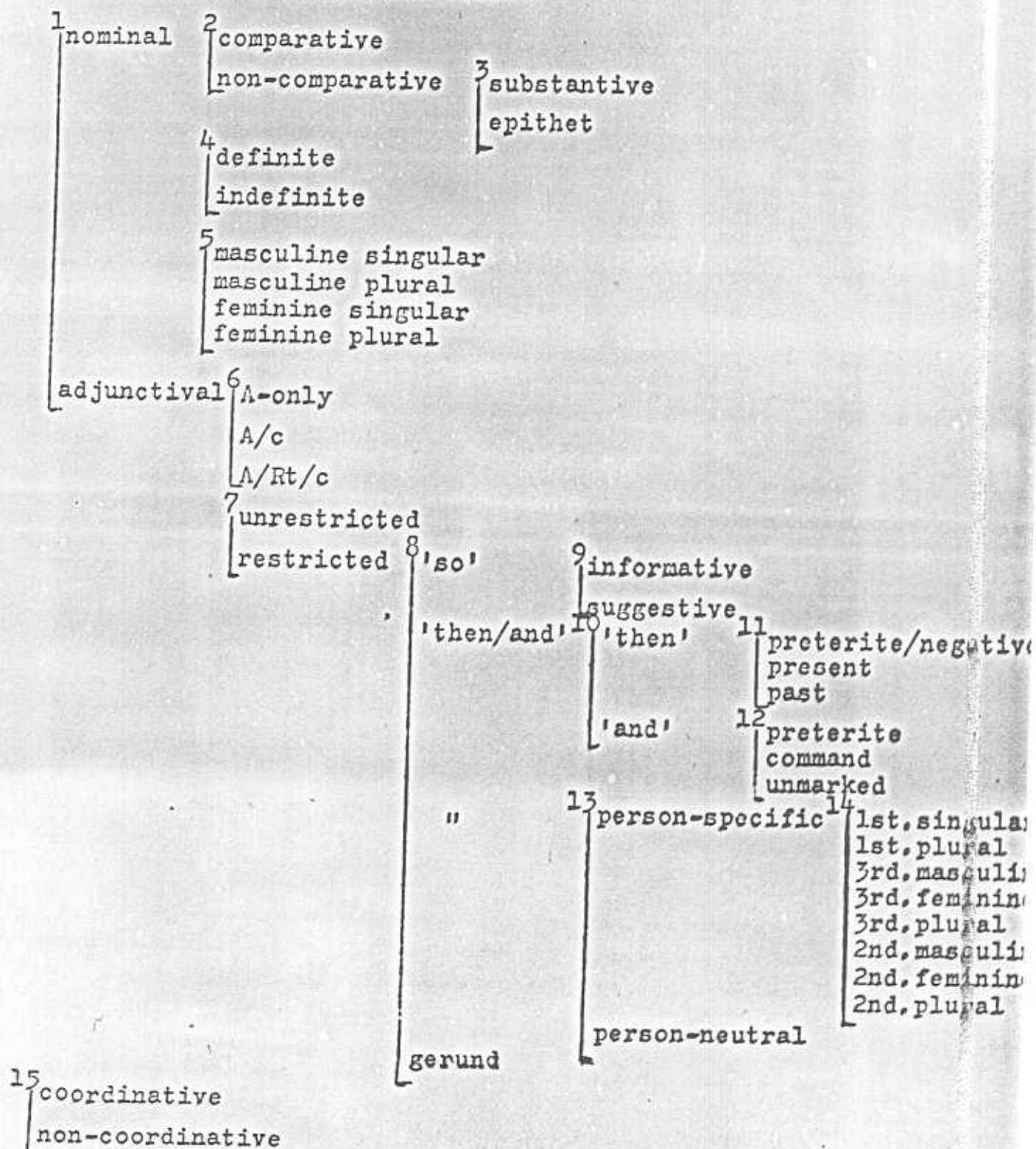
e.g. ;;tam/ø/i;/:e/!t,'are/ø/:f:ni; = He likes me to eat.

; 'o:/tāk/ø,rih/ø/án; = I saw the man.

ii. The h-word of coordinative, but not of non-coordinative, O-groups, contains /wa/ = and.

G.3. Adjunct-groups

The classes into which the element-class Adjunct-groups is divided are summarised below;



System G.3.1

1	nominal
	adjunctival

- i. The element-free classes to which nominal and adjunct-A-groups belong are as follows;

- a. valency-classes: nominal A-groups all belong to the O/A/Rt/c class, but adjunctival A-groups belong to the A-only, the A/c or the A/Rt/c classes.
- b. conjunction-classes: nominal groups belong to the apposing, solo/apposing, or coordinating/apposing classes, but adjunctival groups belong to the listing or coordinating classes.
- c. sequence-classes: nominal groups belong to the epithet or the non-epithet class, but adjunctival groups all belong to the non-epithet class.

ii.a. All epithet groups which can represent the element Object are provisionally assumed to be able to represent the Adjunct also, and thus to belong to the O/A/Rt/c valency-class. For instance, the epithet group, 'o/!n, = this one, can be apposed to the substantive group, 'o/!n_o'o:/mhi:n/ø, = this place, and the two groups thus apposed - 'o/!n_o'o:/mhi:n/ø, 'o/!n, - can represent the Adjunct, as in ;'o/!n_o'o:/mhi:n/ø, 'o/!n, '/e:/fě, = He lives in this place.

ii.b. It is also assumed, however, that such epithet-groups representing the Adjunct can do so only if apposed to substantive groups; thus, *;'o/!n, '/e:/fě; is assumed to be impossible. (If, on the other hand, epithet-groups represent the Object, they need not be apposed to substantive groups; thus, both the following are possible: ;'o/!n_o'o:/mhi:n/ø, 'o/!n, rih/ø/yă; = He saw this place, and : ;'o/!n, rih/ø/yă; = He saw this one.)

iii. In nominal A-groups the Head is represented by nominal words, in adjunctival A-groups by adjunctival words.

System G.3.2

comparative (nominal)
non-comparative
See System G.2.4.

System G.3.3

substantive (non-comparative nominal)
epithet
See System G.2.5.

System G.3.4 definite (nominal)
 indefinite
 See System G.1.8.

System G.3.5 masculine singular (nominal)
 masculine plural
 feminine singular
 feminine plural
 See System G.1.9.

System G.3.6 A-only (adjunctival)
 A/c
 A/Rt/c

- i. Adjunctival groups belong to one of the three valency-classes A-only, A/c and A/Rt/c.
- ii. All adjunctival groups belong to the A/c valency-class, except the following:
- a. those which cannot occur as constituents of clauses from which Adjunct-relative clauses are considered to be derived (C.4.1.), since they are incompatible with the P-groups of such clauses; such A-groups are members of the A-only valency-class.
- b. those whose h-words contain the Than/on morpheme and groups as constituents;
 e.g. ,, 'i/tak/∅,/i/!/ka, = than the man
 ,, 'i/tak/∅,/i/!/da, = to the man
 Such groups are also members of the A-only valency-class.
- c. those in which the Head is represented by c-requiring, word-compatible or group-compatible adjunctival words (W.1.20,21.);
 e.g. ,, 'i/tak/∅,/i/!gé:b, = with the man
 Such groups are members of the A/Rt/c valency-class.

System G.3.7 unrestricted (adjunctival)
 restricted

- i. " "It is possible to state restrictions on the classes of P-group to which some A-groups can be structurally related; such

A-groups are referred to as 'restricted', and other adjunctival groups, for which such restrictions are not known, are referred to as 'unrestricted'.

- ii. All adjunctival groups are restricted except those in which the Head is represented by:
- a. c-compatible, c-requiring or non-solo adjunctival words (i.e. by any adjunctival h-word except the solo class);
 e.g. ,,'i/tak/ø,/i/°gé:b, = with the man
 ,,'i/tak/ø,/i/!/ka, = than the man
 - b. solo adjunctival words, in which the Root is represented by groups or morphemes;
 e.g. ,,'i/tak/ø,/i/!/da, = to the man
 ,'afǎ, = last night
 - c. solo adjunctival words, one of whose constituents is an 'if', etc. Marker morpheme;
 e.g. ,;diw/ø/any;/e/!k, = if I sleep
 - d. solo adjunctival words whose constituents include a 'by', etc. Marker morpheme and a participial or adjectival clause (C.4.4.); in the latter, however, the Predicator must be represented by an S-compatible P-group (G.4.1,ii.a.);
 e.g. ,;wi/'ó:r/ø,dabalo;/!, = the boy being small

System G.3.8 'so' (restricted adjunctival)
 'then/and'
 gerund

- i.a. For the syntactic features of 'so' and 'then/and' group see the following sections.
- i.b. Gerund groups require adjectival P-groups (G.4.22.);
 e.g. ;;ke:lǐm;/ø,nda:i; = unlucky but good (good, being unluck
 For the relations between such clauses, containing an adjectival P-group and a gerund A-group, and English groups containing two adjectives, see NOTE G.1.
- ii. These three classes of A-group are morphologically distinguished as follows:
- a. in 'so' groups the Head is represented by words which contain the 'so' Marker morpheme among their constituents;

- e.g. ,;'ane/∨,diw/∅/āni;/:ay, = I'm sleeping, so ...
- b. in 'then/and' groups, the Head is represented by words containing the 'then' or 'and' Markers among their constituents;
- e.g. ,;'ane/∨,diw/∅/any;/:ā:t, = I sleep, then
- ,;'ane/∨,diw/∅/e:t/i;/:t, = I sleeping ...
- c. in gerund groups, the Head is represented by words whose constituents include the 'by' Marker morpheme and clauses in which the Head is represented by S-incompatible P-groups (G.4.1.);
- e.g. ,;ke:līm;/∅, = being unlucky

System G.3.9 { informative ('so' restricted adjunctival)
 { suggestive

- i. For the classes of P-group which informative and suggestive A-groups require, see G.4.23. below.
- ii. The h-words of these two classes contain informative and suggestive Markers respectively.

System G.3.10 { 'then' ('then/and' restricted adjunctival)
 { 'and'

'Then' and 'and' groups will be further sub-divided in the following systems, according to the classes of P-group which they require. They contain the 'then' and the 'and' Marker as constituents of their respective h-words.

System G.3.11 { preterite/negative ('then', 'then/and' restricted
 { present adjunctival)
 { past

- i. These three classes of 'then' group require different classes of P-group - see G.4.25.
- ii. In each of these classes, the h-word contains a clause as a constituent; the three classes of group are morphologically distinguished by the paradigm sets to which the verbal words belong which represent the Head in the P-groups of these clauses; these words are either preterite or negative in the first class,

present in the second class, and past in the third class;

e.g. preterite/negative: ,; 'ane/√, diw/∅/an;/'t, = I slept, then ...
 ,; 'ane/√, ká/diw/∅/an;/'t, = I don't sleep,
 then ...

present : ,; 'ane/√, diw/∅/any;/ǎ:t, = I sleep, then...
 past : ,; 'ane/√, diw/∅/i;/ǎ:t, = I used to sleep,
 then ...

- iii. Negative words occur only in person-neutral groups (see G.3.13. below); thus the class of person-specific groups referred to as 'preterite/negative' includes only groups containing preterite words as described in ii. above.

System G.3.12 preterite ('and', 'and/then' restricted adjunctival)
 command
 unmarked

- i. For the classes of P-group which these three classes of A-group require, see G.4.24.

- ii. The three classes are morphologically distinguished in the same way as the classes in the preceding system, viz. by the verbal word which the groups indirectly contain; this word is preterite, imperative or prohibitive, and neutral participial respectively in these three classes of group;

e.g. preterite: ,; 'ane/√, diw/∅/an/∅;/'t, = I slept, then ...
 command : ,; diw/∅/∅/a/∅;/'t, = Sleep, then ...
 ,; bá:/diw/∅/∅/a/∅;/'t, = Don't sleep, then ...
 unmarked : ,; 'ane/√, diw/∅/e:t/i;/'t, = I sleeping ...

System G.3.13 person-specific ('then/and' restricted adjunctival)
 person-neutral

- i. Some 'then/and' A-groups require person-specific P-groups of a particular person/gender/number (G.4.6.); such A-groups are referred to as 'person-specific', other groups being 'person-neutral';

0:0: PERSON-NEUTRAL: ; diw/∅/an;/'t, yak/∅/an; = I slept and got up.
 ; diw/∅/an;/'t, yak/∅/yǎ; = I slept and he
 got up.

person-specific: ;;diw/ø/an;t/ka,yak/ø/än; = I kept on sleeping
then getting up.

but not *;;diw/ø/an;'t/ka,yak/ø/yä; = I kept on
sleeping and he kept on getting up.

ii. Whereas there are no P-groups which are not compatible
with at least one class of person-neutral Λ -group, there are some
which are compatible with no classes of person-specific Λ -group -
see G.4.26.

iii. The meaning of a person-specific Λ -group, as opposed to
that of a corresponding person-neutral Λ -group, is 'repetition of
the action' (or 'repetition of the circumstances' - see N.16.);
c.f. the above examples.

iv. The h-word of a person-specific, but not of a person-
neutral, group contains the Generaliser morpheme /ka/.

System G.3.14

- 1st. singular (person-specific 'thon/and' restricted
- 1st. plural adjunctival)
- 3rd. masculine
- 3rd. feminine
- 3rd. plural
- 2nd. masculine
- 2nd. feminine
- 2nd. plural

Person-specific Λ -groups require person-specific P-groups
of the same person/gender/number, or else person-neutral P-groups.

The eight person/gender/number classes of Λ -group are
morphologically distinguished by the person/gender/number of the
verbal word which they indirectly contain (as described in
G.3.11.ii.)

e.g. ;;diw/ø/an;'t/ka,yak/ø/än; = I kept on sleeping and getting
up,

;;diw/ø/ya:y;'t,yak/ø/yä; = He kept on sleeping and getting
up,

System G.3.15

coordinative
non-coordinative

i. Both nominal and adjunctival A-groups can be members of either the coordinative or the coordinative class. For the division of nominal groups into coordinative and non-coordinative groups, see G.2.10. above. Coordinative and non-coordinative adjunctival A-groups belong respectively to the coordinating and listing conjunction-classes;

e.g. coordinative: ;;b/a:/šaga/:may;/e/!k/wa,;bd:n/ø,gwa'/ø/any:/e/!k/wa,kā/diw/ø/dn; = If I don't work, and if I drink coffee, I don't sleep.

non-coordinative: ;;b/a:/šaga/:may;/e/!k,kā/diw/ø/dn; = If I don't work, I don't sleep.

ii. In coordinative, but not in non-coordinative, groups the Head is represented by a word containing /wa/ = and.

G.4. Predicator-groups

i. In P-groups, the Head is represented by verbal, equative or adjectival words; such words never occur as constituents of other classes of group.

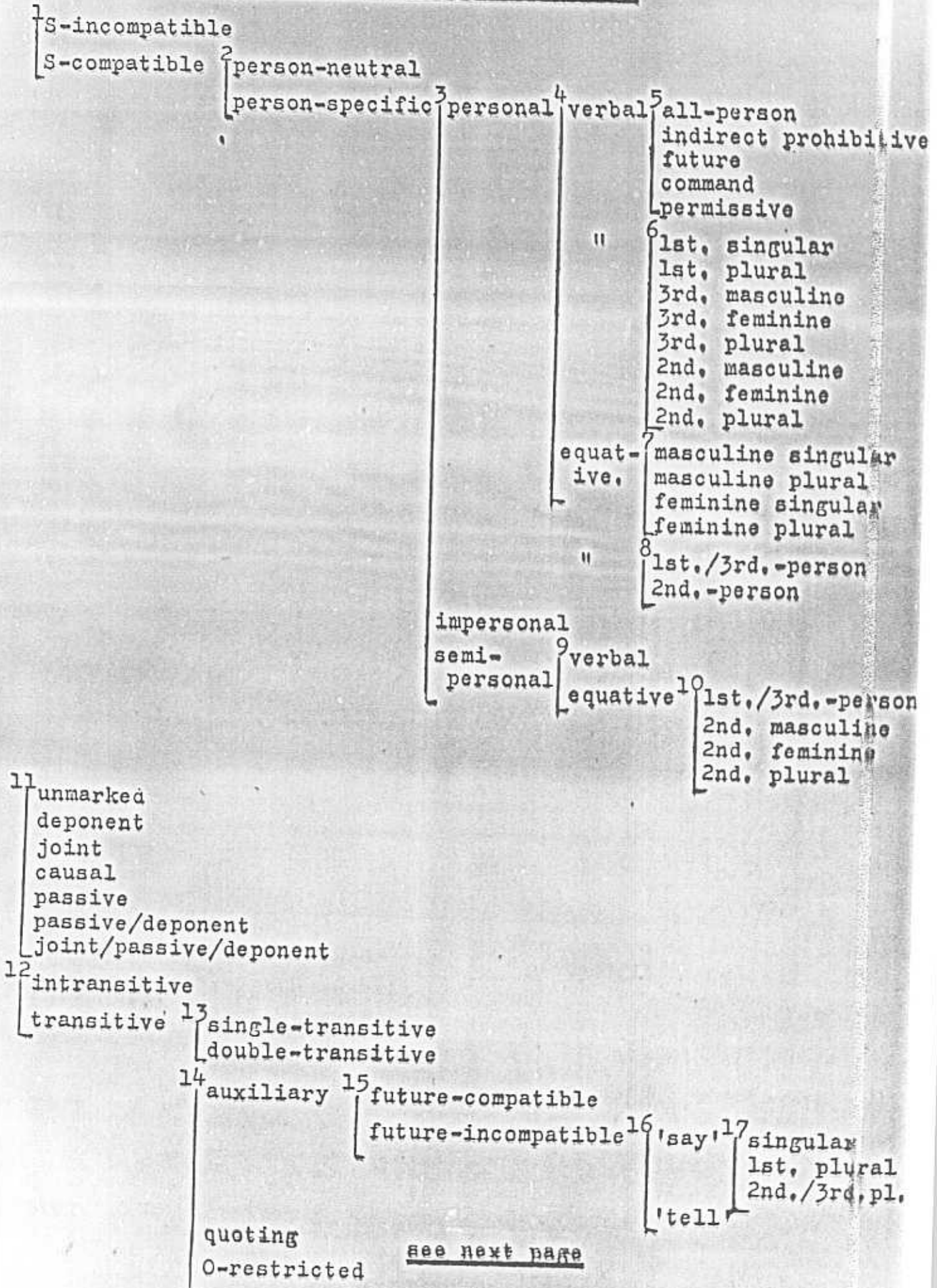
ii. P-groups all belong to the same valency-, conjunction- and sequence-classes (see the table in G.O., p.217.)

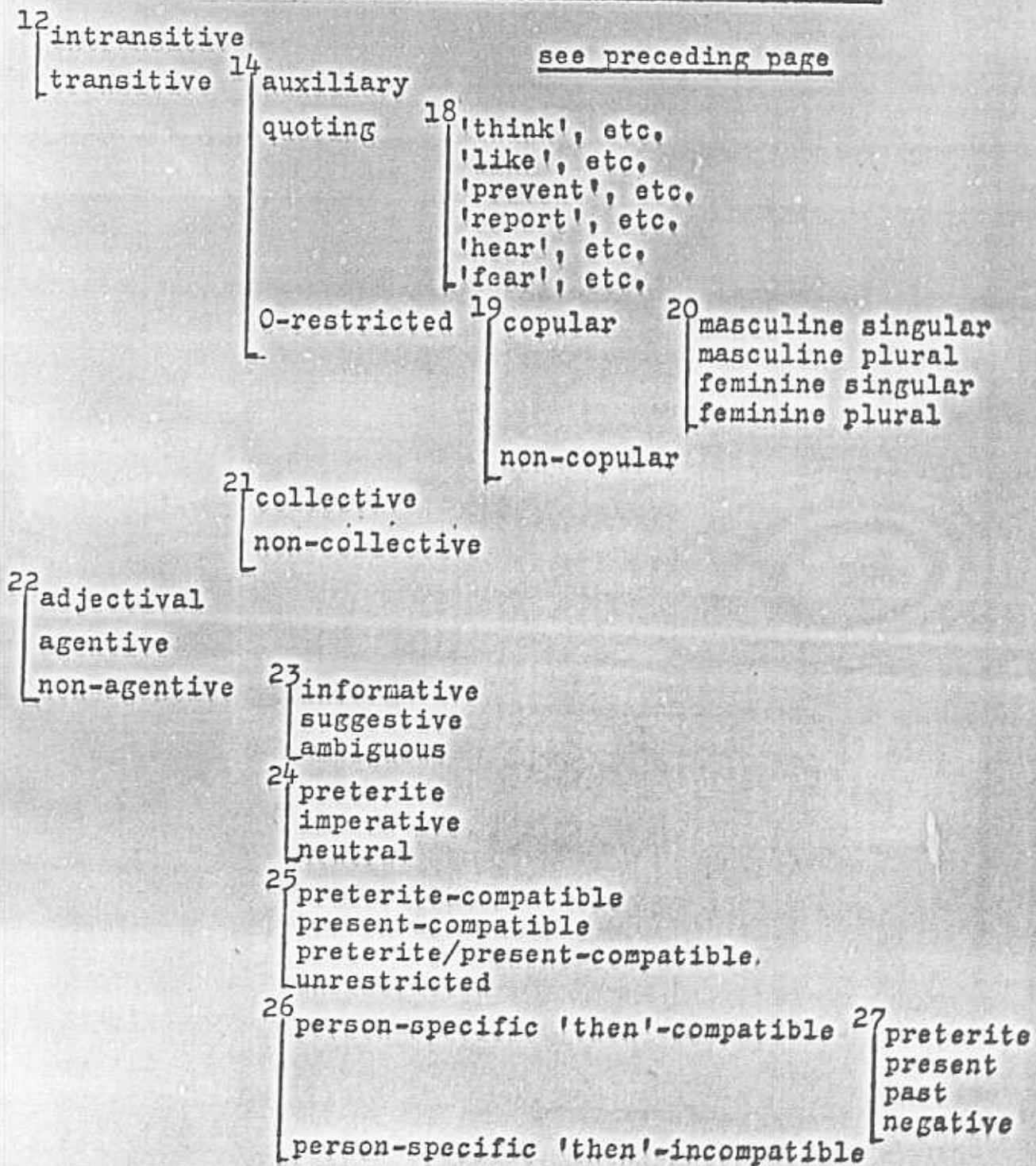
iii. The element-class 'P-groups' is sub-divided according to three sets of criteria:

- a. relations to S-groups (Systems G.4.1-10.)
- b. relations to O-groups (Systems G.4.11-21.)
- c. relations to A-groups (Systems G.4.22-27.)

These systems are summarised below:

Systems applying to the Predicator



Systems applying to the Predicator (cont.)

System G.4.1
S-compatible
S-incompatible

All P-groups are compatible with S-groups, except those P-groups in which the Head is represented by:

- adjectival words consisting of S-incompatible Radicals (M.1.15.);
e.g. ,ke;lím, = unlucky (as in ;winně;t,ke;lím; = very unlucky;
e.g. °;winně;t,ke;lím;/t° = a very unlucky one (fem.))
- verbal words of the paradigm sets '1st.-person singular permissive'

or '1st.-person singular modified (indirect imperative)' (see Appendix C for these names);

e.g. , 'a/ø/mǎ:r, (permissive), = , b/a;/ø/marĭ, (modified) =

such groups represent the Predicator in clauses which are constituents of intensive sentences only; the clauses constituting an intensive sentence can never have a Subject (S.1.iii.c.),

c. preterite participial verbal words containing the Compounder morpheme;

e.g. , tam/ø/a/ʷ, = such groups represent the Predicator in clauses which always represent the Complement; when representing the Complement, clauses never have a Subject,

System G.4.2

person-neutral (S-compatible)

person-specific

i.

Some P-groups are compatible with S-groups of any person/gender/number, but others are compatible only with S-groups of a particular person/gender/number. The former P-groups are referred to as 'person-neutral', the latter as 'person-specific',

ii.

All S-compatible P-groups are person-specific, except those in which the Head is represented by:

a. adjectival words;

e.g. ;wi/'ø;r/ø, dabalo; = the boy (being) small

;ti/'ø;r/ø, dabalo; = the girl (being) small

;bar/u/!k, dabalo; = you (being) small

b. verbal words containing participial Markers;

e.g. ;wi/'ø;r/ø, tam/ø/a; = the boy having eaten it

;ti/'ø;r/ø, tam/ø/a; = the girl having eaten it

;bar/u/!k, tam/ø/a; = you having eaten it

System G.4.3

personal (person-specific S-compatible)

impersonal

semi-personal

i.

Personal P-groups are incompatible with impersonal S-groups (G.1.1.), impersonal P-groups are incompatible with nominal S-groups, but semi-personal P-groups are compatible with either nominal or impersonal S-groups. (See the examples in G.1.1,

ii, The three classes of P-group are morphologically distinguished as follows:

a, in semi-personal groups the Complement is represented by an adjunctival group (G,5,1,), in which the Head is represented by a non-'than' adjunctival word (W,2,7,);

e.g., ,,'i/tak/ø,/i/ʔt, o, u, = He/she/it/they is/are like the man,

b, in impersonal groups the Complement is represented by any other adjunctival groups than the above;

e.g., ;,'ane/ʔ, diw/ø/any;/e/!k, o, u, = It is if I sleep,

c, all other groups are personal;

e.g., ,,'ara:w/o/!n, o, ø/u, = He is our friend,

,tam/ø/i:ni, = He eats,

System G.4.4 verbal (personal person-specific S-compatible)
equative

i, Different person/gender/number systems apply to verbal P-groups from those which apply to equative P-groups (see Systems G.4,6,7,8, below);

e.g. verbal; ;,'ane/ʔ, diw/ø/ani; = I am sleeping.

;bar/u/!, diw/ø/i:ni; = He is sleeping.

equative; ;,'ane/ʔ, ,,'ara:w/o/!k, o, ø/u; = I am your friend,

;bar/u/!, ,,'ara:w/o/!k, o, ø/u; = He is your friend.

ii, Equative P-groups are all intransitive (G,4,12,), and are all unmarked (G,4,11,), but verbal groups may be members of either of the classes belonging to System G,4,12,, and of any of the classes belonging to System G,4,11,

iii, The Head is represented in these two classes of P-group by verbal and equative words respectively,

System G.4.5 all-person (verbal personal person-specific S-compatible)
indirect prohibitive
future
command
permissive

i, Verbal P-groups fall into five classes differing in the person/gender/number classes of S-group with which some or

all their members are compatible; the classes of S-group which can be structurally related to members of these classes are as follows:

a. all-person - all person/gender/number classes of S-group;

e.g. ;'ane/ʸ,diw/ø/ʌnʒ; = I am sleeping,
;bar/u/!k,diw/ø/tini/ʒa; = You are sleeping,
;bar/u/! ,diw/ø/i:ni; = He is sleeping.

b. indirect prohibitive - 1st,-person plural, and all 3rd,-person, S-groups;

e.g. ;hinʌn/ø/ø,b/in/diw/ʌy; = Don't let's sleep,
;bar/u/! ,b/i:/diw/ʌy; = He's not to sleep.

c. future - 1st,-person singular, and all 2nd,-person, S-groups;

e.g. ;'ane/ʸ,diw/ø/ʌt; = I'll go to sleep,
;bar/u/!k,diw/ø/ʌt/a/?; = Will you go to sleep?

(For the obligatory question Certainty morpheme /?/, see H,6,3,iii,a.)

d. command - all 2nd,-person S-groups;

e.g. ;bar/u/!k,diw/ø/'/a;; = You go to sleep!

e. permissive - 1st,-person plural S-groups;

e.g. ;hinʌn/ø/ø,diw/ø/ni/;ʌy; = Let's go to sleep.

(For the use of the Optative morpheme /;ʌy/ in this group, see NOTE G,2.)

ii.

The Head is represented in these five classes of P-group

by the following:

a. in all-person groups - by preterite, present, past, negative, modified(=negative) and indirect imperative words (these names are those of paradigm sets - see Appendix C; the same applies to all other names used here in referring to verbal words.)

b. in indirect prohibitive groups - by modified (indirect prohibitive) words;

c. in future groups - by future words;

d. in command groups - by imperative and prohibitive words;

e. in permissive groups - by permissive words.

System G.4.6

- 1st, singular (verbal personal person-specific S-compatible)
- 1st, plural
- 3rd, masculine
- 3rd, feminine
- 3rd, plural
- 2nd, masculine
- 2nd, feminine
- 2nd, plural

With the exceptions described in NOTE G.3., personal P-groups show person/gender/number concord with at least one S-group to which they are structurally related, and gender/number concord with all such S-groups (see G.1.4.i.c, above). Verbal groups fall into eight person/gender/number classes, as listed above.

A different paradigm set of words represents the Head in each of these eight classes of P-group - see Appendix C.i.b,

System G.4.7

- masculine singular (equative personal person-specific S-compatible)
- masculine plural
- feminine singular
- feminine plural.

The gender/number of an equative P-group is usually the same as that of a structurally related S-group. (The exceptions are covered by NOTE G.3.iii.)

- e.g. ;'u:/tāk/φ, 'ara:w/o/!n, φ/u; = The man is our friend,
 ;'a:/ndaā/φ/γ, 'araw/φ/e/!n, φ/a; = The men are our friends,
 ;ti/takāt/φ, 'ara:w/to/!n, φ/tu; = The woman is our friend,
 ;ta:/mā'/φ/φ, 'araw/φ/te/!n, φ/ta; = The women are our friends,

The gender/number of an equative group is that of its h-word (H.1.10.)

System G.4.8

- 1st./3rd.-person (equative personal person-specific S-compatible)
- 2nd.-person

Personal equative words fall into two classes, the first of which is compatible with 1st.- or 3rd.-person S-groups, the

second with 2nd,-person S-groups. Both classes are compatible with person-neutral S-groups;

e.g. ;'ane/ʸ, 'ara:w/o/'k, ø/u; = I am your friend.

;bar/u/'i, 'ara:w/o/'k, ø/u; = He is your friend.

c.f. ;bar/u/'k, 'ara:w/o/'n, ø/w/a; = You are our friend.

The person of the P-group is that of its h-word (W, 1, 11,).

System G.4.9

verbal (semi-personal person-specific S-compatible)
equative

A semi-personal P-group may be either verbal or equative; i.e. the Head may be represented in it by either a verbal or an equative word,

e.g. verbal: ;wi/'ð:r/ø, 'i/tak/ø, /i/'t, k'/ii:/ø/kě; = The boy is not like the man.

equative: ;wi/'ð:r/ø, 'i/tak/ø, /i/'t, ø; = The boy is like the man.

For the concord between equative P-groups and S-groups, see the following system. Nothing is known about the concord between verbal P-groups and S-groups, as far as the semi-personal class of P-group is concerned, therefore no systems will be set up to account for such concord as there can be assumed to be,

System G.4.10

1st, /3rd,-person (equative semi-personal person-specific S-compatible)

2nd, masculine

2nd, feminine

2nd, plural

There are four person/gender/number classes of equative semi-personal P-group. The first of these classes is compatible with all 1st,- or 3rd,-person S-groups, irrespective of gender or number; the other three classes are compatible with 2nd,-person S-groups of the masculine, feminine and plural (either gender) classes respectively,

e.g. ;'ane/ʸ, 'i/tak/ø, /i/'t, ø; = I am like the man.

;ba/ø/ta/'i, 'i/tak/ø, /i/'t, ø; = They (fem.) are like the man

;bar/u/'k, 'i/tak/ø, /i/'t, ø/w/a; = You (masc.) " " " "

;ba/ø/ta/'k, 'i/tak/ø, /i/'t, ø/:na; = You (fem, plur.) are like the man.

- ii, The Head is represented in groups of the first class by words which contain no Second-person morpheme; in all the other classes, the h-word contains a Second-person morpheme, of a different class in each class of groups,

System G.4.11

unmarked
deponent
joint
causal
passive
passive/deponent
joint/passive/deponent

- i, These seven classes of P-group are constituents of clauses belonging to different types (see C,0,iii, and Appendix D),

- ii,a, Clauses are allotted to one of eleven different types; one of these includes 'underived' clauses, and the members of the remaining ten types are considered to be derived by various sets of rules from members of the 'underived' type. Each 'derived' type is referred to by a formulaic translation of typical members. (In these translations, 1, 2 and 3 stand for nominal groups, and V stands for a verbal group. Thus a typical member of the type referred to as '1+3 V 2 together' could be translated as 'The boy and his friend saw the film together.')

- ii,b, The seven classes of P-group occur as constituents of clauses of the following types (see C,0,iii,b, for examples);
- unmarked groups - in underived types;
- deponent, passive/deponent and joint/passive/deponent groups - in '2 V himself' types;
- joint, joint/passive/deponent groups - in '1+3 V 2 together' type
- | | | |
|--|-----------------------------|---|
| | '1+2 V each other' | " |
| | '3 V 2 with 1' | " |
| | '1+2 V themselves together' | " |
| | '3 V himself with 2' | " |
- causal groups - in '3 made 1 V 2' types
- | | |
|--|----------------------------------|
| | '3 made 2 V himself' types |
| | '3 made 1+2 V each other' types; |

passive, passive/deponent, joint/passive/deponent groups -

in '2 made 1 V him' types

- ii, In each of these seven classes of P-group, the Head is represented by verbal words containing different classes of Transitor morpheme (M,2,3,4,); in unmarked groups, the Head is also represented by equative or adjectival words, (But see MP,2,iv,c, for Transitors which are here included under 'causal', but may be members of one or two additional classes of Transitor; see also M,2,3/4,ii,c, for words which contain causal Transitors, but which may be constituents of unmarked P-groups,)

System G.4.12

transitive

intransitive

- i, Unmarked P-groups (see the preceding system) fall into two classes, according to whether or not they are compatible with O-groups representing the Object, P-groups which are not unmarked are classed as transitive or intransitive according to whether the corresponding unmarked P-group is transitive or intransitive, since the compatibility of such a P-group with O-groups is determined not only by its 'transitivity' as thus defined, but also by the type of clause of which it is a constituent, Thus, in some types of clause, intransitive P-groups can be structurally related to O-groups, and in other types, transitive P-groups can not be structurally related to O-groups;

e.g. intransitive P-group in underived type of clause;

; 'u;/tāk/∅, 'i/∅/dīf; = The man went,

intransitive P-group in '3 made 1 V 2' type;

; 'ane/∅, 'o;/tāk/∅, 'a/so;/dīf; = I made the man go,

transitive P-group in underived type;

; 'u;/tāk/∅, wi/'o;r/o/∅, 'i/∅/mīn; = The man shaved his son,

transitive P-group in '2 V himself' type;

; wi/'o;r/u/∅, 'i/∅/mān; = His son shaved himself,

- ii, Transitive P-groups can belong to one of all seven classes distinguished in the preceding system, but intransitive P-groups can only be unmarked, joint, causal or joint/passive/deponent,

- iii, In intransitive P-groups, the Head is represented by adjectival and equative words, and by verbal words containing intransitive Radicals (M,1,12,). In transitive P-groups, the Head is represented by verbal words containing single-transitive or double-transitive Radicals,

System G.4.13 { single-transitive (transitive)
double-transitive

- i, Unmarked transitive P-groups may be compatible with either one or two Objects; again, P-groups which are not themselves unmarked are classed as single- or double-transitive according to the class of the corresponding unmarked P-group;
- e.g, single-transitive P-group in underived type of clause;
; 'u;/ták/ø, 'i/mhallag/a/ʸ, 'i/ø/rib; = The man refused the money,
- single-transitive P-group in '3 made 1 V 2' type;
; 'ane/ʸ, 'o;/ták/ø, 'i/mhallag/a/ʸ, 'a/so:/rib; = I made the man refuse the money,
- double-transitive P-group in underived type;
; 'u;/ták/ø, wi/'ara;w/o/ʸ, 'i/mhallag/a/ʸ, 'i/ø/kwsi; = The man paid my friend the money,
- double-transitive P-group in '3 made 1 V 2' type;
; 'ane/ʸ, 'o;/ták/ø, wi/'ara;w/o/ʸ, 'i/mhallag/a/ʸ, 'a/s/kwasi; = I made the man pay my friend the money,
- ii, All three of the classes distinguished in the following system can be divided into single- and double-transitive. Probably all members of the future-incompatible class of auxiliary P-groups (G.4,15,) are double-transitive, and the remaining auxiliary P-groups are single-transitive. It is not known, however, which of the quoting and unrestricted P-groups are single-, and which are double-transitive,
- iii, In single-transitive P-groups, the Head is represented by words containing single-transitive Radicals (M,1,12,), but in double-transitive P-groups by words containing double-transitive Radicals,

System G.4.14

{	auxiliary (transitive)
	quoting
	O-restricted

i.

The Object can be represented by different items according to the class of the P-group to which it is structurally related;

- a. with auxiliary P-groups it is represented by sentences and nominal groups (G.2.1.);
- b. with quoting P-groups it is represented by quotation and nominal groups;
- c. with O-restricted P-groups it is represented only by nominal groups,

e.g. sentence + auxiliary P-group;

;diw/ø/at, 'i/ø/rib; = He failed to sleep.

nominal group + auxiliary P-group;

'i/mhallag/a/∞, 'i/ø/rib; = He refused the money.

nominal group + sentence + auxiliary P-group;

'o;/tak/ø, 'i/mhallag/a/∞, b/i;/ri;∞b, so/ø/:yǎ; = He told
the man not to refuse the money.

quotation group + quoting P-group;

;;'ane/∞, tam/ø/i; /;e/∞, ø/ø/hanbǐ; = He prevents my eating it.

nominal group + quoting P-group;

'o;/tak/ø, ø/ø/hanbǐ; = He prevents the man.

nominal group + quotation group + quoting P-group;

;ti/takát/ø, ;'ane/∞, diw/ø/i; /;e/∞, so/ø/:ǐ; = He used to tell
the woman that I was sleeping.

nominal group + O-restricted P-group;

' ;ti/m'ari/∞, tam/ø/yǎ; = He ate the food.

ii.

All transitive P-groups are assumed to be O-restricted except those in which the Head is represented by words containing the Radicals listed in Systems G.4.15, 16, 17, below.

System G.4.15

{	future-compatible (auxiliary transitive)
	non-future-compatible

i.

Some auxiliary P-groups are compatible with future,

others with non-future, intensive sentences (S.1.3.);

e.g. future-compatible ; ;.diw/ø/át., 'i/ø/ríb; = He failed to sleep.

non-future-compatible; ;.diw/ø/ĩ., 'i/n/dĩ; = He is going to go to sleep.

ii. There is no person/gender/number concord between future sentences and P-groups, but there is such concord, to some extent, between some non-future sentences and P-groups (see S.1.4,5.);

e.g. future: ;.diw/ø/át., 'a/ø/ríb; = I failed to sleep.

;.diw/ø/át., ni/ø/ríb; = We failed to sleep.

non-future: ;.diw/ø/ĩ., 'a/n/dĩ; = I intend to sleep.

;.diw/ø/nĩ., ni/ø/yád; = We intend to sleep.

iii.a. The Head is represented in groups of these two classes by words containing different Radicals; these Radicals are as follows (as far as is known, the following lists are exhaustive):

in future-compatible groups: /r-ʸb/ = refuse; /yi'e/ = come;

/'-k-t-y/ = be, become; /r/ = like,

in non-future-compatible groups: /y-d/n-y/ = say; /so/ = tell.

iii.b. The meanings of these Radicals, when the groups in which they occur are structurally related to sentences, are different in most cases from those shown above, which are their meanings in other environments. The former meanings are illustrated by the following examples:

/r-ʸb/ ; ;.diw/ø/át., 'i/ø/ríb; = He failed to sleep.

/yi'e/ ; ;.diw/ø/át., yi'/ø/i:ní; = He may sleep.

/'-k-t-y/ ; ;.diw/ø/át/ka;šaga;/m/át., 'i/ø/kě; = He alternated between sleeping and working.

(The contrastive Conjunctive morpheme /ka/ is found only in sentences structurally related to groups containing /'-k-t-y/ - see M.17.1,ii,e.)

/r/ ; ;.diw/ø/át., ká/r/ø/án; = I don't like sleeping.

/y-d/n-y/, /so/ - see the following system.

iii.c. In P-groups which are structurally related to sentences, the Head cannot be represented by all the paradigm-sets of word described in Appendix C; each of the above Radicals occurs in words

of a different range of paradigm-sets, as follows:

/r-^vb/ - only in preterite words;

/yi'e/ - only in present, past, neutral participial and
negative participial words;

/r/ - only in negative words

/'-k-t-y/, /y-d/n-y/ and /so/ - in words of all the paradigm-sets.

iii.d. The Radicals /yi'e/, /'-k-t-y/, /r/ and /y-d/n-y/ are
irregular - see Appendix B.

System G.4.16 { 'say' (non-future-compatible auxiliary transitive)
'tell'

i. Non-future-compatible P-groups fall into two classes,
whose members are compatible with different classes of sentence.
The 'say' class are compatible with either O-intensive or S-inten-
sive sentences, but the 'tell' class are compatible with O-inten-
sive sentences only;

e.g. S-intensive sentence + 'say' P-group:

;diw/ø/ĭ, 'a/n/dĭ; = I intend to sleep.

O-intensive sentence + 'say' P-group:

;o:/tāk/ø, .b/i:/diw/áy, 'a/n/dĭ; = I tell the man not to
sleep.

O-intensive sentence + 'tell' P-group:

;o:/tāk/ø, .b/i:/diw/áy, so/ø/ánf; = I tell the man not to
sleep.

ii. The Head is represented in these two classes of P-group
by words containing the Radicals /y-d/n-y/ = say, and /so/ = tell,
respectively.

System G.4.17 { singular ('say' non-future-compatible auxiliary
1st. plural transitive)
2nd./3rd. plural

i. 'Say' P-groups are compatible with person-sensitive
sentences (S.1.4.) only of a particular person/gender/number class.
There are two such classes of sentence: '1st. singular' and '1st.
plural' (S.1.5.); the three classes of P-group distinguished here
are compatible with these classes of sentence as follows:

singular groups - with 1st. singular sentences;

1st.plural groups - with 1st. plural sentences;

2nd./3rd.plural groups - with either 1st. singular or 1st. plural sentences.

e.g. ;.diw/ø/Ī., 'a/n/dī; = I intend to sleep.

;.diw/ø/nī., ni/ø/yád; = We intend to sleep.

;.diw/ø/Ī., 'i/ø/yad/˘na; = ;.diw/ø/nī., 'i/ø/yad/˘na; = They intend to sleep.

- ii. The Head is represented in these three classes of P-group by singular, 1st.-person plural, and 2nd.- or 3rd.-person plural words respectively.

System G.4.18

'think', etc. (quoting transitive)

'like', etc.

'prevent', etc.

'report', etc.

'hear', etc.

'fear', etc.

- i. These six classes of P-group are compatible with different classes of quoting O-group (G.2.2.):

'think', etc. groups	- with /˘/:b,	groups;
'like', etc. " - "	/!t,	"
'prevent', etc. " - "	/!t _o to:/naa/˘,	"
'report', etc. " - "	/˘/:b, /!t _o to:/naa/˘,	"
'hear', etc. " - "	/!t _o to:/naa/˘, /! _o naa/˘	"
'fear', etc. " - "	/˘/:b, /!t _o to:/naa/˘, /! _o naa/˘	"

- ii. The Head is represented in these six classes of P-group by words containing the following Radicals (these lists are assumed not to be exhaustive):

'like', etc. - /'are/ = like

'prevent', etc. - /h- b-y/ = prevent

'report', etc. - /gw- b-y/ = turn over, report

/rih/ = see

- 'hear', etc. - /m-s- w/ = hear
 /k- n/ (irregular) = know
 /d-[~]l-y/ = ascertain
 /h-r- w/ = want, look for
- 'fear', etc. - /r- kw-y/ = fear
 /so/ = tell
 /'agri/ = read
 /k-t-[~]b/ = write

System G.4.19 { copular (O-restricted transitive)
 non-copular

- i. Copular, but not non-copular, P-groups usually show gender/number concord with O-groups to which they are structurally related (see the following system);
- c.g. copular: ;ti/m'ari/˘, ;inda:i; /t, o, 'a/ø/kwǎ:s; = I made the food good.
 ;'o:/bũ:n/ø, ;inda:i; /b, o, 'a/ø/kwǎ:s; = I made the coffee good.
- non-copular: ;ti/m'ari/˘, 'a/ø/tkwǐ; = I cooked the food.
 ;'o:/bũ:n/ø, 'a/ø/tkwǐ; = I cooked the coffee.
- ii. In copular, but not in non-copular, P-groups, the Head is represented by non-c-concordial copular verbal words (W.1.7.) - i.e. by words containing the Radical /kw- s/ = cause to be.

System G.4.20 { masculine singular (copular O-restricted transitive)
 masculine plural
 feminine singular
 feminine plural

- i. With the exceptions noted in ii. below, these four classes of P-group are compatible only with O-groups of the same gender/number (G.2.9.).
- ii. The Complement is represented in these four classes of P-group by groups of different gender/numbers (G.5.15.); if, however, one of the groups representing the Complement is substantive, the gender/number of the P-group need not be the same as that

of the O-groups to which it is structurally related;

e.g. ; 'i/ø/rab/e/∞, ,ø/dibl/i/:ä/:b, 'a/ø/kwä:s; = I made the luggage into heaps.

(The P-group is masculine plural, since the group representing the Complement in it is masculine plural = ,ø/dibl/i/:ä/:b, = heaps - but the O-group = 'i/ø/rab/e/∞, = the luggage - is masculine singular.)

System G.4.21 | collective (transitive)
| non-collective

- i. Collective P-groups are compatible with collective, but not with non-collective, O-groups, but non-collective P-groups are compatible with either collective or non-collective O-groups (see G.2.7.).
- ii. All P-groups are non-collective except those in which the Head is represented by words containing long Transistors and Radicals which are compatible with short Transistors - see M.2.1.v.

System G.4.22 | adjectival
| agentive
| non-agentive

- i. Some classes of P-group are compatible only with certain classes of A-group, while for other P-groups no such restrictions are known, though they no doubt exist. The former P-groups fall into two classes, 'agentive' and 'non-agentive'. Agentive P-groups are compatible with all except gerund A-groups (G.3.8.). Non-agentive P-groups are incompatible with gerund A-groups, but are compatible with other classes of A-group, as described in the following sections. P-groups for which no restrictions are known, as far as the A-groups with which they are compatible are concerned, are referred to as 'adjectival'.
- ii. In adjectival P-groups, the Head is represented by adjectival words; in agentive P-groups, by agentive verbal words; in non-agentive P-groups, by equative words or any other verbal words.

Systems G.4.23-25, (non-agentive)

In these systems, non-agentive P-groups are sub-divided on various syntactic criteria. The classes into which the P-groups are thus divided are morphologically distinguished by the words which represent the Head in their members; these words may be equative or verbal, and, if verbal, they belong to different paradigm-sets, as described in Appendix C. The morphological differences between the classes in the following systems are as shown in the table below.

Head-word	class of P-group (by systems):		
	G,4,23,	G,4,24,	G,4,25.
neutral participial	informative	neutral	unrestricted
negative "	"	"	"
preterite "	"	preterite	preterite-compatible
preterite affirmative	"	"	"
present "	"	neutral	pret./past-compatible
past "	"	"	unrestricted
negative "	"	"	"
modified(=negative)	"	"	"
<u>equative</u> affirmative	"	"	"
preterite interrogative	ambiguous	preterite	preterite-compatible
present "	"	neutral	pret./past-compatible
past "	"	"	unrestricted
negative "	"	"	"
<u>equative</u> "	"	"	"
indirect imperative	"	"	pret./past-compatible
modified(indirect prohibitive)	"	"	"
permissive	"	"	"
future	"	"	"
prohibitive	suggestive	"	"
imperative	"	imperative	present-compatible,

System G.4.23

- informative (non-agentive)
- suggestive
- ambiguous

Informative P-groups are compatible with informative, but not with suggestive, 'ao' A-groups (G,3,9,); suggestive P-groups are compatible with suggestive, but not with informative, A-groups; and ambiguous P-groups are compatible with either informative or suggestive A-groups;

e.g. informative A-group + informative P-group:

;;diw/ø/i:nf;/;a;yt,k'ii:/ø/dif; = He's sleeping, so he won't go.

suggestive A-group + suggestive P-group:

;;diw/ø/i:nf;/;ay,si/ba'ar/ø/ya; = He's sleeping, so wake him!

informative A-group + ambiguous P-group:

;;diw/ø/i:nf;/;a;yt,si/ba'ar/at/a/?; = He's sleeping, so will you wake him?

suggestive A-group + ambiguous P-group:

;;diw/ø/i:nf;/;ay,si/ba'ar/at/a/?; = He's sleeping, so will you wake him?

System G.4.24

- preterite (non-agentive)
- imperative
- neutral

Preterite P-groups are compatible with preterite 'an' A-groups (G,3,12,); imperative P-groups with command A-groups; and neutral P-groups with unmarked A-groups;

e.g. preterite A-group + preterite P-group:

;;diw/ø/an/ø;/t,yak/ø/an; = I slept and got up.

command A-group + imperative P-group:

;;diw/ø/ø/a/ø;/t,yak/ø/'/a; = Sleep and get up!

unmarked A-group + neutral P-group:

;;diw/ø/e:t/i;/t,yak/ø/anf; = I sleep and get up.

(Compare with these examples the groups in V,1,3, which consist of a clause and a word;

e.g. ";;diw/ø/an/'/;ø'a/ø/yhǎ, = I overslept, (clause + word)

c,f; ;diw/ø/an/ø;/t,'a/ø/yhǎ; = I slept, then I took it, (as above,.)

System G.4.25

- preterite-compatible (non-agentive)
- present-compatible
- preterite/present-compatible
- unrestricted.

These four classes of P-group are compatible with different classes of person-neutral 'then' A-groups (for the classes compatible with person-specific 'then' A-groups, see the next two systems);

preterite-compatible P-groups are compatible with preterite/negative A-groups (G.3.11.)

e.g. ;idiw/ø/ani/'t,yak/ø/ān; = I slept and got up.

present-compatible P-groups are compatible with present A-groups;

e.g. ;idiw/ø/any;/ā:t,yak/ø/'/a; = I'm going to sleep, so get up!

preterite/present-compatible P-groups are compatible with either preterite/negative or present A-groups;

e.g. ;idiw/ø/ani/'t,yak/ø/āt; = I've slept, and I'll get up.

;idiw/ø/any;/ā:t,yak/ø/āt; = I'm going to sleep, and I'll get up.

unrestricted P-groups are compatible with both the above classes, and with past A-groups;

e.g. ;idiw/ø/ani/'t,yak/ø/ī; = I slept, then I would get up. (?)

;idiw/ø/any;/ā:t,yak/ø/ī; = I sleep, then I would get up. (?)

;idiw/ø/i;/ā:t,yak/ø/ī; = I used to sleep, then I used to get up.

System G.4.26

- person-specific 'then'-compatible (non-agentive)
- person-specific 'then'-incompatible

i. Some non-agentive P-groups are, others are not, compatible with person-specific 'then' A-groups (G.3.10,13.).

ii. In those P-groups which are compatible with such A-groups the Head is represented by preterite, present, past, negative or modified (=negative) verbal words.

System G.4.27

preterite (person-specific 'then'-compatible non-agentive
 present
 past
 negative

i.a. These four classes of P-group are compatible with the following classes of person-specific 'then' A-group:

preterite P-groups = with preterite A-groups;
 present P-groups = with present A-groups;
 past P-groups = with preterite and past A-groups;
 negative P-groups = with past A-groups.

i.b. In addition to the above restrictions, there is person/gender/number concord between P-groups and person-specific A-groups such concord can, however, be stated in terms of System G.3.14, for the A-groups, and System G.4.6, above, for the P-groups; e.g. preterite A-group + preterite P-group:

1st, singular: ; ; diw/ø/an; /'t/ka,yak/ø/ān; = I kept on sleeping and getting up.

1st, plural : ; ; diw/ø/na;y; /'t/ka,yak/ø/nā; = We kept on sleeping and getting up.

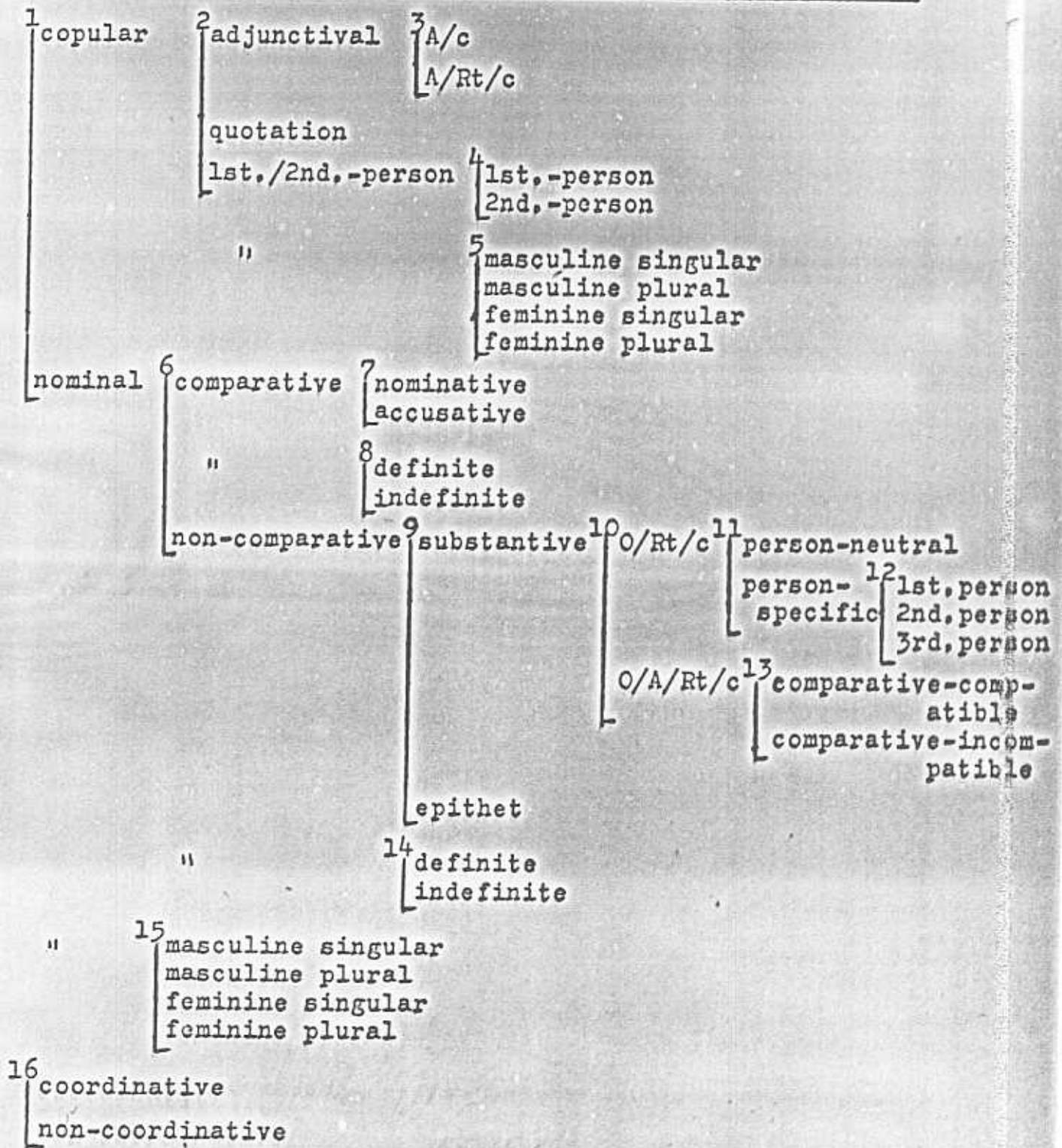
ii. In these four classes of P-group, the Head is represented by preterite, present, past and either negative or modified (= negative) words respectively.

G.5. Complement-groups

i. Most groups which can represent the Complement can also represent one of the clause-elements, and are therefore members of one of the classes already described.

ii. The classes into which the element-class 'Complement-groups' is divided are summarised below.

Systems of group-classes applying to the Complement



System G.5.1

1	copular

i.

Copular and nominal c-groups require the following classes of h-word:

- a. copular groups require equative or c-concordial copular verbal words (W.1.1,7.);

b. nominal groups require equative, copular verbal, nominal and adjunctival words.

ii. Copular and nominal c-groups belong to the following element-free classes:

a. valency-classes: copular groups are A/c, A/Rt/c, O/Rt/c or c-only but nominal groups are S/c, O/A/Rt/c or O/Rt/c;

b. conjunction-classes: copular groups are linking, solo or coordinating, but nominal groups are apposing, solo/apposing or coordinating/apposing;

c. sequence-classes: all copular groups are non-epithet, but nominal groups are either epithet or non-epithet.

iii. For the morphological characteristics of copular and nominal groups, see the following sections.

System G.5.2 adjunctival (copular)
quotation
1st./2nd.-person

i. These three classes of c-group can be structurally related to the following classes of equative word:

a. adjunctival groups - to impersonal words (W.1.9.);
e.g. , ,idiw/ø/any;/e/!k_ou, = It is if I sleep.

b. quotation groups - to (1st./3rd.-person feminine) personal words;
e.g. , ,idiw/ø/any;/e/!t_oto:/naa/! , ø/tu, = It is the fact that I sleep.

c. 1st./2nd.-person groups - to personal words;
e.g. , ,idiw/ø/anĭ;/:/b_oø/u, = I am able to sleep.

ii. The three classes of c-group belong to the following element-free classes:

a. valency-classes: adjunctival groups are A/c or A/Rt/c, but quotation groups are O/Rt/c, and 1st./2nd.-person groups are c-on

b. conjunction-classes: adjunctival classes are linking or coordinating, but quotation and 1st./2nd.-person groups are solo or coordinating.

c. sequence-classes: all three classes are epithet only.

iii. " " The morphological characteristics of adjunctival and quotation c-groups are described in G.3.6, and G.2.3, above. In

1st./2nd.-person groups, the Head is represented by the solo nominal words described in W.1.19.iii.a.3.

System G.5.3 A/c (adjunctival copular)
A/Rt/c

For the two valency-classes to which adjunctival c-groups belong, see G.3.6. above.

System G.5.4 1st.-person (1st./2nd.-person copular)
2nd.-person

i. These two classes of c-group require different persons of h-word:

a. 1st.-person groups require 1st.-person verbal words, 1st./3rd.-person equative words, or person-neutral verbal words;

e.g. ,;diw/ø/anĩ;/:b₁o k'/aa:/ø/kš, = I am not able to sleep.

,;diw/ø/anĩ;/:b₁o ø/u, = I am able to sleep.

,;diw/ø/anĩ;/:b₁o ø/'akäy/ø, = being able to sleep.

b. 2nd.-person groups require 2nd.-person verbal words, 2nd.-person equative words, or person-neutral verbal words;

e.g. ,;diw/ø/tinĩ/ø;/:b₁o k'/it/ø/t/˘a, = You are not able to sleep.

,;diw/ø/tinĩ/ø;/:b₁o ø/w/a, = You are able to sleep.

,;diw/ø/tinĩ/ø;/:b₁o ø/'akäy/ø, = being able to sleep.

ii. In these two classes of c-group, the Head is represented by words which contain clauses in which the Predicator is represented by 1st.- and 2nd.-person groups respectively.

System G.5.5 masculine singular (1st./2nd.-person copular)
masculine plural
feminine singular
feminine plural

i. 1st./2nd.-person c-groups require equative words or person-specific verbal words of the same gender/number;

e.g. ,;diw/ø/tinĩ/ø;/:b₁o k'/it/ø/t/˘a, = You (masc.) are not able to sleep.

,;diw/ø/tinĩ/ø;/:t₁o k'/it/ø/ta/˘y, = You (fem.) are not able to sleep.

- ii. These four classes of c-group are morphologically distinguished in the same way as the corresponding four classes of S-group - see G.1.7.ii.

System G.5.6

}	comparative (nominal)
	non-comparative

- i. Comparative and non-comparative c-groups belong to the following element-free classes:
- a. valency-classes: comparative groups are S/c or O/A/Rt/c, but non-comparative groups are O/Rt/c or O/A/Rt/c;
 - b. conjunction-classes: comparative groups are solo/apposing or coordinating/apposing, but non-comparative groups are apposing or coordinating/apposing;
 - c. sequence-classes: comparative groups are epithet, but non-comparative groups are epithet or non-epithet.
- ii.a. The Complement is always complex when represented by nominal groups except those mentioned in b. below;
- e.g. $\text{,,}'\text{o}:/\text{t}\acute{\text{a}}\text{k}/\emptyset, \text{'i}/\text{gaw}/\text{u}/\text{?}$, = the man's house (the man, his house)
- $\text{,,}'\text{i}/\text{i};\text{nda}:\text{i};/\text{Yb}, \text{'i}/\text{gaw}/\text{u}/\text{?}$, = the good one's house (the good one, his house)
- $\text{,,}'\text{o}:/\text{t}\acute{\text{a}}\text{k}/\emptyset, \text{'i}/\text{i};\text{nda}:\text{i};/\text{Yb}, \text{'i}/\text{gaw}/\text{u}/\text{?}$, = the good man's house (the man, the good one, his house)
- ii.b. Indefinite accusative comparative groups (see G.5.7,8. below) can represent either a simple or a complex Complement;
- e.g. $\text{,,}\text{i};\text{nda}:\text{i};/\text{?k}\text{aa}/\text{o}/\text{!k}, \text{'o}:\text{r}/\text{o}/\text{?}$, = a boy of his better than you
- $\text{,,}\text{i};\text{nda}:\text{i};/\text{?k}\text{aa}/\text{o}/\text{!k}, \text{'o}:\text{r}/\text{o}/\text{?}$, = a son of a better one than you (a better one than you, a son of his)
- (In the first example, the group represents a simple Complement but in the second it represents a complex element;
- c.f. $\text{,,}\text{t}\acute{\text{a}}\text{k}/\emptyset, \text{i};\text{nda}:\text{i};/\text{?k}\text{aa}/\text{o}/\text{!k}, \text{'o}:\text{r}/\text{o}/\text{?}$, = a boy of a man better than you (a man, a better one than you, a son of his).)
- ii.c. The exponent of such a group may differ according to whether it represents a simple or a complex element (MP.6.8.i.d.)
- e.g. simple: $\text{,,}\text{i};\text{nda}:\text{i};/\text{?k}\text{aa}/\text{?}, \text{'o}:\text{r}/\text{o}/\text{?}$, = a better son of his
- complex: $\text{,,}\text{i};\text{nda}:\text{i};/\text{?k}\text{aa}/\text{!b}, \text{'o}:\text{r}/\text{o}/\text{?}$, = a son of a better one

iii.a. Nominal groups representing a complex Complement require the following classes of h-word:

copular verbal words;

e.g. ,,'ara:w/o/!n,_ok'/ii:/ø/kě, = He's not our friend.

,,'nda:i;/~kaa/!b,_ok'/ii:/ø/kě, = He's not a better one.

personal equative words;

e.g. ,,'ara:w/o/!n,_oø/u, = He's our friend.

,,'nda:i;/~kaa/!b,_oø/u, = He's a better one.

possessed nominal or adjunctival words;

e.g. ,,'ara:w/o/!n,_owi/'o:r/u/!, = our friend's son (our friend
his son)

,,'nda:i;/~kaa/!b,_owi/'o:r/u/!, = a better one's son
(a better one, his son)

,,'ara:w/o/!n,_oge:b/δ:, = with our friend (our friend,
with him)

group-compatible adjunctival words;

e.g. ,,'ara:w/o/!n,_ohá:y, = with our friend (our friend,
with him)

,,'nda:i;/~kaa/!b,_ohá:y, = with a better one (a better one
with him)

comparative nominal or adjunctival words;

e.g. ,,'dabalo;/!naa/~/,,'nda:i;/~kaa/!b, = one a little better

iii.b. Comparative groups representing a simple Complement, as described in ii.b. above, require only nominal h-words;

e.g. ,,'nda:i;/~kaa/~/,,'tāk/ø, = a better man

iv. The Head is represented in comparative, but not in non-comparative, c-groups, by comparative nominal words.

System G.5.7

}	nominative (comparative nominal)
	accusative

i.a. Nominative comparative c-groups always represent a simple Complement, but accusative (indefinite) comparative groups can represent either a simple or a complex Complement, as described in G.5.6.ii.b. above.

i.b. Comparative groups representing a simple Complement require h-words of the same case;

- e.g. ,,;nda:i;/^kaa/:u/!k, 'ara:w/u/!k, = a friend of yours better
than you (nominative)
,,;nda:i;/^kaa/:o/!k, 'ara:w/o/!k, = a friend of yours better
than you (accusative)

- ii. Nominative groups belong to the S/c valency-class, but
 accusative groups belong to the O/A/Rt/c class.
 iii. The Head is represented in groups of those two classes
 by words containing nominative and accusative Markers respectively.

System G.5.8 definite (comparative nominal)
 indefinite

- i. All nominative comparative c-groups are indefinite, but
 accusative comparative c-groups are either definite or indefinite.
 Indefinite groups can, while definite groups can not, represent a
 simple Complement (see G.5.6.ii.).
 ii. In definite, but not in indefinite, comparative groups,
 the Head is represented by words which contain the Modifier among
 their constituents.

System G.5.9 substantive (non-comparative nominal)
 epithet

The differences, both syntactic and morphological,
 between substantive and epithet c-groups are the same as those
 between substantive and epithet O- or A-groups - see G.0.iii,iv.

e.g. substantive c-group + epithet c-group:

,,'o:r/Ø,;nda:i;/!b,Ø/u, = He is a good boy (He is a boy,
 a good one)

System G.5.10 O/Rt/c (substantive non-comparative nominal)
 O/A/Rt/c

See System G.2.6.

System G.5.11 | person-neutral (O/Rt/c substantive non-comparative nominal)
 | person-specific

i.a. Nominal c-groups can be structurally related to possessed nominal or adjunctival h-words, and the latter can be 1st.-, 2nd.- or 3rd.-person, singular or plural (W.1.15,24.).

i.b. Person-specific c-groups require h-words of the same person/number, whether or not the Complement is also represented by person-neutral groups; but if the Complement is represented only by person-neutral groups, the h-word must be 3rd. person, singular or plural, according to the number of the latter. (Compare the similar distinction between person-neutral and person-specific S-groups, G.1.4.)

e.g. person-neutral c-group + person-specific (1st.-person) c-group + 1st.-person h-word:

,,ba:b/o/!k,'aně/:b,'i/gaw/u/∨, = the house of me, your father(your father, me, my house)

person-specific(1st.-person)c-group + 1st.-person h-word:

,,'aně/:b,'i/gaw/u/∨, = my house (me, my house)

person-neutral c-group + 3rd.-person h-word:

,,ba:b/o/!k,'i/gaw/u/!, = your father's house (your father, his house)

i. The Head is represented in person-specific, but not in person-neutral, c-groups by pronominal h-words' (W.1.13.)

System G.5.12 | 1st.-person (person-specific O/Rt/c substantive non-
 | 2nd.-person comparative nominal)
 | 3rd.-person

Person-specific groups structurally related to possessed h-words must be of the same person as the latter (W.1.15,24.). For the morphological differences between 1st.-, 2nd.- and 3rd.-person groups, see G.1.5.ii.

System G.5.13 | comparative-compatible (O/A/Rt/c substantive non-comparative nominal)
 | comparative-incompatible

Some c-groups are compatible with comparative h-words,

both nominal and adjunctival. Only one such group -

,;dabalo;/'naa/' = a little thing, was recorded;

e.g. ,;dabalo;/'naa/'_o;nda:i;/'kaa/'b, = one a little better

System G.5.14 definite (non-comparative nominal)
indefinite
See System G.1.6.

System G.5.15 masculine singular (nominal)
masculine plural
feminine singular
feminine plural

a. A comparative group representing a simple Complement must be of the same gender/number as the h-word to which it is structurally related;

e.g. ,;nda:i;/'kaa/'_oba:ba/' = a better father

,;nda:i;/'kaa/'_ondee/' = a better mother

b. Apposed substantive and epithet c-groups must also be of the same gender/number;

e.g. ,ba:ba/'_o;nda:i;/'_o∅/u, = He is a good father (He is a father, a good one)

,ndee/'_o;nda:i;/'_o∅/u, = She is a good mother (She is a mother, a good one)

The four classes of c-group are morphologically distinguished in the same way as the four gender/number classes of S-group (G.1.7.ii.).

System G.5.16 coordinative
non-coordinative

Nominal c-groups which represent only a simple Complement are never coordinative.

For the division of the remaining nominal c-groups into coordinative and non-coordinative, see G.2.10.

Copular c-groups are either coordinative or non-coordinative. Coordinative copular groups all belong to the coordinating

conjunction-class, but non-coordinating copular c-groups belong either to the listing or to the solo conjunction class(G.5.2.ii.o.).

ii. The Head is represented in coordinative, but not in non-coordinative, c-group by words containing /wa/ = and, among their constituents.

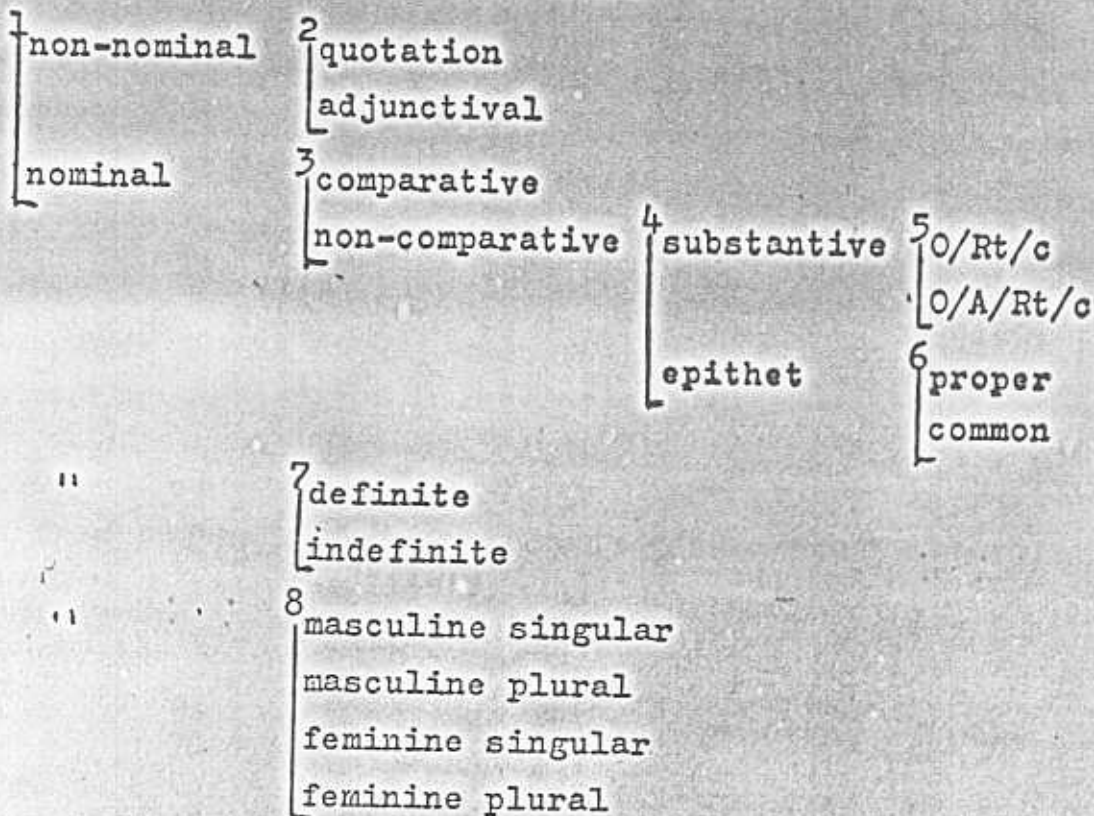
G.6. Root-groups

i. All groups which can represent the Root can also represent the clause-elements Object and/or Adjunct.

ii. Groups representing the element Root are always structurally related to the Genitival morpheme and to a Marker morpheme; for the meaning of such a grouping, see M.5.ii.

iii. Groups representing the Root can in some cases be apposed, but in no case can they be coordinated (or listed); there is therefore no 'coordinative' class of Rt-groups.

iv. The classes into which the element-class 'Root-groups' is divided are summarised below.



System G. 6.1

1	non-nominal
	nominal

Nominal and non-nominal Rt-groups require the following

classes of Marker morpheme:

- a. nominal groups require nominal Markers or 'by', etc. Markers;
 e.g. $\circ_{wi/}, 'i/tak/\emptyset, /i/\text{?}b_{\circ}$ = the one of the man (nominal Marker)
 $\circ_{}, 'i/tak/\emptyset, /i/!$ = from the man ('by' Marker)
- b. non-nominal groups require 'by', etc. Markers only;
 e.g. $\circ_{}, 'i/tak/\emptyset, /i/\text{?}ge:b, /i/!$ = from with the man
 $\circ_{}, ;diw/\emptyset/any; /e/!t_{\circ} ti/naa/\emptyset, /:ti/\text{?}b_{\circ}$ = because of the fact
that I am sleeping

ii. Nominal and non-nominal Rt-groups belong to the following element-free classes:

- a. valency-classes: nominal groups are O/Rt/c or O/Λ/Rt/c, but non-nominal groups are O/Rt/c or A/Rt/c;
- b. conjunction-classes: nominal groups are solo/apposing or apposing, but non-nominal groups are solo or linking.
- c. sequence-classes: nominal groups are epithet or non-epithet, but non-nominal groups are all non-epithet.

iii. All nominal Rt-groups are also members of the class 'personal O-group' (G.2.1.), and vice-versa; non-nominal Rt-groups also belong to the O/Rt/c quotation O-group class (G.2.3.) or to the A/Rt/c A-group class (G.3.6.).

System G.6.2 { quotation (non-nominal)
 { adjunctival

These two classes belong respectively to the O/Rt/c and A/Rt/c valency-classes, and to the solo and linking conjunction classes - see Systems G.2.3., G.3.6. (Of the two examples given in G.6.1.i.b. above, the first contains an adjunctival, the second a quotation, Rt-group.)

System G.6.3 { comparative (nominal)
 { non-comparative

For syntactic and morphological differences between comparative and non-comparative groups, see G.2.4.

e.g. $\circ_{wi/}, wi/'\delta:r/\emptyset, 'i//nda:i; / \text{?}kaa/\emptyset, / \text{?}na:i/\text{?}b_{\circ}$ = the one of the better boy (the one of the boy, the better one)

System G.6.4 { substantive (non-comparative)
epithet
See G.2.5.

e.g. substantive Rt-group: $\circ 'i/ \underline{wi/'o:r/\emptyset} /i/\text{?b}_\circ =$ the one of the boy

epithet Rt-group: $\circ \underline{wi/'i/;nda:i;/\emptyset} /?na:i/\text{?b}_\circ =$ the one of the good one

substantive Rt-group + epithet Rt-group:

$\circ 'i/ \underline{wi/'o:r/\emptyset} /i/;nda:i;/\emptyset} /?na:i/\text{?b}_\circ =$ the one of the good boy (the one of the boy, the good one)

System G.6.5 { O/Rt/c (substantive non-comparative nominal)
O/Λ/Rt/c
See G.2.6.

System G.6.6 { proper (substantive non-comparative nominal)
common

- i. Proper groups represent the Root in definite c-words, but common groups represent the Root in indefinite c-words - see W.2.4.ii.a.2.

e.g. proper group: $\circ \underline{'asma:n/\emptyset} /i/\text{?b}_\circ =$ Osman's

$\circ \underline{bar/\emptyset} /i/:o(/!k)_\circ =$ your

(as in: $\circ \underline{'asma:n/\emptyset} /i/\text{?b}_\circ 'o:/g\check{a}w/\emptyset,$ = Osman's house

$\circ \underline{bar/\emptyset} /i/:o(/!k)_\circ 'o:/g\check{a}w/\emptyset,$ = your house)

common group: $\circ \underline{'i/tak/\emptyset} /i/\text{?}_\circ =$ the man's

(as in: $\circ \underline{'i/tak/\emptyset} /i/\text{?}_\circ g\check{a}w/\emptyset,$ = the man's house)

- ii. The Head is represented in proper groups by words containing either pronominal Radicals, or substantive Radicals like /'asmá:n/ = Osman. (It is not known whether all names are like /'asmá:n/ in this respect.) Groups in which the Head is represented by other words are 'common'.

System G.6.7 { definite (nominal)
indefinite

- i. For the compatibility of definite and indefinite group

in apposition, and for the morphological differences between the two classes, see G.1.6.

ii. Definite, but not indefinite, groups are compatible with the Modifier morpheme;

e.g. \circ wi/, 'i/tak/∅, /i/ʔb \circ = the one of the man
 \circ , 'i/tak/∅, /i/!b \circ = one of the man
 \circ , tak/∅, /i/!b \circ = one of a man
 (but not * \circ , 'i/, tak/∅, /i/ʔb \circ = the one of a man)

System G.6.8

- masculine singular (nominal)
- masculine plural
- feminine singular
- feminine plural

For the compatibility of groups of different gender/numbers in apposition, and for the morphological characteristics of these four classes, see G.1.7. (See also MP.5.iii.a, for the different exponents of the Genitival morpheme structurally related to such groups.)

- - - - -
NOTES

NOTE G.1.

- i. There are two possible Beja translations for an English group containing two adjective words:
- a. two coordinated epithet groups
 ,gaw/ǎ/:b, ;dabalo;/:ǎ/:b/wa, ;biǎǎigi:l;/ǎ/:b/wa, = houses small and big (houses, small ones and big ones)
 - b. a single epithet group, in which the Head is represented by a word containing a clause as a constituent; in this clause, the Predicator is represented by an adjectival group, and the Adjunct is represented by an adjunctival group, which indirectly contains another adjectival group; both these adjectival groups, of course, consist of a single word consisting of a single Radical morpheme:
 ,ndaa/ʔ/:b, ;;ke:lǎm;/∅,nda:i;/ʔ/:b, = unlucky but good men (men, good ones being unlucky) - the P-group ,nda:i, = good, is structurally related to the A-group ,;ke:lǎm;/∅, = being unlucky.

ii. Thus, compare the following paradigms:

a. two coordinated epithet groups:

,;ke:līm;/ø/wa,;nda:i;/!b/wa, = an unlucky one and a good one (M.)

,;ke:lm;/ǎ/:b/wa,;nda:i;/∨/:b/wa, = unlucky ones and good ones "

,;ke:līm;/t/wa,;nda:i;/!t/wa, = an unlucky one and a good one (F.)

,;ke:lm;/ǎ/:t/wa,;nda:i;/∨/!t/wa, = unlucky ones and good ones "

b. two adjectival groups indirectly contained by one epithet group:

,;ke:līm;/ø,nda:i;/!b, = an unlucky but good one (Masc.)

,;ke:līm;/ø,nda:i;/∨/:b, = unlucky but good ones (Masc.)

,;ke:līm;/ø,nda:i;/!t, = an unlucky but good one (Fem.)

,;ke:līm;/ø,nda:i;/∨/:t, = unlucky but good ones (Fem.)

NOTE G.2.

Provisionally, verbal words with and without the Optative morpheme among their constituents, but otherwise identical, are considered to be in free variation. The following rules for the use of the Optative are, however, tentatively offered:

- a. The Optative can occur as a constituent of the following paradigm-sets of verbal word: past, permissive, indirect imperative, modified (indirect prohibitive), imperative, prohibitive. Any member of any of these paradigm-sets which contains the Optative can be matched with one which does not contain the Optative, but is otherwise identical, and vice-versa.
- b. When these verbal words are not contained by a rankshifted, intensive sentence (S.l.l.), the presence or absence of the Optative is not significant;
- e.g. .ni/ø/sa:g/ǎy. = Let's go away!
- c.f. .n/i:/bǎ. = Let's go! (The first does, the second does not, contain the Optative, /ǎy/; both these examples are taken from the recorded text.)
- c. When these verbal words are contained by an intensive sentence, the Optative is not possible, except as described in d. below;
- e.g. ;.ni/ø/sǎ:g,ni/ø/yád; = We are going to go away.
- d. In an indirect imperative verbal word, in the environment defined in c., the Optative is obligatory;
- e.g. ;'o:/ták/ø,.báa:/diw/ø/i:/ǎy,so/ø/'/:a;; = Tell the man to sleep! (not *;'o:/ták/ø,.báa:/diw/ø/ǎ,so/ø/'/:a;;)

NOTE G.3.

In some clauses in the recorded text, the grammatical gender/number of the P-group and the S-group were not the same; person-concord is maintained in every case. The following general rules can be set up, tentatively, on the basis of these observed instances:

- i. If the grammatical gender/number of the S-group conflicts with its semantic sex/number, the P-group may be of the gender/number which usually corresponds to the latter;

e.g. ;ngaa:l/u/!, ,wi/'ara:w/ø,/i/!,to:/ndii/∞,'i/ø/fira'/∞na;
= (Each) one of them took the fetters off his friend.

e.g. ;'u:/dháy/ø,'afrah/ø/ya:/n/'; = The people rejoiced and ...

e.g. ;'u:/rě:w/ø,,;ø/šwi/:a;/∞/:t,ø/a/;; = The cattle are pregnant and ...

(In each of these clauses, the S-group is masculine singular; in the first two clauses, the P-group is plural (gender-neutral), in the third it is feminine plural.)
- ii. When the Subject is represented by several coordinated groups, whose gender/numbers are different, the P-group may agree in gender/number with the last group (i.e. the one nearest it);

e.g. ;,'i/tak/ø,/i/∞bó:y/ø/wa,ti/manǎn/ø,ti/,'i/tak/ø,/!t/wa,
hó:y,t/e:/fě; = The man's blood and the knife of the man are in it. (The P-group is feminine singular, since the second and third of the three S-groups are feminine singular, but the first S-group - ,,'i/tak/ø,/i/∞bó:y/ø/wa, = and the man's blood - is masculine singular.)
- iii. There may be a conflict between the gender/number of a substantiv group representing the Complement in the P-group, and the gender/number of the S-group to which the latter is structurally related. The gender/number of such a P-group is shown morphologically by that of its h-word; if the latter is equative, its gender/number is always determined by the c-group, and if it is verbal, it is usually thus determined. Consequently, if the gender/number of the c-group is different from that of the S-group, the latter's gender/number will also be different from that of the P-group;

e.g. ;há:l/u/∞,,naa/!t,øk'/it/ø/tě; = My state (masc.) is not a thing (fem.) - the S-group is masculine, but the P-group is feminine.

THE CLAUSE

C.O. Element-classes and element-free classes

i. Element-classes

a. There are four element-classes of clause:

Pre-final clauses (referred to as I-clauses)			
Final clauses	("	"	II-clauses)
Complement-clauses	("	"	c-clauses)
Root-clauses	("	"	Rt-clauses)

b. The elements Pre-final and Complement are always complex when represented by clauses. (Two clauses representing the same element are listed). The other two elements, Final and Root, are always simple when represented by clauses.

e.g. Pre-final element represented by two clauses:

.ti/m'ari/ʋ, tam/ø/i:ni/!; 'o:/bũ:n/ø, gwa'/ø/i:ni/!; diw/ø/i:ni.
= He eats the food, and drinks the coffee, and goes to sleep.

Complement element represented by two clauses:

;ti/m'ari/ʋ, ti/ø/rib/'; ti/ø/dif/'; ba'/ø/tǎ,
or ;ti/m'ari/ʋ, ti/ø/rib/'/wa; ti/ø/dif/'/wa; ba'/ø/tǎ, = She kept on refusing the food and going.

Final element represented by one clause:

.ti/m'ari/ʋ, tam/ø/i:ni/!; diw/ø/i:ni. = He eats the food and goes to sleep.

Root element represented by one clause;

;diw/ø/i:ni;/:ay. = He goes to sleep, so ...

ii. Valency-classes

a. There are six valency-classes of clause:

I-only clauses;

II-only clauses;

c-only clauses;

Rt-only clauses;

II/Rt clauses;

c/Rt clauses.

e.g. I-only : .ti/m'ari/ʋ, baa:/tam/ø/i/!; baa:/diw/ø/ǎ. = Let him eat the food and go to sleep.

II-only: .baa:/diw/ǎ. = Let him go to sleep.

c-only : ;diw/ø/a/ʋ; ba'/ø/a, = having kept on sleeping

Rt-only :	o'!	i/idiw/ø/a;/ʔb _o	= the one who slept	..
			(the <u>having-slept</u> one)	
II/Rt, representing II :	.	diw/ø/i:ni.	= He is sleeping.	
"	"	Rt :	o;idiw/ø/i:ni;/:ay _o	= <u>He is sleeping,</u>
			so ...	
c/Rt,	"	c :	idiw/ø/e:t/ʔ;ba'/ø/i:ni,	= He keep
			on <u>sleeping,</u>	
"	"	Rt :	o;idiw/ø/e:t/i;/!t _o	= after <u>sleeping</u>

b. The Predicator is represented in these six classes of clause by groups in which the Head is represented by the following words:

1. in I-only clauses - by words containing the linking or contrastive Conjunctive morphemes;
2. in II-only clauses - by verbal words of the following paradigm-sets: permissive, indirect imperative, modified (indirect prohibitive), imperative (except those which contain the Compounder morpheme);
also by all verbal words which contain a question Certainty morpheme (except /han/ - see M.13.2.1.);
3. in c-only clauses - by preterite participial verbal words containing the Compounder morpheme;
4. in Rt-only clauses - by adjectival words;
also by modified(=negative) verbal words;
also by participial verbal words (except those defined in 3. above);
5. in c/Rt clauses - by verbal words containing the Compounder morpheme (except those defined in 3. above);
6. in II/Rt clauses - by equative words;
also by verbal words (not containing the Compounder) of the following paradigm-sets: preterite, present, past, negative, prohibitive, future.

iii. Clause-types

- a. Eleven types of clause are distinguished on the basis of their transformational interrelations - see Appendix D for a formal statement of these interrelations.

- b. Of these eleven types, one is referred to as 'underived', and each of the remaining ten types is referred to by a formulaic representation of the translation-meanings of its typical members. (In these formulae, the numbers 1, 2 and 3 stand for English nominal groups, and V for English verbal groups.) The eleven clause-types are thus as follows:

underived

'2 V himself'

'2 made 1 V him'

'1+2 V each other'

'1+3 V 2 together'

'3 made 1 V 2'

'3 V 2 with 1'

'3 made 2 V himself'

'3 V himself with 2'

'1+2 V themselves together'

'3 made 1+2 V each other'

e.g. (all the following clauses represent the Final element)

underived: ;'u:/tāk/ø, 'i/san/o/!, 'i/ø/mɪn; = The man shaved his brother.

'2 V himself': ;'i/san/u/!, 'i/ø/mɪn; = His brother shaved himself.

'2 made 1 V him': ;'i/san/u/!, 'o:/tāk/ø, 'i/to:/mɪn; = His brother let the man shave him.

'1+2 V each other': ;'u:/tāk/ø/wa, 'i/san/u/!/wa, 'i/mo:/mɪn/na; = The man and his brother shaved each other.

'1+3 V 2 together': ;'u:/tāk/ø/wa, wi/'ara:w/u/!/wa, 'i/san/o/!, 'i/mo:/mɪn/na; = The man and his friend shaved his brother together.

'3 made 1 V 2': ;wi/'ara:w/u/!, 'o:/tāk/ø, 'i/san/o/!, 'i/so:/mɪn; = His friend made the man shave his brother.

'3 V 2 with 1': ;wi/'ara:w/u/!, 'o:/tāk/ø, 'i/san/o/!, 'i/mo:/mɪn; = His friend shaved his brother with the man.

'3 made 2 V himself': ;wi/'ara:w/u/!, 'i/san/o/!, 'i/so:/mɪn; = His friend made his brother shave himself.

'3 V himself with 2': ;wi/'ara:w/u/!, 'i/san/o/!, 'i/mo:/mɪn; = His friend shaved himself with his brother.

'1+2 V themselves together'; ;'u:/tɔk/ø/wa, 'i/san/u/!/wa,
'i/mo:/ma:n/na; = The man and his brother
shaved themselves together.

'3 made 1+2 V each other'; ;wi/'ara:w/u/!, 'o:/tɔk/ø/wa,
'i/san/o/!/wa, 'i/so:/mamin; = His friend made the
man and his brother shave each other.

- c. All eleven types include members of every class (except as noted in C.4.12.) set up on other criteria. Thus, a fifteen-member system of clause-types applies to nearly all those elements of which clauses are members.

C.5. Clause-structures

The unit-structure of the clause includes four elements: Predicator, Subject, Object, Adjunct. Of these elements, only the Predicator is ever obligatory; i.e. no class of clauses is so defined that all its members contain a Subject, Object or Adjunct. The Predicator, however, is obligatory in all classes of clause. On the other hand, there are some clause-classes which are so defined that one of the other three elements is contained by none of their members (C.4.1.).

No clause can contain more than one Subject, Adjunct or Predicator; up to three Objects are possible, according to the class of the Predicator-group, and according to the 'type' of the clause. (C.4.12,13.).

C.1. Final clauses

- i. II-clauses belong to two different valency-classes - II-only, and II/Rt - and belong to the eleven different clause-types. Otherwise there are no criteria by which II-clauses could be divided into classes. Thus only two systems apply to the Final sentence-element, one including the two valency-classes, the other including the eleven clause-types.

- ii. For the syntactic and morphological differences between the classes belonging to these two systems, see C.O.ii,iii. above

C.2. Pre-final clauses

I-clauses all belong to the same valency-class, but they can be divided into the eleven clause-types. No other clauses can be distinguished within this element-class.

C.3. Complement-clauses

i. For the meanings of clauses representing the Complement, and for examples, see W.1.3. and NOTE W.1.

e.g. ,;diw/ø/an/'i;ba'/ø/an, = I kept on sleeping

,;tô:y,ti/m'ari/'v,tam/ø/e:t/Y;ba'/ø/i:ni, = He keeps on eating the food here.

ii. The classes into which c-clauses are divided are summarised below:

1	preterite	2	1st, singular		
			1st, plural		
			3rd, masculine		
			3rd, feminine		
			3rd, plural		
			2nd, masculine		
			2nd, feminine		
			2nd, plural		
			imperative	3	masculine
					feminine
plural					
unmarked					
participial					
4	underived		'2 V himself'		
			etc.		

System C.3.1

preterite
imperative
unmarked
participial

i. These four classes of c-clause require different classes of h-word - see W.1.3.

ii. Participial clauses belong to the c-only valency-class, but the other three classes belong to the c/Rt class.

iii. "The Predicator is represented in these four classes

by groups in which the Head is represented by the following paradigm-sets of verbal word;

- a. in preterite clauses; by preterite words;
- b. in imperative clauses; by imperative words;
- c. in unmarked clauses; by neutral participial words;
- d. in participial clauses; by preterite participial words.

System C.3.2

- 1st, singular (preterite)
- 1st, plural
- 3rd, masculine
- 3rd, feminine
- 3rd, plural
- 2nd, masculine
- 2nd, feminine
- 2nd, plural

i, These classes of preterite clause require different person/gender/number classes of preterite word (W.1.4.),

ii, In each of these eight classes of group, the Head is represented by words of the same person/gender/number as the clauses themselves.

System G.3.3

- masculine (imperative)
- feminine
- plural

Similarly, these three classes of imperative clause require different gender/number classes of imperative word (W.1.5). The classes of clause are morphologically distinguished in the same way as the classes in the previous system.

System C.3.4

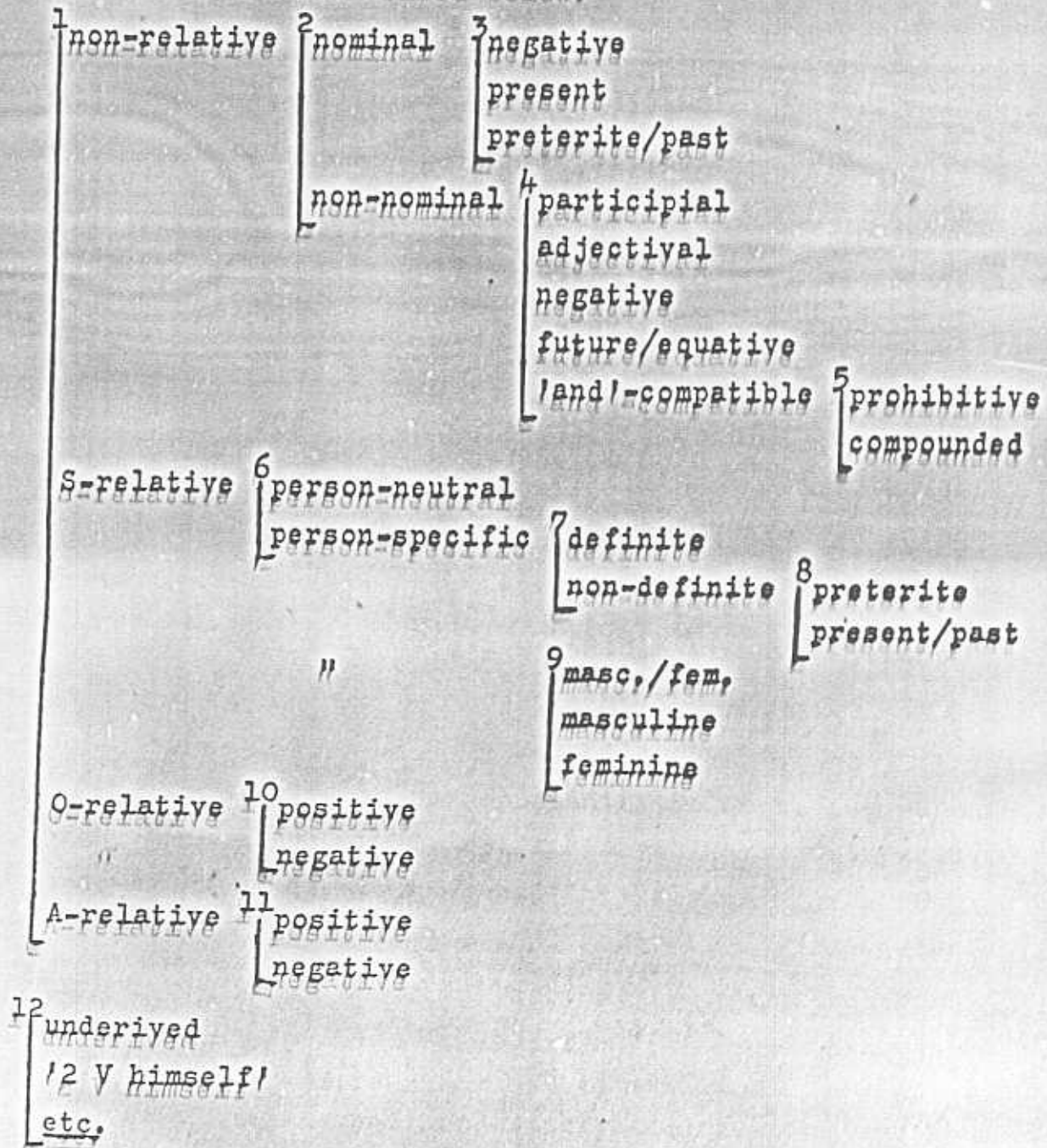
- underived
- '2 V himself'
- etc.

The element-class 'c-clauses' includes members of all eleven clause-types.

C, 4, Root-clauses

i, When a clause represents the Root, the morphemes to which it is structurally related are always juxtaposed to the word which represents the Head in the clause's P-group; other constituents of the clause can, however, occur sequentially outside the word of which the clause is a constituent;
 e.g. $\text{otf/;t6:y,rih/0/an;/e/!t}_0 = \text{otf/;rih/0/an;/e/!t}_0 (\text{,t6:y,}) =$
 the one which I saw here.

ii, The classes into which the element-class 'Root-clauses' is divided are summarised below,



System C.4.1

non-relative
S-relative
O-relative
A-relative

i, a, S-, O-, and A-relative Rt-clauses are considered to be derived from non-relative Rt-clauses, by the removal of a lexical item from the latter; this item can - but need not - occur in the environment of the clause thus produced (see ii, below for the possible relations between the lexical item and the relative clause),

e, g, the S-relative clause; ;tō:y, diw/ø/i:nĩ; = (he) sleeps here, in; ;'p:/tāk/ø, 'i/;tō:y, diw/ø/i:nĩ;/;b, = the man who sleeps here (the man, the one who sleeps here), is considered to be derived from the non-relative clause; ;'u:/tāk/ø, tō:y, diw/ø/i:nĩ; = the man sleeps here (as in; ;'u:/tāk/ø, tō:y, diw/ø/i:nĩ;/;ay, = the man sleeps here, so ...),

i, b, S-, O- and A-relative clauses differ in the element which the item thus 'removed' is considered to have represented in the non-relative clause - viz, the Subject, Object and Adjunct respectively. More precisely, the class 'O-relative' includes all relative clauses which do not belong to either of the other two classes, since some O-relative clauses can not be considered to be derived from clauses in which the removed item represented the Object - see NOTE C.1.

i, c, These four classes of Rt-clause are not, of course, disjoint, since none of the elements Subject, Object or Adjunct are obligatory in any class of clause; thus, the class of a particular clause is determined, in some cases, only by its environment; e, g, the clause; ;'ane/γ, tam/ø/an; = I ate (it), belongs to both the non-relative and the O-relative class; thus it is found in environments such as the following:

; ;'ane/γ, tam/ø/an;/e/!p, naa/γ, ti/ø/tkwi; = She cooked the thing which I ate,

; ;'ane/γ, tam/ø/an;/e/!p, naa/γ, ti/ø/dli; = She ascertained that I ate it,

ii, " S-, O- and A-relative clauses are always constituents

of nominal words. There are four possible syntagmatic relations between such a word (referred to as 'the clause-word') and the lexical item which is considered to have been 'removed' from the non-relative clause, to produce the relative clause (referred to as 'the item');

a, the clause-word represents the Complement, and requires the item's h-word (this relation is possible only if the item consists of a single group);

e.g. ;'ane/ʸ,tam/ø/any;/e/it, mi'ari/ʸ, = food which I eat

c.f. ;'ane/ʸ,mi'ari/it,tam/ø/ani; = I eat some food,

b, the clause-word represents the Head in an epithet-group which is apposed to the item;

e.g. ,ti/m'ari/ʸ,tif;:'ane/ʸ,tam/ø/any;/e/it, = the food which I eat
(the food, that which I eat)

c.f. ;'ane/ʸ,ti/m'ari/ʸ,tam/ø/ani; = I eat the food,

c, the clause-word represents the Head in a group representing the Complement in a P-group which is structurally related to the item, representing the Subject;

e.g. ;ti/m'ari/ʸ,,;'ane/ʸ,tam/ø/any;/e/it, ø/u; = The food is the sort which I can eat, (The food is some which I eat.)

d, the clause-word represents the Head in an S-group, which is structurally related to a P-group in which the item represents the Complement;

e.g. ;tif;:'ane/ʸ,tam/ø/any;/e/it,,ti/m'ari/!,ø/tu; = That which I eat is the food.

iii,

In all the above examples, the clause in the clause-word is O-relative. Clause-words containing S- and A-relative clauses can occur in the above syntagmatic relations to the item as follows;

a, where the item contains a 1st,- or 2nd,-person group, and the clause-word contains an S-relative clause, only relation c, is possible;

e.g. ;'ane/ʸ,,;ti/m'ari/ʸ,tam/ø/ani;/;b,ø/u; = I am able to eat the food, (I am who (I) eat the food.)

b, otherwise, all four of the above relations are possible between the item and a clause-word containing an S-relative clause;

e.g. a; ,;ti/m'ari/ʸ,tam/ø/tini;/;t takat/ø, = a woman who eats the

food = c, f, *; takát/t, ti/m'ari/√, tam/ø/tini; = A woman eats the food, (See NOTE C.2. for the reason why this clause is hypothetical only.)

b; ; ti/takát/ø, ti/; ti/m'ari/√, tam/ø/tini; /; t, = the woman who eats the food (the woman, the one who eats the food) -
c, f, ; ti/takát/ø, ti/m'ari/√, tam/ø/tini; = the woman eats the food.

c; ; ti/takát/ø, , ; ti/m'ari/√, tam/ø/tini; /; t, ø/u; = The woman is able to eat the food, (The woman is one who eats the food)

d; ; ti/; ti/m'ari/√, tam/ø/tini; /; t, , ti/takát/ø, ø/tu; = The one who eats the food is the woman.

c, where the item is an adjunctival group, and the clause-word contains an A-relative clause, only relation d is possible;

e, g. ; 'i/; ti/m'ari/√, tam/ø/tini; /e/√, , 'i/gaw/ø, /i/√b, ø, u; = It is in the house that she eats the food. - c, f, ; ti/m'ari/√, 'i/gaw/ø, /i/√b, tam/ø/tini; = She eats the food in the house.

d, otherwise, it is possible that all four relations are possible between the item and a clause-word containing an A-relative clause; only relation a was in fact recorded;

e, g. ; yi/'ár/ø/ø, hawa/ø/:i/:n; /e/√b, ø, 'o:/mhi:n/ø, = the place where the children play - c, f, ; yi/'ár/ø/ø, 'o:/mhi:n/ø, hawa/ø/:i/:n; = The children play in the place.

v, a, Non-relative clauses belong to valency-classes Rt-only, II/Rt and c/Rt, but relative clauses belong to classes Rt-only and II/Rt.

v, b, Relative clauses are treated as members of the same valency-class as the non-relative clauses from which they are considered to be derived, though strictly speaking the former are members only of the element Root.

v, a, In these classes, and in the classes to be distinguished below, the Predicator is represented by groups in which the Head is represented by the paradigm-sets of word shown in the table below.

v, b, Clauses in which this word is modified (= negative), and those in which it is negative, can be considered to be in complementary distribution, since the former are always, the latter never, structurally related to the Genitival. Therefore

all such clauses are referred to as 'negative';

e.g. containing negative word:

o; 'ane/v, ti/m'ari/v, ka/tam/ø/an; /'t_o = I don't eat the food,
then ...

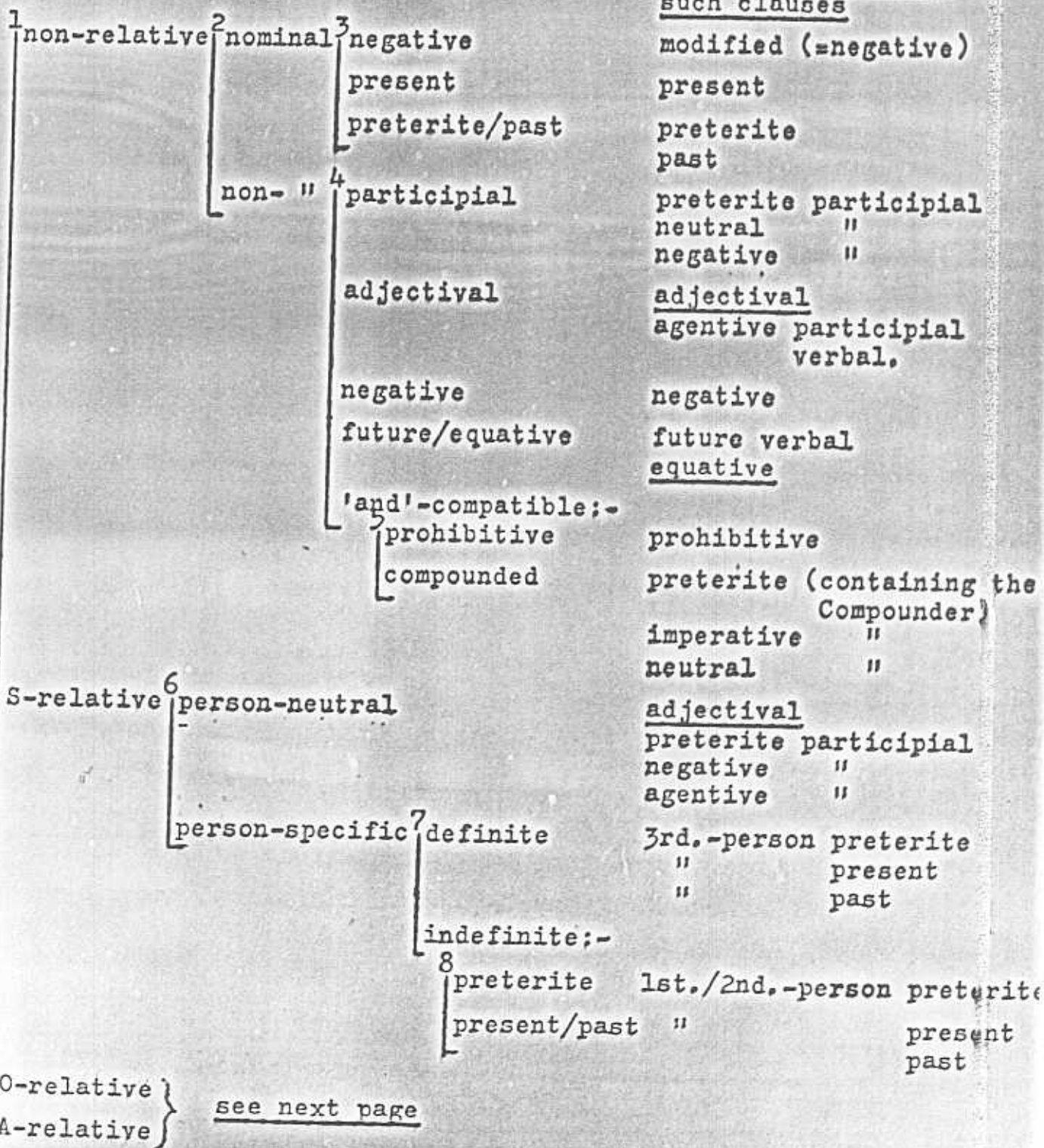
containing modified (= negative) word:

o; 'ane/v, ti/m'ari/v, b/a:/tam/ay; /e/'k_o = if I don't eat
the food

Clause-classes (by systems)

words contained by such clauses

modified (=negative)



<u>Clause-classes</u>		<u>words contained by such clauses</u>
1	non-relative	<u>see preceding page</u>
	S-relative	
	O-relative	10
		positive
		preterite
		present
		past
		negative
		modified (= negative)
	A-relative	11
		positive
		preterite
		present
		past
		negative
		modified (= negative)

System C.4.2

	nominal (non-relative)
	non-nominal

- i. Nominal clauses require either nominal or adjunctival Marker morphemes, but non-nominal clauses require only adjunctival Markers;

e.g. nominal clause + nominal Marker:

o; 'ane/√, diw/ø/any; /e/√/:b_o = that I am sleeping

nominal clause + adjunctival Marker:

o; 'ane/√, diw/ø/ani; /;ay_o = I am sleeping, so ...

non-nominal clause + adjunctival Marker:

o; 'ane/√, diw/ø/dt; /ay_o = I shall sleep, so ...

- ii. Nominal clauses are constituents of nominal words, as in the first example above, which represent the Head or the Complement in quotation O-groups (G.2.1.).

- iii. For the classes of adjunctival Marker required by these classes of clause, see below. For the classes of nominal Marker required by nominal clauses, see G.2.2.ii.

System C.4.3

	negative (nominal non-relative)
	present
	preterite/past

- i. Negative clauses require only 'if', etc. Markers, but present and preterite/past clauses require 'if', etc., 'then' or 'so' Markers;

e.g. negative clause + 'if' Marker:

o;b/a:/diw/ay;/e/!k_o = if I don't sleep

present clause + 'if' Marker:

o;diw/ø/any;/e/!k_o = if I sleep

present clause + 'then' Marker:

o;diw/ø/any;/ă:t_o = I sleep, then ...

present clause + 'so' Marker:

o;diw/ø/āni;/:ay_o = I sleep, so ...

ii. These three classes of clause require different classes of 'if', etc. Marker morpheme - see M.6.12.ii.

iii. Negative clauses belong to the Rt-only valency-class, but present and preterite/past clauses belong to the II/Rt class.

System C.4.4

participial (non-nominal non-relative)

adjectival

negative

future/equative

'and'-compatible

i. These five classes of non-nominal clauses require the following classes of adjunctival Marker morpheme (M.6.11,15.):

a. participial clauses - the 'by' Marker;

e.g. o;'ane/∨,baă:/diw/ăy/ø;/ø_o = without me sleeping (I not sleeping).

b. adjectival clauses - 'by', etc. Markers;

e.g. o;'ane/∨,dabalo;/!_o = I being small

c. negative clauses - 'so' or 'then' Markers;

e.g. o;'ane/∨,kă/diw/ø/ān;/ay_o = I don't sleep, so ...

o;'ane/∨,kă/diw/ø/an;/!t_o = I don't sleep, then ...

d. future/equative clauses - 'so' Markers;

e.g. o;'ane/∨,diw/ø/ăt;/ay_o = I shall sleep, so ...

o;'ane/∨,, 'ara:w/o/!k, ø/u;/:y_o = I am your friend, so ...

e. 'and'-compatible clauses - the 'and' Marker;

e.g. o;'ane/∨,diw/ø/e:t/i;/!t_o = I having slept

ii. Participial and adjectival clauses belong to the Rt-only valency-class, negative and future/equative clauses to the II/Rt class, and 'and'-compatible clauses to the c/Rt or II/Rt classes.

System C.4.5 prohibitive ('and'-compatible non-nominal non-relative)
 compounded

Prohibitive clauses belong to the II/Rt valency-class,
 but compounded clauses belong to the c/Rt class;

e.g. prohibitive clause representing II:

.bá:/diw/ø/'/a:. = Don't sleep!

prohibitive clause representing Rt:

ø;bá:/diw/ø/ø/a:;/'tø = don't sleep, and ...

.compounded clause representing c:

ø;diw/ø/an/';ø'a/ø/yhĩ, = I fell asleep.

compounded clause representing Rt:

ø;diw/ø/an/ø;/'tø = I slept, and ...

System C.4.6 person-neutral (S-relative)
 person-specific

- i. Person-neutral S-relative clauses are considered to be derived from clauses in which the Subject could be represented by groups of any person/gender/number, but person-specific clauses are considered to be derived from clauses in which the Subject could be represented by groups only of a particular person/gender/number. In other words, the Predicator is represented in person-neutral and in person-specific clauses by person-neutral and person-specific P-groups respectively (G.4.2.);

e.g. person-neutral : , 'u:/ták/ø, 'f/;tó:y, diw/ø/a;/v, = the man who slept here (the man, the one having slept here)
 , ta:/mǎ'/ø/ø, tĩ/;tó:y, diw/ø/a;/v/:t, = the women who slept here (the women, the ones having slept here)

person-specific: , 'u:/ták/ø, 'f/;tó:y, diw/ø/yǎ;/ø, = the man who slept here (the man, the one who slept here)
 , ta:/mǎ'/ø/ø, tĩ/;tó:y, diw/ø/ya/'n;/t, = the women who slept here (the women, the ones who slept here)

- ii. Person-specific clauses belong to the II/Rt valency-class, but person-neutral clauses belong to the Rt-only class.

System C.4.7 definite (person-specific S-relative)
non-definite

i. Definite, but not non-definite, clauses are compatible with the Modifier morpheme;

e.g. Modifier + definite clause:

o'f;/diw/ø/i:nĩ;/:b_o = the one who sleeps
definite clause without Modifier:

o;diw/ø/i:nĩ;/:b_o = one who sleeps
non-definite clause without Modifier:

o;diw/ø/anĩ;/:b_o = one (1st.-person singular) who sleeps

ii. In non-definite clauses, the Predicator is represented by 1st.- or 2nd.-person groups (G.4.6.), but in definite clauses it is represented by 3rd.-person groups.

System C.4.8 preterite (non-definite person-specific S-relative)
present/past

Preterite non-definite clauses require, but present/past clauses are compatible with, the Comparative morpheme;

e.g. preterite: o;diw/ø/an;/'kaa/!b_o = one (1st. singular) who slept more (as in: ,;diw/ø/an;/'kaa/!b_oø/u, = I have slept more)

present/past: o;diw/ø/ani;/^kaa/!b_o = one who sleeps more (as in: ,;diw/ø/ani;/^kaa/!b_oø/u, = I can sleep more - I am one who sleeps more)

c.f. o;diw/ø/anĩ;/:b_o = one who sleeps

System C.4.9 masc./fem. (person-specific S-relative)
masculine
feminine

i. These three classes of person-specific clause require different classes of nominal Marker morpheme - viz., either masculine or feminine, masculine only and feminine only respectively

e.g. masc./fem. clause with masculine Marker:

o;diw/ø/anĩ;/:b_o = one (1st. singular) who sleeps

masc./fem. clause with feminine Marker:

o;diw/ø/anĩ;/:t_o = one (1st. singular) who sleeps

masculine clause with masculine Marker;

o;diw/ø/i;nĩ;/;b_o = one (3rd, masc,) who sleeps

feminine clause with feminine Marker;

o;diw/ø/tinĩ;/;t_o = one (3rd, fem,) who sleeps,

ii, In these three classes of clause, the Predicator is represented by the following classes of group;

- a. in masc./fem, clauses - by 1st,-person (singular or plural) groups;
by 3rd,-person plural groups,
by 2nd,-person plural groups;
- b. in masculine clauses - by 3rd,-person masculine groups,
by 2nd,-person masculine groups;
- c. in feminine clauses - by 3rd,-person feminine groups,
by 2nd,-person feminine groups,

System C.4.10 | positive (O-relative)
| negative.

Positive clauses belong to the II/Rt valency-class, but negative clauses belong to the Rt-only class,

System C.4.11 | positive (A-relative)
| negative
See the preceding system,

System C.4.12 | underived
| '2 V himself'
| etc.

Rt-clauses fall into the same eleven clause types as do the members of the other element-classes, but O-relative clauses can belong only to those clause-types in which an Object is possible (but possibly O-relative clauses such as those described in NOTE G.1. can belong to other types),

NOTES

NOTE G.1.

"The class O-relative includes clauses derived from non-relative clauses by the removal of an item which represents the

following elements in the non-relative clauses (all the examples are taken from the recorded text);

a, the Object in the non-relative clause itself;

e.g. ,;̄bar/u/!,b/i:/ka:n;/e/°_o tāk/ø, = a man whom he does not know

c.f. ,;̄bar/u/!,tāk/ø,b/i:/ka:n;/ = he does not know a man,

b, the Object in a clause (X) which is indirectly contained by the non-relative clause itself (Y);

1, clause X is contained by a group representing the Adjunct in Y;

e.g. , 'i/tak/o/!k, 'i/;̄bar/u/!k, ;̄ø/harw/ø;/!, 'e/ø;/tan/ø;/e/°_o Yb,

= your man, the one whom you came seeking

c.f. ,; 'i/tak/o/!k, ø/harw/ø;/!, 'e/ø;/tan/ø;/ = You came seeking your man

2, clause X is contained by the group representing the Predicator in Y;

e.g. ,; ;̄s̄d:r,rih/ø/a;/!b, b/i;/ø/ka;y;/e/°_o tāk/ø, = a man

whom he was not having seen before

c.f. ,; ;̄tāk/ø,s̄d:r,rih/ø/a;/!b, b/i;/ø/ka;y;/ = He had not seen a man before, (He was = or is = not having seen a man before,)

c, the Complement in a group which represents the Adjunct in the non-relative clause itself;

e.g. ,to:/kã:m/ø,tī/;̄hó:y,lám/t, 'i;/bri;/in;/e/!t, = the camel, the one in which they had food

c.f. ,;to:/kã:m/ø, hó:y,lám/t, 'i;/bri;/in;/ = they had food in the camel,

d, the Object in a clause (X) which is contained by a sentence which represents the Object in the non-relative clause (Y);

e.g. ,wi/'ó:r/ø,wī/; , 'i/tak/ø,/i/°_o badãl,ø/'ah/ø/°_o a:, 'i/ø/ny;/e/°_o , = the boy, the one(of)whom he said; 'Take him in place of the man!'

c.f. ,;wi/'ó:r/ø, 'i/tak/ø,/i/°_o badãl,ø/'ah/ø/a:, 'i/ø/ny;/ = He said; 'Take the boy in place of the man!'

TE C.2.

P-groups (except those in which the Head is represented by a word containing the Radicals /h-y/ and /l-f-y/, both = he, exist, live) are probably incompatible with indefinite S-groups; therefore S-relative clauses like that in ,;̄diy/ø/tinī;/it, takãt/ø, = a woman who sleeps, must be considered to be derived from clauses which are not possible = viz, °;̄takãt/t,diy/ø/tinī;/ = a woman sleeps,

THE SENTENCE

S, O, Element-class

i, Sentences belong to only one element, the Object, Head - though not all - sentences can occur unshifted, i.e. not representing the Object; but in such positions they do not represent any element, the sentence being the 'highest' of all the five units. There is therefore only one element-class of sentence, which includes all members of the unit. All sentences are thus O-sentence though most can occur unshifted;

e.g. , 'ano/v, diw/ø/ani, = I'm sleeping, (unshifted sentence)
 ; , 'ano/v, diw/ø/ani, 'i/ø/nĩ; = I'm sleeping, he said,
 (rankshifted sentence representing the Object)

ii, a, The Object is always complex when represented by sentences, and two sentences which together represent the Object are listed;

e.g. ; , 'ano/v, diw/ø/at, bar/u/!k/han, 'i/diw/ø/ti/v, 'are/ø/tni/:a/vø,
 , 'i/ø/nĩ; = I'm going to sleep, Do you like sleeping too?
 he said,
 ; , mi'ari/!t, tam/ø/!/:wa, bɔ:n/ø, gwa'/ø/!/:wa, 'a/n/dĩ; = I'm
 going to eat some food and drink some coffee,

ii, b, It is possible that intensive sentences (S, l, l,), such as those in the last example above, can be listed only if they contain /:wa/ = and. (This morpheme, which is the coordinating Conjunction morpheme = ll, l7, l, = is a constituent of the word which represents the Head in the group which represents the Predicator in the sentence's Final clause.) Such intensive sentences, containing /:wa/, can also occur, however, as the only constituent of the Object;

e.g. ; , mi'ari/!t, tam/ø/!/:wa, 'a/n/dĩ; = ; , mi'ari/!t, tam/ø/!,
 , 'a/n/dĩ; = I'm going to eat some food,

S, S, Sentence-structures

i, The unit-structure of the sentence includes two elements Pre-final and Final (I and II respectively),

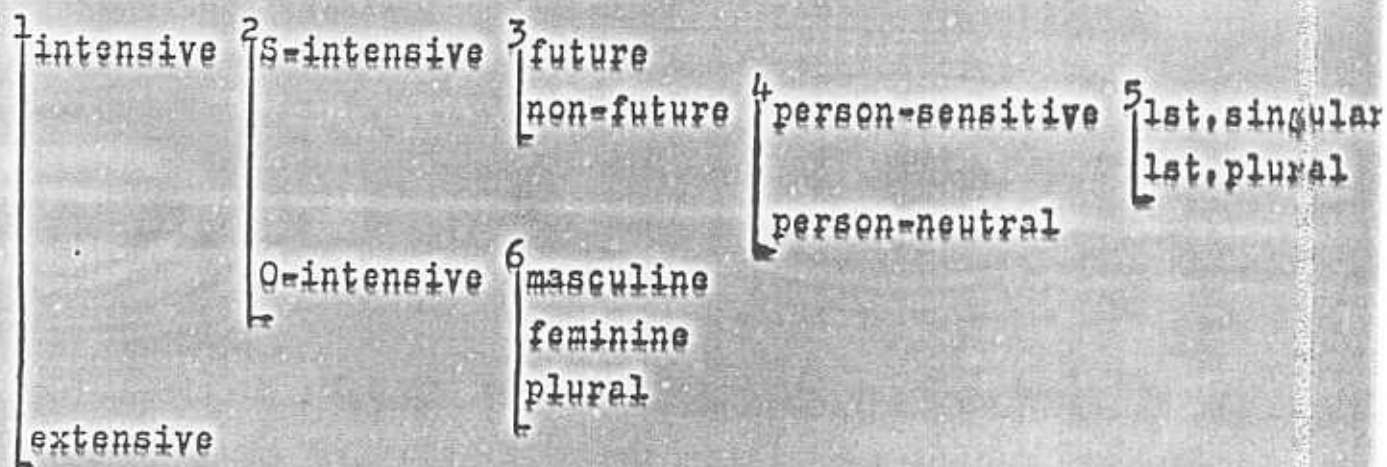
ii, The Final element is obligatory in all classes of sentence, but the Pre-final element is always optional, in the

sense that every class includes sentences which contain no Pre-final element. On the other hand, there is one environment in which every sentence contains the Pre-final element - see G.4.15.iii.

- iii. The Pre-final element is always followed by the Final element.
- iv. The Final element is always simple, and the Pre-final element is always complex.

S.1. Object-sentences

The classes into which the one element-class of sentences is divided are summarised below.



System S.1.

1	intensive
	extensive

i. If the Object is represented by an extensive sentence, the same sentence can always occur unshifted; but if by an intensive sentence, this need not be possible.

e.g. extensive sentence representing the Object:

i. diw/ø/ān., 'i/ø/nĩ; = I've slept. he said,

e.f. ,diw/ø/ān. = I've slept, (unshifted)

intensive sentence representing the Object:

i. b/a:/diw/āy., 'i/n/dĩ; = He intends not to sleep,

* ,b/a:/diw/āy. (unshifted) is not possible

e.f. i. b/in/diw/āy., 'i/ø/yad/'na; = They intend not to sleep,

,b/in/diw/āy. = Don't let's sleep, (unshifted)

ii. Extensive sentences can represent the Object only when structurally related to 'say' P-groups (G.4.16.), but intensive sentences can be structurally related to various classes of

...1,

auxiliary P-groups, including the 'say' class.

iii. Although the primary distinction between intensive and extensive sentences is a transformational one (as described in i. above), and the two classes are not disjoint, there are four morphological criteria for recognising whether a given O-sentence is intensive or extensive. (The first and second of these recognition criteria follow automatically from the criterion by which the two classes are defined.) The recognition criteria are as follows:

a. If the sentence consists of clauses in any of which the Predicator is represented by S-incompatible P-groups (G.4.1.), the sentence must be intensive, since such clauses do not occur as constituents of unshifted sentences;

e.g. ; b/a:/diw/ay., 'a/n/dĩ; = I intend not to sleep.

(The unshifted sentence *b/a:/diw/ay. is not possible.)

b. Sentences such as those in the following examples are always intensive. (Such sentences could be formally defined, but the definition would be somewhat complicated, so only examples are given here.)

e.g. ; rih/ø'/a:/ho:k., 'i/n/dĩ; = He is going to see you.

(The unshifted sentence *rih/ø'/a:/ho:k. = *See you! is not possible - c.f. ,rih/ø'/a:/heě;b. = See me! , which is possible.)

e.g. ; b/in/rih/ay/ho:n., 'i/ø/yad/'na; = They intend not to see us.

(The unshifted sentence *b/in/rih/ay/ho:n. = *Don't let's see us, is not possible; c.f. ,b/in/rih/ay/ho:k. = Don't let's see you! which is possible.)

c. If the sentence consists of clauses, any of which contains a Subject, the sentence must be extensive, since intensive sentences never contain a Subject;

e.g. ; 'u:/ták/ø,b/i:/diw/ay., 'a/ø/nĩ; = I said 'The man is not to sleep,' (c.f. ; ,b/i:/diw/ay., 'a/ø/nĩ; = I said 'He is not to sleep,' or = I told him not to sleep.)

d. If the Predicator is represented, in any of the clauses of which the sentence consists, by groups in which the Head is represented by words which do not belong to the following paradigm-sets, the sentence must be extensive: 1st, -person future, permissive or modified (indirect imperative); masculine imperative; or 3rd, -person indirect imperative,

System S.1.2

}	S-intensive (intensive)
}	O-intensive

i. O-intensive, but not S-intensive, sentences are compatible with O-groups representing the Object (i.e. a clause can contain two Objects, if one is represented by an O-intensive sentence); e.g. O-intensive: ;'o:/ták/ø, .b/i:/diw/áy., so/ø/'/:a;; = Tell the man not to sleep.

S-intensive: ;.b/a:/diw/áy., 'a/n/dĩ; = I intend not to sleep.

ii. O-intensive sentences require 'say' or 'tell' P-groups (G.4.16.), but S-intensive sentences require 'say' or future-compatible P-groups (G.4.16,15.).

iii. O-intensive sentences show gender/number concord with the O-groups to which they are structurally related; S-intensive sentences either show no concord, or show it with the P-group (and therefore also with any S-groups) to which they are structurally related.

e.g. compare with the examples in i, above:

; 'e:/ndaa/ø/' , .b/i:/diw/áy/'na., so/ø/'/:a;; = Tell the men not to sleep.

; .b/in/diw/áy., ni/ø/yád; = We intend not to sleep.

iv.a. The Predicator is represented, in the clauses of which O-intensive, but not S-intensive, sentences consist, by 3rd.-person P-groups.

iv.b. The Head is thus represented in such P-groups by verbal words of the following paradigm-sets;

in O-intensive sentences: by indirect imperative and modified (indirect prohibitive) words;

in S-intensive sentences: by future, permissive, imperative and 1st.-person modified (indirect prohibitive) words.

e.g. O-intensive:

; 'o:/ták/ø, .báa:/diw/ø/i/:'áy., so/ø/'/:a;; = Tell the man to sleep.

; 'o:/ták/ø, .b/i:/diw/áy., so/ø/'/:a;; = Tell the man not to sleep.

S-intensive:; .diw/ø/át., 'i/ø/ríb; = He failed to sleep,; .diw/ø/ĭ., 'i/n/dĭ; = He intends to sleep.; .diw/ø/'/a:., 'i/n/dĭ; = He intends to sleep.; .b/a:/diw/áy., 'i/n/dĭ; = He intends not to sleep.System S.1.3 future (S-intensive, intensive)
non-future

Future and non-future sentences require different classes of P-group - see G,4,15,

In the clauses of which future, but not non-future, sentences consist, the Predicator is represented by groups in which the Head is represented by future words,

System S.1.4 person-sensitive (non-future S-intensive intensive)
person-neutral

Some sentences ('person-sensitive') require P-groups of a particular range of person/gender/number classes, but others ('person-neutral') require P-groups of any such class,

e.g. person-sensitive:

; .diw/ø/ĭ., 'a/n/dĭ; = I intend to sleep,; .diw/ø/nĭ., ni/ø/yád; = We intend to sleep,person-neutral:; .diw/ø/'/a:., 'a/n/dĭ; = I intend to sleep,; .diw/ø/'/a:., ni/ø/yád; = We intend to sleep.

In the clauses of which person-sensitive sentences consist, the Predicator is represented by groups in which the Head is represented by permissive and modified (indirect imperative) words, but in person-neutral sentences the Head is represented in these groups by imperative words,

System S.1.5 1st, singular (person-sensitive non-future S-intensive
1st, plural intensive)

For the classes of P-group which these two classes of sentence require, see G,4,17,

The verbal words contained by these classes of sentence, as defined in S.1.4.ii., are 1st.-person singular and plural

System S.1.6

	masculine (O-intensive)
	feminine
	plural

- i. O-intensive sentences, if structurally related to O-groups, must be of the same gender/number (but not person) as the latter,
- e.g. ;'o:/tá:k/ø, .b/i:/diw/ay.,so/ø/'/;a;; = Tell the man not to sleep.
- ;ti/takát/ø, .b/it/diw/ay.,so/ø/'/;a;; = Tell the woman not to sleep.
- ;'e:/ndaa/ø/' ,.b/i:/diw/ay/'na.,so/ø/'/;a;; = Tell the men not to sleep.
- ;te:/mǎ'/ø/ø, .b/i:/diw/ay/'na.,so/ø/'/;a;; = Tell the women not to sleep.
- ii. In the clauses of which these classes of sentence consist, the Predicator is represented by groups of different gender/numbers - masculine, feminine and plural respectively.

SPECIAL SENTENCESSS.O. General

- i. Sentences described in this chapter are not covered by the rules given for sentences and their constituents in the preceding chapters. These 'special' sentences, like all the 'normal' ones, can be described in terms of the five units from 'sentence' to 'morpheme'; thus, every special sentence must consist of one or more clauses, which consist of one or more groups, and so on, with or without rankshift. Even when a special sentence contains only one morpheme, the latter must be considered to be a member of the units word, group and clause also.
- ii. Special sentences are all extensive (S.l.l.), and therefore there are no syntactic differences between different sentences, and no classes of such sentences can be distinguished. Four sets of special sentences are, however, distinguished, on morphological criteria:
- a. vocatives;
 - b. exclamations;
 - c. expressions of pleasure;
 - d. expressions of desire.

SS.1. Vocatives

- i. Vocative sentences consist of one clause, which consist of either one or two groups, whose sequence is fixed:
- a. the first group (which is optional) consists of the monomorphemic word 'and: = Oh! Hey! I say!
 - b. the second group (which is obligatory) is either a definite S-group, or like such a group except that the Head is represented in it by a word containing the 'vocative' morpheme (see ii. below)
- e.g. , 'u:/tak/ø, or , 'u:/tak/ø/ǎy, = man!
 , tu:/ndee/˘, or , tu:/ndee/ø/˘y, = mother'
 , 'i/tak/u/˘, or , 'i/tak/u/ø/˘y, = my husband!
 , ndee/:tu/˘; or , ndee/:tu/ø/˘y, = my mother!

- ii. The 'vocative' morpheme was not mentioned in the chapter on the morpheme, since it is found only in special sentences. Its relation to other classes of morpheme, and its exponents, are given below:

- a. it belongs to sequence-class 1 (M.O.ii.)
- b. it belongs to accent-class II (MP.O.iii.) ...
- c. it can be added to the list of morphemes in MP.9.i.d.;
- d. it is expounded by /y/ after a V-phoneme, /ay/ after a C-phoneme.

SS.2. Exclamations

Exclamations include sentences containing a single morpheme, such as:

. 'ayáb. = No.

. 'awǒ:. = Yes.

. yihá:. = Hey!

SS.3. Expressions of pleasure

i. These sentences contain one or two groups, whose sequence is fixed:

a. the first group (which is optional) contains one morpheme:

, 'akwta:mǐ, - no isolatable meaning.

b. the second group (which is obligatory) is a /'naa/ quotation O-group (G.2.2.);

e.g. . 'akwta:mǐ, ; 'e/ø/:tan/ø;/e/'naa/. = (How nice) that you have come.

c.f. ; ; 'e/ø/:tan/ø;/e/'naa/, 'a/ø/dlǐ; = I ascertained that you have come.

ii. The clause contained by this quotation group must be preterite/present (C.4.3.).

SS.4. Expressions of desire

These sentences contain one or two groups, or a group and a sentence, in a fixed order. (ba:byǎ is always the first word in the sentence.)

a. if there is only one group, it consists of the word ba:byǎ and a nominal c-group;

e.g. .ba:byǎ, ;ba:/rih/ay/ø;/o(/'k) ták/ø. = I wish I could not see you. (I wish I were a man not seeing you.)

b. if there is a group and a rankshifted sentence, the group is ,ba:byǎ, and the sentence is a person-neutral S-intensive sentence

e.g. .ba:byǎ, .šaa/'t,tam/ø/'/a:. = I wish I could eat meat.

c. if there are two groups, the first is ,ba:byǎ, while the second consists of a word which consists of a non-relative clause, the Genitival morpheme, and the masculine nominative Marker morpheme. The Predicator is represented in this clause by a group in which the Head is represented by a past word;

e.g. .ba:byǎ,;bar/u/!k,šaa/!t,tam/ø/ti/ø;/:e/√. = I wish you could eat meat.

APPENDIX A
REGULAR VERBAL RADICALS

Introduction

- i. The morphemes listed here are divided into sets, each of which is defined by several different criteria. The sections which these criteria are explained are indicated in brackets after the brief definition of each set.
- ii. The meanings given are very tentative, since on the one hand the meaning of a given morpheme varies according to its environment, and on the other hand the meanings were obtained in many cases through Arabic, making misunderstanding easy.
- iii. Likewise, some of the class-distinctions are tentative as far as their application to particular morphemes is concerned since the lists were mostly obtained by presenting the particular morpheme, in the environment concerned, to the informant, who then accepted or rejected the utterance. The dangers inherent in this method were illustrated by large-scale inconsistency in the acceptance of some combinations both between different informants, and between different occasions when they were offered to the same informant. Nevertheless, the lists are offered here as illustrations of the distinctions described in the sections of M.I.; even if further investigations showed that some morphemes appear below in the wrong classes, this would not invalidate the criteria on which these classes are distinguished.
- iv. For ease of reference, morphemes in a given class are arranged according to their first c-formant. Those in which this formant represents a labial articulation come first, and those in which it represents a glottal articulation come last; the remainder come in between, so that the first c-formants appear in the following order:
 - a. b, w, f, m
 - b. t, d, s, z, n, r, l
 - c. č, ǰ, š
 - d. j, y
 - e. k, g, x, ǧ
 - f. ' , h

1. Consonantal verbal Radicals (M.1.4-7.)i. CC Radicals

a. compatible with short deponent and short unmarked Transitor

e.g. /m- n/ : \circ 'a/ø/mán \circ = I shaved myself (deponent) \circ 'a/ø/min \circ = I shaved him (unmarked)

b- r = snatch	f- f = pour	l- w = burn	yh- 'm = bather
b- 'f = break	t- 'b = fill	l- 's = desert	g- 'f = trip
m- r = prepare	t- r = compel	n- 's = saddle	k'- 'l = notch
m- 's = submerge	l- 'g = thrust	š- 't = slide	kw- 'š = move
m- n = shave			'- 'b = track

b. compatible with short deponent, but not with short unmarked, Transitor

e.g. /r- m/ : \circ 'a/ø/rám \circ = I accompanied him (deponent)but not * \circ 'a/ø/rim \circ (unmarked)

b- 'k = struggle	n- w = miss	y- ' = warm	kw- y = don
f- d = overawe	s- ' = sit	k- š = be mean	y- m = stoop; wet
m- 'g = be bad	š- gw = be	g- m = not know	'- m = ride
r- m = accompany	wrong		

c. compatible with short unmarked, but not with deponent, Transitor

e.g. /g- 'd/ : \circ 'a/ø/gid \circ = I threw it. (unmarked)but not * \circ 'a/ø/gád \circ (deponent)

w- n = be big	d- 'f = go	s- 'b = bail	kw- l = hit
w- 'k = cut	d- 'i = be jealous	s- 'd = plait	kw- n = ponder
b'- 'r = wake	dh- 'r = pray for	s- m = name	gw- r = bend
b'- 's = turn	r- 'b = refuse	đ- m = spread	gw- l = exceed
m- 'đ = dirty	n'- 'r = get well	đ- 'f = dye	k- 'f = be startled
mh- 'g = sweep	l'- 'b = take out	đ- 'kw = have bad	kw- 't = stamp
f- r = sew	rh- 'b = wipe	luck	kw- 'š = push calf
f- 'k = threaten	lh- 's = lick	đ- 'h = be fat	'gw- 'i = push
f- 'š = be extra-	nh- 'l = mount	đ- 'i = go east	kh- 'n = love
vagant to	nh- 's = be clean	č- 'i = strike	gw'- 'd = watch
mh- 'g = sweep	nh- 'w = perform	dh- 'n = live	gwh- 'm = sip
t- l = creep;	n'- 'kw = be soft	š- 'b = shoe	gwh- 'r = steal
lunt	rh- 's = be cheap	š- 'k = hunt	'- 'š = leave
d- n = weigh	nh- 'd = be finished	š'- 'š = cough	h- 'm = give milk
d'- 'r = marry;	ished	š'- 'g = hang	'- 't = tread
build		g- 'd = throw	'- 'r = hide; feed
d- 's = be small			

ii. CCC Radicals

a. compatible with long unmarked, short deponent, and short unmarked Transitor:

e.g. /d- r- g/ : \circ 'i/ø/da:rig \circ = He lit them (long unmarked) \circ 'i/ø/drág \circ = It caught fire (short deponent) \circ 'i/ø/drig \circ = He lit it. (short unmarked)

b-r- r = spread	t-b-'k = ward off	kw-b- r = take off
b-d- h = bear	t-f-'s = crumple	gw-m- m = clip
witness	t-kw-'kw = repair	gw-r- r = glare
m-k-'k = straddle	đ-'-'r = marry	k-r- r = dam
f-d-~g = loosen	l-d-~d = tie	kw-l- l = surround
f-đ-~đ = straighten;	n-g- l = expose	kw-đ-~đ = round
choose	r-d- m = pile up	k-r-'f = meet
f-n- n = force	r-g-'s = roll over	g-n-'f = make kneel
f-r-'s = break	n-k-~' = crack	kw-n-'š = sweep
(promise)	n-č-~h = groan	k-l-'s = lean
f-r-'k = dig	s-l- w = hold out	gw-š-'š = move
f-r-~' = take out	s-l- l = cut up	k-g-'s = roll up
d-r-~g = light	s-l-'t = scrape	g-d-~h = come down
d-l-~b = buy	đ-b-~b = shroud	'-đ-~b = coil
t-l-~g = balance	š-gw-~đ = wash	h-k-~b = sit pillion
d-gw- gw = finish	š-đ-~đ = strip	'-l-~g = feed
đ-b- l = collect	š-m- m = wrap	h-l-~g = bend
t-f- l = throw out	š-m-'t = rub	h-n-~g = bend
d-l- l = pour	š-'-'g = hang up	'-f-~đ = split; squeeze
d-m- m = squeeze	k-đ-~b = knot	'-g- r = turn back
d-r- r = feed	k-l-~b = fence in	'-gw- r = bend
t-l- l = stride	k-f- l = lock	'-š- r = take to pasture
t-r- r = spin	k-t- r = link(camels)	'-b-'k = seize

b. compatible with long unmarked and short deponent, but not with short unmarked, Transitor:

e.g. /l-'-'b/ : °'e:/l'f:b_o = I take them out (long)

°'a/t/la'f:b_o = I go out (deponent)

but not *°'a/ø/lan'f:b_o (short unmarked)

b-'-'s = turn over

l-'-'b = take out

k-'-'l = notch

m-h-'g = sweep

r-h-'b = wipe

gw-h-'r = steal

l-h-'s = lick

gw-h-'m = sip

c. compatible with long unmarked, but not with short deponent or short unmarked, Transitor:

e.g. /b-đ- n/ : °'e:/bđf:n_o = I forget him (long)

but not *°'a/t/bađf:n_o (deponent)

*°'a/ø/banđf:n_o (short unmarked)

b-đ- n = forget

m-l- ' = peel

f-y- d = laugh

m-s- w = hear

n-k- b = overtake

'-y- m = spend the day

d. compatible with long unmarked and short unmarked, but not with short deponent, Transitor:

e.g. /d-l- w/ : °'e:/dlf:w_o = I approach them (long)

°'a/ø/danlf:w_o = I approach him (short unmarked)

but not *°'a/t/dalf:w_o (deponent)

m-d- \check{d} = shave clean	'-s- \check{g} = be peaceful	'-š- š = meet
n-g- \check{h} = throb	h-s- \check{b} = reckon	h-s- s = protect
n-t- $\check{'} =$ send one's regards	'-s- \check{d} = make bread	h-t- \check{t} = break
d-l- w = approach	'-t- m = stake	h-g- \check{t} = wait
d-n- n = call to prayer	h-č- k = knead	h-b- \check{s} = imprison
t-l- \check{s} = cheat	h-w- w = go grey	h-b- $\check{š}$ = cajole
t-m- \check{kw} = knot	'-đ- m = be clean; be young	h-kw- \check{r} = tie
g-d- \check{d} = be sterile	'-k- r = be strong	'-m- \check{s} = submerge
g-y- \check{s} = think	h-g- l = miss	'-m- \check{t} = grasp
'-g- \check{b} = oppress	'-l- m = brand	'-y- \check{kw} = chew
'-r- \check{b} = go to well	h-r- w = want; seek	'-y- \check{s} = fold
h-m- $\check{đ}$ = accompany	h-y- s = be better	h-y- \check{f} = be wild
h-r- \check{d} = slaughter	'-r- w = be aligned	h-y- $\check{ž}$ = plait
h-m- \check{d} = compliment	h-m- m = be worried	'-n- \check{kw} = bend
'-m- $\check{đ}$ = be unmilked	h-m- r = be poor	h-f- \check{t} = snatch
h-l- \check{b} = hook	'-r- r = sprout	h-s- \check{k} = be nervous
h-y- \check{d} = sew; choose	h-s- l = put head-rope on	h-f- \check{f} = meet in combat

e. compatible with short deponent and short unmarked, but not with long unmarked, Transitor:

e.g. /y-w- \check{d} / : °'a/t/yawf:d_o = I curl my hair (deponent)
 °'a/ø/yanwf:d_o = I curl his hair (short unmarked)
 but not *°'/e:/ywf:d_o (long)

b-s- r = arrange	r-m- \check{d} = avenge	š-r- \check{t} = make mark
w-l- l = not milk	l-b- \check{b} = bandage	š-t- \check{t} = tea
w-d- \check{d} = importune	r-g- \check{g} = raise up	š-n- $\check{'} =$ administer medicine
b-t- \check{k} = come along	r-f- \check{t} = cut up	j-b- r = trouble
b-l- \check{s} = nick	l-k- \check{k} = misuse	y-w- \check{d} = curl hair
w-l- $\check{'} =$ rinse	r-f- \check{f} = drag	y-w- $\check{'} =$ dangle
m-đ- $\check{đ}$ = rejoice	n-h- \check{l} = mount	k-t- \check{b} = write
m-k- r = advise	n-h- \check{s} = be clean	g-r- \check{b} = conquer
m-l- \check{t} = pluck out	n-h- \check{w} = be weak	kw-š- \check{b} = circumcize
m-s- \check{s} = die	n- $\check{'} =$ kw = be soft	k-r- m = split up
m-š- $\check{'} =$ sleep one's fill; split	n-h- \check{d} = be finished	g-l- m = muzzle
f-t- \check{k} = uproot	r-h- \check{s} = be cheap	g-r- m = be hostile
f-k- \check{k} = open	s-kw- m = draw off first milk	kw-b- l = cover
f-t- \check{t} = comb	s-k- \check{t} = throttle	kw-b- \check{b} = cut off
f-l- $\check{'} =$ deflower	s-r- \check{h} = say goodbye	g-b- \check{t} = quaff
f-t- \check{h} = ignore	s-r- $\check{'} =$ brandish	k-r- \check{t} = cut
t-l- \check{h} = be unskillful	đ-n- n = cut	kw-b- \check{s} = hide
t-l- $\check{'} =$ pierce	š-kw- \check{t} = strike at	gw-š- $\check{'} =$ throw
	š-k- $\check{đ}$ = scratch	k-t- $\check{'} =$ break
		k-h- \check{n} = love

f. compatible with short deponent, but not with long unmarked or short unmarked, Transitor:

e.g. /f-y- k/ : °'a/t/fayf:k_o = I carry it (deponent)
 but not *°'a/ø/fanyf:k_o (short unmarked)
 *°'/e:/fyf:k_o (long unmarked)

b-š- kw = be ripe	l-b- s = travel at	y-gw- b = go on trell
f-y- k = carry	night	g-l- d = swear
m-y- kw = be skillful	n-d- b = swim	g-l- s = be hoarse
d-r- w = rush around	s-b- r = flee	gw-'- d = watch
d-m- n = go bail for	s-l- f = borrow	'-g- g = squat
d-h-'r = pray for	š-'- š = cough	h-r- r = be empty
l-w- w = turn up	y-h- m = bathe	'-j- r = be reconciled

g. compatible with short unmarked, but not with long unmarked or short deponent, Transitor:

e.g. /k-t- m/ : °'a/ø/kantf:m_o = I arrive (short unmarked)

but not *°'/e:/ktf:m_o (long)

*°'a/t/katf:m_o (short deponent)

w-n- n = get angry	n-b- r = be cool	š-k- n = become adult
b-'- r = wake	n-f- r = be sweet	š-w- r = trot
m-r- ' = be wide	l-w- w = prowl	š-n- n = strut
f-d- ˇd = be lavish	n-k- r = be a	š-l-'k = be few
f-d- n = leave	batchelor	y-g- g = suffer
f-t- n = hate	n-f-'k = break wind	y-š- ' = be wet
f-t- r = breakfast	n-kw-'s = be short	gw-b- ˇb = perform
f-n-'k = bite	n-b- ' = be warm	g-d- l = do well
t-r- ˇb = halve	n-f- ' = dust	k-t- m = arrive
t-b- b = make	n-s- h = exhort	g-l- l = raise water
d-l- h = be strong	s-r- ˇd = divine	kw-t-'t = grimace
t-w- ' = pinch	š-b- ˇb = trade	g-n- h = hear news
l-m- ˇd = get to know	s-kw- ' = be shy	h-d- ˇgw = do hair
r-d- ˇd = be blunt	š-b- ˇb = see	'-d- ˇd = stuff
l-g- ˇg = stick up	š-t- ˇb = split	'-š- ˇd = split
r-š- ˇd = tend	š-kw- n = be circum-	h-d- ˇ' = become sheikh
	cised	

iii. CCy Radicals

a. compatible with long unmarked, short unmarked and short deponent Transitor :

e.g. /f- ˇr- y/ : °t/e://frı_o = she gives birth to them (long)

°ti/t/farı_o = she is born (deponent)

°ø/ø/fanrı_o = she gives birth to him (short unmarked)

m- ˇr- y = find	r- w- y = persist	kw- r- y = graze
m-'t- y = dissolve	s- kw- y = chase	kw-'s- y = pay
f- ˇr- y = give birth	š- gw- y = count	k-'š- y = employ
f- š- y = stir	š- ˇw- y = be free;	g-'f- y = tilt
t- ˇw- y = twist	be pregnant	h-'m- y = cover; grow up
n- ˇg- y = shell	š- f- y = drink	become bitter
l- w- y = whirl; hate	gw- b- y = turn over	h-'š- y = dismantle
r- b- y = load	k- r- y = hire	h-'t- y = rub
d- g- y = bring back	kw- m- y = bake	

b. compatible with long unmarked, but not with short deponent or short unmarked, Transitor:

e.g. /'- m-y/ : \circ '/e:/'mĩ_o = it swells (long unmarked)

but not * \circ 'i/t/'amĩ_o (deponent)

* \circ ø/ø/'anmĩ_o (short unmarked)

š- kw-y = tend

y- m-y = rain

'- m-y = swell

c. compatible with long unmarked and short unmarked, but not with short deponent, Transitor:

e.g. /t-'kw-y/ : \circ '/e:/tkwĩ_o = he cooks them (long unmarked)

\circ ø/ø/tankwĩ_o = he cooks it (short unmarked)

but not * \circ 'i/t/takwĩ_o (deponent)

t-'kw-y = cook

n- s-y = go uphill

n- kw-y = conceive

n-'f-y = blow

d. compatible with short deponent and short unmarked, but not with long unmarked, Transitor:

e.g. /r- kw-y/ : \circ 'i/t/rakwĩ_o = ? (deponent)

\circ ø/ø/rankwĩ_o = he fears him (short unmarked)

but not * \circ '/e:/rkwĩ_o (long unmarked)

(no other such Radicals known)

e. compatible with short unmarked, but not with short deponent or long unmarked, Transitor:

e.g. /s- g-y/ : \circ ø/ø/sangĩ_o = he is far (short unmarked)

but not * \circ 'i/t/sægĩ_o (deponent)

* \circ '/e:/sgĩ_o (long unmarked)

m-[~]h-y = remain

s-[~]n-y = stop

h-'s-y = be sharp

d-[~]l-y = ascertain

s- g-y = be far

'-'f-y = keep

d-[~]'-y = make; make

š- m-y = stink

h-'g-y = spend the

work

k-[~]l-y = lust

summer

'-'l-y = be dear

2. Syllabic verbal Radicals (M.1.10,11.)

a. compatible with masculine Marker, not requiring Pluraliser:

e.g. /šib/ = fall : \circ 'i/ø/šib/ø/u/!_o = his fall (masc. singular)

bé:r = travel

sák = do; go

yák = get up

bit = pull

ré:w = mount

yiwá:š = dirty

bašáš = scrawl

né:w = scold

kwid = get lost

mihé:l = cure

šib = fall

ki:k = creak

mó:s = soak

šáb = drizzle

gidif = dare

tabbó:k = jump

ší:k = take snuff

gás = weave

šid = weave

yáf = be in debt

háš = chip

ma:rě:g = shamble	rabǔ:b = be naked	hasĭr. = need
dĭn = be silent	sě:b = row	ho:jă:r = set off in
dĭw = sleep	šingĭr = be ugly	mid-day heat
tăm = eat	hukwĭm = rule	

b. compatible with masculine Marker, requiring Pluraliser:

e.g. /dó:b/ = marry: \circ 'i/ǔ/do:b/ǔ/ǔ/a/! \circ = his marriage (?)
(masculine plural)

bŭ:b = blaze	dó:b = marry	galé:l = drive cattle
bŭ:p = be rejected	tŭ:l = point	karé:b = bind
baló:l = flame	dild:l = leak	
bilá:l = dream	šarár = clink	

ďă:b = run	šamăt = scold	hǔ:g = descend
ďadĭb = work (contain- ing C-geminator)	šatăt = tear	himă:g = detest

c. compatible with feminine Marker, not requiring Pluraliser:

e.g. /li:l/ = ululate: \circ ti/ǔ/li:l/ǔ/tu/! \circ = her ululation (fem. sing)

wăw = whine, bleat	táf = snatch	hŭ:d = thunder
walf:k = shout	li:l = ululate	hangwif = crawl
wá:s = select	rá:t = ask	harkĭ:k = pace
waššĭ:k = whistle	si:lé:l = pray	haskáb = pant

dirĭm = herd	čĭw = hammer	hadĭ:d = talk
talăw = appear	găm = shout	'i:bă:b = travel
lăm = taste	gŭ:d = be much	'abă:b = despise
lăw = appear	kaďăw = clatter	

d. compatible with feminine Marker, requiring Pluraliser:

e.g. /fi:n/ = rest : \circ ti/ǔ/fi:n/ǔ/ǔ/ta/! \circ = his rest (fem. plural)

fi:n = rest	čatŭ:n = gallop	gagár = gurgle
fár = hop	šđ:m = enter	kantŭ:r = snore
tabbá:k = jump	kwalf:t = sing	'awďĭ:d = swagger

APPENDIX B.
IRREGULAR VERBAL RADICALS

Introduction

i. The following verbal Radicals are irregular in one or both of two respects: the Radical itself has different exponents in different environments, and these differences break the rules given for the exponents of regular Radicals; or the Radical is structurally related to Transitors, whose exponents are irregular. Some irregular Radicals are also incompatible with certain combinations of morpheme, with which regular Radicals are compatible; i.e. the former occur in 'defective' paradigms. The irregularities of a given Radical are described below in terms of a set of 'principle parts', viz.:

1. 1st.-person singular preterite;
2. preterite participial;
3. 1st.-person singular present;
4. 1st.-person singular past;
5. 1st.-person singular permissive;
6. 1st.-person singular modified (indirect prohibitive).

(In some cases, other classes of word containing a particular Radical must also be given.)

The exponent of any class of word can be deduced from the exponent of one of the principle parts containing the same Radical, as follows:

- a. all other person/gender/numbers can be deduced from the 1st.-person singular;
- b. the following paradigm-sets can be deduced from the individual principle parts:
 1. from the preterite: negative;
 2. from the preterite participial: imperative, future, neutral participial, agentive;
 5. from the permissive: indirect imperative;
 6. from the modified(indirect prohibitive): modified (=negative) prohibitive, negative participial.

(Where words can not be thus deduced, they are given separately after the 'principle parts',

- ii.a. Only unmarked Transitisors can be structurally related to most of these Radicals; where more than one Transitisor is possible with a given Radical, this is indicated.
- ii.b. Since morpheme-boundaries are marked in the principle parts, these can be easily compared with the principle parts of regular Radicals, as in Appendix C.

1. Consonantal verbal Radicals

i. with long Transitisor in present and past

- a. CC Radicals: e.g. /g-m/ : 'a/ø/gám - ø/gam/a - 'e:/gamĩ
'i:/ginĩ - 'i:/ginǎ - b/a:/ø/gá:m
- | | | |
|--------------------|------------------------|----------------|
| m-g = be bad | s-l = sharpen | k-n = know |
| m-h = be surprised | l-' = drink one's fill | g-m = not know |
| r-m = accompany | š-gw = be wrong; | kw-r = pick up |
| n-w = miss | be absent | '-r = feed |
- b. CCC Radicals: e.g. /b-š-kw/ : 'a/ø/bšákw - ø/bišakw/a - 'e:/bšakwĩ
'i:/bšikwĩ - 'i:/bšikwǎ - ?
- | | | |
|----------------------|---------------------|------------------|
| b-'-r = wake | n-h-s = be clean | r-h-s = be cheap |
| b-š-kw = prepare | n-h-w = be weak | đ-h-n = live |
| m-y-kw = be skillful | n-'-kw = be soft | k-h-n = love |
| n-h-l = mount | n-h-d = be finished | |
- c. (C)Cy Radicals: /b-y/= go : 'a/ø/bě - ø/bay/a - 'e:/bě
'i:/bĩ - 'i:/bǎ - b/a:/ø/bá:y
/'-f-y/= be: --- - ø/'afa:y/a - 'e:/fě
'i:/fĩ - 'i:/fǎ - b/a:/ø/'afá:y
(negative: k'/aa:/ø/'fá:y)

ii. with long Transitisor in past

- a. /w-r/ = treat : 'a/ø/wě:r - ø/we:r/ǎ - 'a/ø/warĩ
'i:/wrĩ - 'i:/wrǎ - b/a:/ø/we:rĩ
or - 'i:/warǎ
- b. /kw-s/ = cause to be: 'a/ø/kwǎ:s - ø/kwa:s/ǎ - 'a/ø/kwasĩ
'i:/kwsĩ - 'i:/kwsǎ - b/a:/ø/kwa:sĩ
or - 'i:/kwasǎ
- c. /'-k-t-y/ = be : 'a/ø/kě - --- - 'a/ø/katĩ
'i:/ktĩ - 'i:/ktǎ - b/a:/ø/ká:y
or - 'i:/katǎ or - b/a:/ø/'aká:y
(negative: k'/aa:/ø/'kě - k'/it/ø/'tě
or k'/aa:/ø/'akě or - k'/it/ø/'akě)
- d. /b-r/ = have : --- - --- - 'a/ø/barĩ
'i:/brĩ - --- - b/a:/ø/barĩ
(negative: k'/aa:/ø/'barĩ)

e. /n-h-b/ = stoop : 'a/ø/háb - ø/hab/a - 'a/t/naɦf:b
'i:/háB - 'i:/háB - b/a:/ɦf:b

iii. Radicals whose own exponent is constant, but with which Transitisor are irregularly expounded

a. like /d-gw-gw/ : 'a/ø/dgwa:gw - ø/digwa:gw/ǎ - 'a/ø/dgwa:gw
'a/ø/dgwi:gw - 'a/ø/dgwi:gw - b/a:/dgwa:gw

b-ǎ-y = yawn l-g-y = be very long y-w-y = be thirsty
d-gw-gw = be agile n-d-y = be an orphan gw-r-r = be spotty
d-gw-y = be blistered š-t-y = gobble

b. like /h-d-l/ : 'a/ø/hadǎ:l - ø/hada:l/ǎ - 'a/ø/hada:lǎ
'a/ø/hidǎ:l - 'a/ø/hidǎ:l - b/a:/ø/hadǎ:l

'-y-y = be weak (also with causal Transitisor: 'a/s/'ayǎ:y, etc.) '-d-r = be red
h-d-l = be black

c. like /s-y/ : 'a/ø/sǎ:y - ø/sa:y/a - 'a/ø/sa:yǎ
'a/ø/sf:y - 'a/ø/sf:y - b/a:/ø/sǎ:y

s-y = flay n-y = milk

d. /nb'-n/ = fear : 'a/ø/nb'ǎ:n - ? - 'a/ø/nb'ǎ:nǎ
'a/ø/nb'f:n - ? - ?
or 'a/ø/nb'i:nǎ

e. like /d-l-l/ : 'a/ø/dlǎ:l - ø/dile:l/ǎ - 'a/ø/dle:lǎ
'a/ø/dlǎ:l - 'a/ø/dlǎ:l - b/a:/ø/dle:lǎ

d-l-l = be late t-l-kw = squat

f. /h-b-b/ = spend winter : 'a/ø/hibǎ:b - ø/hibe:b/ǎ - 'a/ø/hibe:b
'a/ø/hibǎ:b - 'a/ø/hibǎ:b - b/a:/ø/hibe:bǎ

g. like /d-r-r/ : 'a/ø/drǎ:r - ø/diro:r/ǎ - 'a/ø/dro:rǎ
'a/ø/drǎ:r - 'a/ø/drǎ:r - b/a:/ø/diro:rǎ

d-r-r = be fleshy š-b-b = be good t-b-k = scoop

h. /h-d-d/ = be black : 'a/ø/hadǎ:d - ø/hado:d/ǎ - 'a/ø/hado:dǎ
'a/ø/hidǎ:d - 'a/ø/hidǎ:d - b/a:/ø/hado:dǎ

(also with causal Transitisor: 'a/s/hadǎ:d, etc. = inconvenienc

i. like /s-t/ : 'a/ø/sǎ:t - ? - 'a/ø/so:tǎ
'a/ø/sǎ:t - 'a/ø/sǎ:t - b/a:/ø/so:tǎ

nǎ-k = gobble s-t = be green gw-y = fail
nǎ-f = be light

j. like /t-k/ : 'a/ø/tǎ:k - si/to:k/ǎ - 'a/s/to:kǎ
'a/s/tu:ki - ? - b/a:/s/yo:kǎ

t-k = dress y-d = say

(With both these Radicals, the Transitisor is causal, as in the above principle parts. With /y-d/, however, the Transitisor is expounded with /si:s.../, not /s.../; e.g. 'a/si:s/yǎ:d = I made him say it. Compare these Radicals with /kw-y/ = don - e.g. 'a/ø/kwǎ = I got dressed - and /y-d/n-y/ = say - e.g. 'a/ø/dǎ

k. like /gw-m-d/ : 'a/ø/gwmád - ? - 'a/ø/gwmadĩ
 'a/ø/gwmidi - 'a/ø/gwmidã - b/a:ø/gwmá:ĩ

n-k-š = be short gw-m-d = be long

l. /h-r-gw/ = be hungry : 'a/ø/harágw - ø/haragw/ã - 'a/ø/harágwĩ
 'a/ø/hirígw - 'a/ø/hirígw - b/a:ø/harã:gw

m. /ng-d/ = stand, stop : 'a/ø/ngád - ø/ngad/a - 'a/ø/ngadĩ
 'a/ø/ngidi - 'a/ø/ngidã - b/a:ø/ngã:d

(also with causal Transitor; 'a/si/ngád, etc.)

n. /d-~r/ = kill : 'a/ø/dír - ø/dir/a - 'a/n/di:~r
 'i:/di:~r - 'i:/dir - b/a:ø/di:~r
 (plural present: ni/ø/dě:r, etc.)

(also with long Transitors, as CCy Radical; e.g. 'a/ø/da:~r)

iv. Radicals whose exponents are not constant

a. /'~y-h-y/n/ = take : 'a/ø/yhě - ø/'ah/a - 'a/n/i:n

or 'a/ø/yĩ - ø/'ayh/ã - b/a:ø/hã:y
 or 'a/ø/yã:y - b/a:ø/yhã:y
 (plural present: ni/ø/yã:y, etc.)

b. /h-y-w/ = give : 'a/ø/hĩ - ø/hiy/a - 'a/n/i:w
 'a/ø/yĩ:w - 'a/ø/yã:w - b/a:ø/hĩ:w
 (plural present: ni/ø/yã:w, etc.)

c. /'~y-y/ = die : 'a/ø/yã - ø/'a:y/ã - 'a/ø/ya:yĩ
 'a/ø/yĩ - 'a/ø/yã - b/a:ø/ya:yĩ
 (future: ø/yã:y/át, not ø/'a:y/át)

d. /k-t-n/ = know : 'a/ø/kán - ø/kan/a - 'a/ø/ktě:n
 or 'a/ø/kti:n - 'a/ø/kti:n - b/a:ø/ktã:n
 or 'a/ø/kti:nĩ or 'a/ø/kti:nã

e. /y-d/n-y/ = say : 'a/ø/dĩ - ø/diy/a - 'a/n/dĩ
 or 'a/ø/nĩ
 'i/ø/yid - 'a/ø/yã:d - b/a:ø/dĩ
 (1st plural preterite: n/ě:/n
 or ni/ø/nĩ
 or ni/ø/dĩ
 plural present: ni/ø/yã:d, etc.)

v. Radicals in defective paradigms

a. /h-y/ = be : --- - ø/ha:y/ã - 'a/ø/hě
 'a/ø/hĩ - 'a/ø/hiyã - b/a:ø/hã:y
 (negative: k⁹/aa:ø/hã:y, etc.)

b. /č-b-'/ = beat : 'a/ø/čabã - ø/čab'/a - ---

c. /'~s/ = up : 'a/ø/'as/' - ø/'as/a/ - ---

d. /n-'/ = down : 'a/ø/na'/' - ø/na'/a/ - ---

(/'~s/ and /n-'/ are always structurally related to the Compounder morpheme; i.e. they are always contained by clauses representing

the Complement;

e.g. ,i'a/ø/'as/'i;_o'a/ø/ngád, = I stood up,
 ,i'a/ø/na'/'i;_o'a/ø/sǎ', = I sat down.)

2. Syllabic verbal Radicals

- i. /yi'e/ = come : the Radical is expounded by /yi'/ before a V-phoneme, otherwise by /'e/;
- e.g. _yi'/ø/án_o = I came
 _'e/ø/:tǎ_o = she came
 _'e/ø/:yǎ_o = he came
- (The Radical is expounded by /mi'/, however, before the imperative Marker; e.g. _mi'/ø/'/a:_o = come!)
- ii. /ke/ = where : this Radical was found only in a few person/number classes of preterite words;
- e.g. _ke/ø/:yǎ_o = Where is he?
 _ke/ø/:ta/ʔ_o = Where are you?
 Where have you been?
- iii. /r/ = like : this Radical was found only in 1st.-person singular negative words;
- e.g. _ká/r/ø/án_o = I don't like (see G.4.15.iii.)

APPENDIX CVERBAL WORD-PARADIGMSIntroduction

i.

Verbal words can be divided, for reference, into the paradigm-sets defined below. These sets are distinguished by morphological, not syntactic, criteria, i.e., according to the morphemes of which their members consist. The presence or absence of certain morphemes has been disregarded, however, so that the members of a given paradigm-set do not necessarily have exactly the same constituents (apart from differences in their Radicals, which are also disregarded). The morphemes thus disregarded are: C-geminator, Compounder, Optative, Pronominals, Conjunctions. Each word must contain a Transitisor, but the class of the Transitisor is also disregarded (for paradigms of words containing different classes of Transitisor, see MP, 2, ii.). In all the examples given below, the classes of morpheme listed above are omitted, and the Transitisor is unmarked short in all words containing a consonantal Radical, and unmarked weak long in all words containing a syllabic Radical. The paradigm-sets are thus defined by the following morphological features of their members:

a, according to the class of the Marker morpheme (M. 6, 2, 3, 6.), and according to the presence or absence of the Modifier morpheme:

<u>paradigm-set</u>	<u>Marker morpheme</u>	<u>Modifier</u>
preterite	preterite	absent
present	present	"
past	past	"
negative	preterite	present
modified	modified	"
(See ii. below)		
permissive	permissive	"
indirect imperative	"	"
imperative	imperative	"
prohibitive	"	"
future	future	"
preterite participial	preterite participial	"
neutral participial	neutral participial	"
negative participial	" "	"
agentive participial	agentive participial	"

b. according to the class of the Marker morpheme (M.6.5.), according to the presence or absence of the Pluraliser morpheme, and according to the presence or absence and, if present, the class, of a Second-person morpheme;

<u>paradigm-set</u>	<u>Marker morpheme</u>	<u>Pluraliser</u>	<u>Second-person</u>
person-neutral	any participial	absent	absent
1st, singular	1st, singular	"	"
"	future	"	"
1st, plural	1st, plural	" (sic)	"
3rd, masculine	3rd, masculine	"	"
3rd, feminine	2nd,/3rd,	"	"
3rd, plural	3rd, plural	present	"
2nd, masculine	2nd,/3rd,	absent	masculine
"	future	"	"
"	imperative	"	"
2nd, feminine	2nd,/3rd,	"	feminine
"	future	"	"
"	imperative	"	"
2nd, plural	2nd, plural	present	plural
"	future	absent	"
"	imperative	"	"

c. according to the presence or absence of a question Certainty morpheme; interrogative words do, affirmative words do not, contain such a morpheme. (The emphasis Certainty morpheme is another of those whose presence or absence is disregarded in distinguishing paradigm-sets.)

ii.a. Words belonging to the paradigm-set referred to as 'modified' can represent the Head in either all-person groups or indirect prohibitive groups (G.4.5.); in the first class of group, all the person/gender/numbers of word are possible, but in the second class of groups only the 1st,-and 3rd,-persons are possible.

ii.b. Two overlapping sets are distinguished within the paradigm-set 'modified', referred to as 'modified (= negative)' and 'modified (indirect prohibitive)' respectively. The former represent the Head in all-person groups, the latter in indirect prohibitive groups. Modified words can be contained by classes

which are in complementary distribution with clauses containing negative words (C,4,1,v,b,); modified words contained in such clauses are considered to represent the paradigm-set 'modified (= negative); otherwise, modified words are 'modified (indirect prohibitive)',

Word-paradigms

The words listed below differ according to the first two criteria (i,a,b, above); all are affirmative except 2nd.-person future words, which must be interrogative (M.6,3,iii,a.). Each paradigm-set is represented by four words, each containing a different radical, viz,;

/tām/ (syllabic) = eat

/l- w/ (CC consonantal) = burn

/d-b- l/ (CCC ") = collect

/d- g-y/ (CCy ") = bring back

For convenience, word-boundaries will not be marked in the following paradigms; every example is a complete word.

a. preterite

1 sg.	tam/ø/ān	'a/ø/liw	'a/ø/dbil	'a/ø/dgī
1 pl.	tam/ø/nā	ni/ø/liw	ni/ø/dbil	ni/ø/dgī
3 m.	tam/ø/yā	'i/ø/liw	'i/ø/dbil	'i/ø/dgī
3 f.	tam/ø/tā	ti/ø/liw	ti/ø/dbil	ti/ø/dgī
3 pl.	tam/ø/ya/ʔn	'i/ø/liw/ʔna	'i/ø/dbil/ʔna	'i/ø/dgi/ʔn
2 m.	tam/ø/ta/ʔ	ti/ø/liw/ʔa	ti/ø/dbil/ʔa	ti/ø/dgi/ʔa
2 f.	tam/ø/ta/ʔy	ti/ø/liw/ʔi	ti/ø/dbil/ʔi	ti/ø/dgi/ʔy
2 pl.	tam/ø/ta/:n/ʔa	ti/ø/liw/n/ʔa	ti/ø/dbil/n/ʔa	ti/ø/dgi/:n/ʔa

b. present

1 sg.	tam/ø/āni	'a/n/li:w	'a/ø/danbi:l	'a/ø/dangi
1 pl.	tam/ø/nāy	n/e:/liw	n/e:/dbil	ni/ø/dē:g
3 m.	tam/ø/i:ni	'i/n/li:w	ø/ø/danbi:l	ø/ø/dangi
3 f.	tam/ø/tini	ti/n/li:w	ø/ø/danbi:l	ø/ø/dangi
3 pl.	tam/ø/e/ʔn	'/e:/liw/ʔna	'/e:/dbil/ʔna	'i/ø/de:g/ʔna
2 m.	tam/ø/tini/ʔa	ti/n/li:w/ʔa	ø/ø/danbi:l/ʔa	ø/ø/dangi/ʔa
2 f.	tam/ø/tini/ʔy	ti/n/li:w/ʔi	ø/ø/danbi:l/ʔi	ø/ø/dangi/ʔy
2 pl.	tam/ø/te/:n/ʔa	t/e:/liw/n/ʔa	t/e:/dbil/n/ʔa	ti/ø/de:g/n/ʔa

c. past

1 sg.	tam/ø/ĩ	'/i;/liw	'/i;/dbil	'a/ø/dĩ:g
				<u>or</u> 'i/ø/dĩ:g
1 pl.	tam/ø/nĩ	n/i;/liw	n/i;/dbil	ni/ø/dĩ:g
3 m.	tam/ø/ĩ	'/i;/liw	'/i;/dbil	'i/ø/dĩ:g
3 f.	tam/ø/tĩ	t/i;/liw	t/i;/dbil	ti/ø/dĩ:g
3 pl.	tam/ø/i/ʔn	'/i;/liw/ʔna	'/i;/dbil/ʔna	'i/ø/di:g/ʔna
2 m.	tam/ø/ti/ʔa	t/i;/liw/ʔa	t/i;/dbil/ʔa	ti/ø/di:g/ʔa
2 f.	tam/ø/ti/ʔ	t/i;/liw/ʔi	t/i;/dbil/ʔi	ti/ø/di:g/ʔi
2 pl.	tam/ø/ti/:n/ʔat/i;/liw/n/ʔa	t/i;/dbil/n/ʔa	ti/ø/di:g/n/ʔ	

d. negative

1 sg.	ká/tam/ø/án	k'/aa;/ø/liw	k'/aa;/ø/dbil	k'/aa;/ø/dgĩ
1 pl.	<u>etc.</u>	<u>etc.</u>	k'/in/ø/dibil	<u>etc.</u>
3 m.	(c. f. a. above)		k'/ii;/ø/dbil	
3 f.			k'/it/ø/dibil	
3 pl.			k'/ii;/ø/dbil/ʔna	
2 m.			k'/it/ø/dibil/ʔa	
2 f.			k'/it/ø/dibil/ʔi	
2 pl.			k'/it/ø/dibil/n/ʔa	

(In $ká/tam/ø/án$, etc., the morphemes following the Modifier /ká/ are expounded exactly as in the preterite paradigm; in $k'/aa;/ø/liw$, etc. and $k'/aa;/ø/dgĩ$, etc., the differences are as between $k'/aa;/ø/dbil$, etc. and the preterite paradigm: $'a/ø/dbil$, etc.)

e. modified (= negative)

1 sg.	b/a;/tam/áy	b/a;/li:w	b/a;/ø/dabi;l	b/a;/ø/dagi
1 pl.	b/in/tam/áy	b/in/li:w	b/in/ø/dabi;l	b/in/ø/dagi
3 m.	b/i;/tam/áy	b/i;/li:w	b/i;/ø/dabi;l	b/i;/ø/dagi
3 f.	b/it/tam/áy	b/it/li:w	b/it/ø/dabi;l	b/it/ø/dagi
3 pl.	b/i;/tam/ay/ʔna	b/i;/li:w/ʔna	b/i;/ø/dabi;l/ʔna	b/i;/ø/dagi/ʔna
2 m.	b/it/tam/ay/ø	b/it/li:w/ø	b/it/ø/dabi;l/ø	b/it/ø/dagi/ø
2 f.	b/it/tam/ay/ø	b/it/li:w/ø	b/it/ø/dabi;l/ø	b/it/ø/dagi/ø
2 pl.	b/it/tam/ay/n/ø	b/it/li:w/n/ø	b/it/ø/dabi;l/n/ø	b/it/ø/dagi/:n/ø

f. permissive

1 sg.	tam/ø/ĩ	'/i;/liw	'/i;/dbil	'a/ø/dǎ:g
				<u>or</u> 'i/ø/dǎ:g
1 pl.	tam/ø/nĩ	n/i;/liw	n/i;/dbil	ni/ø/dǎ:g

f. indirect imperative

1 sg.	bá/tam/ø/ĩ	bá/'/i;/liw	bá/'/i;/dbil	bá/'a/ø/dǎ:g
	<u>etc.</u>	<u>etc.</u>	<u>etc.</u>	<u>or</u> bá/'i/ø/dǎ:g
				<u>etc.</u>

(All person/gender/numbers, as /bá/ - or /báa:/ - followed by past, except that the V-phoneme of the Transitor in $bá/'a/ø/dǎ:g$, etc. is as the permissive, not the past.)

APPENDIX D
CLAUSE - TYPES

1. Outline

i.a. Any Beja clause is a member of one or more of the eleven clause-types. (If it belongs to more than one type, it is semantically ambiguous - see 3,ii. below.) The members of ten of these types are considered to be derived, in different ways, from members of the eleventh, which is therefore referred to as the 'underived' type. Clause-types are thus defined with reference to transformational criteria.

i.b. Each of the ten 'derived' types is referred to by a formulaic abbreviation of the English translations of its typical members, as follows:

- '2 V himself'
- '2 made 1 V him'
- '1+2 V each other'
- '1+3 V 2 together'
- '3 made 1 V 2'
- '3 V 2 with 1'
- '3 made 2 V himself'
- '3 V himself with 2'
- '1+2 V themselves together'
- '3 made 1+2 V each other'.

i.c. In these formulae, 1, 2 and 3 stand for one or more nominal groups, and V stands for one or more verbal groups. (The fact that 'made' is past, and that the pronouns are all masculine singular, is irrelevant, since these features are not determined by the clause-type.) Thus, a typical translation for a member of the '3 V 2 with 1' clause-type would be 'My friend drank coffee with my brother.'

ii.a. A derived clause (D) is considered to be derived from one or more underived clauses (U_1, U_2) if the differences between D and U_1, U_2 together are the same as the differences between a large number of other clauses like D, and a similar number of clauses like U_1 and U_2 .

ii.b. Thus, for example, the clause meaning 'My friend drank coffee with my brother,' is considered to be derived from two

clauses meaning respectively 'My friend drank coffee.' and 'My brother drank coffee.' Many other clauses similar to 'My friend drank coffee with my brother.' can be similarly derived from clauses like 'My friend drank coffee.' and 'My brother drank coffee.' - e.g. the clause meaning 'The boys helped the man to feed the cattle' is derived from clauses meaning respectively 'The boys fed the cattle.' and 'The man fed the cattle.' The relation between each of these two derived clauses and the pairs of clauses from which they are derived is considered to be the same. Thus it is possible to generalise this relation, by stating that if two clauses such as 'My brother drank coffee.' and 'My friend drank coffee.' are known to be possible, then it is probable that a third clause, like 'My friend drank coffee with my brother.' is also possible (or, conversely, if the latter is known to be possible, the former can be predicted from it).

iii.

If a clause D is considered to be derived from two clauses U_1 and U_2 , the derivational relation between D and U_1 , U_2 involves both grammatical and lexical factors:

- a. The relation is grammatical in that the difference between the structure of D and those of U_1 and U_2 must be the same as the difference between the structures of other members of the type to which D belongs and of other members of the underived type. For instance, the structure of the Beja clause translated as 'My friend drank coffee with my brother.' is: Subject, Object, Object, Predicator, whereas the structure of each of the two clauses from which this clause is derived is: Subject, Object, Predicator. Similarly, the structure of the clause translated as 'The boys helped the man to feed the cattle.' differs from the structures of the two clauses from which it is considered to be derived, in that it includes one less Subject and one less Predicator than their combined structures, but one more Object than either of their individual structures.
- b. The relation is lexical in that every lexical item which appears in D must also appear in U_1 and/or U_2 , and also in that a lexical item which represents a given element of D's structure must represent a particular element - not necessarily the same - in the structure of U_1 and/or U_2 . Thus, in each of the above examples

of derived clauses, one of the items representing the Object is the same lexical item as that which represents the Subject in one of the underived clauses.

iv.a. The grammatical relation between the members of a derived type and those of the underived type is described in terms of a rule-set - i.e., a set of instructions such as 'Change the Subject into the Object', 'Delete the Subject', or 'Combine the clauses', which must be applied in a given sequence. Thus, the rules describing the differences between clauses like 'My friend drank coffee with my brother.' and clauses like 'My friend drank coffee.' and 'My brother drank coffee.', are:

1. delete all elements except the Subject from the first clause (producing: 'My friend')
2. change the Subject of the second clause into the Object (producing: 'He drank coffee with my brother.' - unlike the English translation, the Beja clause contains no Subject.)
3. combine the two clauses, and make any necessary adjustments to the Predicator, in order to restore person/gender/number concord with the Subject (producing: 'My friend drank coffee with my brother.')

iv.b. The lexical relation between derived and underived clauses is described by suffixing a number to each element-name in the structural inventories of the clauses related by the rule-sets described above; elements to which the same number is suffixed are understood to be represented by the same lexical item in clause which are thus related. Thus, the structural inventory for the clause 'My friend drank coffee with my brother.', is:

S_3, O_1, O_2, P_4 ; that for 'My friend drank coffee.' is: S_3, O_2, P_4 , and that for 'My brother drank coffee.' is: S_1, O_2, P_4 . The same numbers are suffixed to the names of the same elements in the structural inventories of all members of the derived type to which 'My friend drank coffee with my brother.' belongs; and likewise in the structural inventories of all the clauses from which such clauses are considered to be derived. If an element in the latter clauses is represented by a lexical item which does not represent any element in the former, no number is suffixed to the name of the element concerned.

iv.c.

Thus, each of the derived types has a class-structure in which each element has a number suffixed to it. On the other hand, the elements in the class-structure of the undervived type do not have numbers suffixed to them, since different numbers can be suffixed to a given element, according to the derived type with which the undervived type is being compared; i.e., numbers are suffixed to elements in the structure of the undervived type only when this is being compared with a particular derived clause. Thus the structure of the clause meaning 'My friend drank coffee.' is S_3, O_2, P_4 if the clause is considered as one of the two clauses from which 'My friend drank coffee with my brother.' is derived; but it is S_1, O_2, P_4 if the clause is considered as one of those from which 'My brother drank coffee with my friend.' is derived.

iv.d.

No element in ^{the} unit-structure of the clause is obligatory except the Predicator, and similarly no element except the Predicator is obligatory in the class-structure of any clause-type. Thus, some of the rules given below are not relevant to all members of a given type; e.g. the clause translated as 'My friend drank coffee with him.' belongs to the same type as 'My friend drank coffee with my brother.'; unlike the latter, however, it contains only one Object, and is therefore considered to be derived from clauses whose structures are: S_3, O_2, P_4 and O_2, P_4 . The rule 'Change the Subject into the Object' does not apply, since the clause to which it should otherwise apply contains no Subject. In such cases, in which a derived clause contains no Subject and/or Object, the clause is allotted to a type according to its potential structure - i.e., according to the type to which another clause belongs, this other clause differing from the first only in that it contains a Subject and/or Object.

iv.e.

The presence or absence of the Adjunct element is always irrelevant to the distinction and definition of clause-types, since clauses of all types can contain any, or no, item representing the Adjunct. Likewise, the Predicator may be represented by intransitive, single-transitive or double-transitive P-groups; the class of the P-group determines whether or not an Object, or more than one Objects, are possible in the same clause, and therefore also determines whether or not the clause can belong

to a type in whose members such an Object must at least be possible. Such restrictions are, however, disregarded below, since they follow automatically from the definitions of intransitive, single-transitive and double-transitive P-groups (G.4.12,13.). (The translation-meanings referred to in the names of the derived types are those of clauses containing single-transitive P-groups.)

2. Rule-sets

- i. Each rule-set includes one or more of the following rules (which are referred to by the abbreviations shown in brackets)
 - a. transpose the lexical item representing the Subject, so that it represents the Object (St)
 - transpose the lexical item representing the Object, so that it represents the Subject (Ot)
 - b. delete the Subject (Sd)
 - delete the Object (Od)
 - delete all the elements except the Subject (OAPd)
 - c. combine the two items representing the Subject (Sc)
 - combine the two clauses (Cc)
- ii.a. Whenever the elements Subject, Object or Adjunct are referred to here, it is to be understood that these elements are complex, and there is therefore no need to write o after the names of these elements.
- ii.b. The rule 'Combine the two items representing the Subject' means that, where previously applied rules have produced a clause containing two items, each of which represents the Subject, these must be merged into a single item (the Subject can be represented by only one item in a given clause - C.S.i.d.). If these two items are different, they are merged by coordination, as in the clause translated as 'My brother and my friend drank coffee together.' (derived from: 'My brother drank coffee.' and 'My friend drank coffee.'). If the two items are the same, however, they are merged into a single item, which must be plural, as in the clause translated as 'My friends drank coffee together.' (derived from 'My friend drank coffee.' and 'My friend drank coffee.')
- iii. After the application of every rule, it is to be understood that any grammatically necessary adjustments are made to the

lexical items, in order to restore concord, etc. Also, after the application of either of the 'transposition' rules, the class of the item representing the Predicator must be changed, from one of the classes in System G.4.11. to another class in the same system. (For the clause-types in which members of these classes of P-group occur, see G.4.11.ii.; it will be seen that all underived clauses contain 'unmarked' P-groups, except as noted in M.2.3/4.ii.c.)

iv.a. A derived type is derived either directly or indirectly from the underived type. If it is derived directly, the rule-set producing it applies to the underived type itself, whereas if it is derived indirectly, the rule-set applies to a derived type, and a derived or an underived type; e.g. the clause translated as 'The mother lets her son wash himself.' is derived from the derived clause translated as 'Her son washes himself.' and any underived clause in which the Subject is represented by 'the mother'.

iv.b. When one type is considered to be derived from another derived, type, the lexical relations between the two types must be described by suffixing numbers to the names of the elements in the structure of each. Therefore, it may be necessary to suffix different numbers to the elements in the structure of the latter type from those which appear in its class-structure (see 1.iv.c. above), for the same reasons that the numbers suffixed to the element-names in the structures of underived clauses vary.

v. The following conventions are observed in describing rule-sets:

- a. when + is written between two rules, that on the left must be applied before that on the right;
- b. a rule written to the right of a vertical bracket applies to both the clauses produced by the rules on the left of the bracket.

vi. The table below shows the rule-sets and the structures of the types related by these sets; for examples, see 4. below.

Rule-sets producing directly derived clauses

	Structure of underived type	rule-set	derived type:	
			structure	name
a.	S_1, O_2, O, A, P_4	$S_d + O_t$	S_2, O, A, P_4	'2 V himself'
b.	S_1, O_2, O, A, P_4 S_2, O, O, A, P	$O_d + S_t$ OAP_d } + C_c	S_2, O_1, O, A, P_4	'2 made 1 V him'
c.	S_1, O_2, O, A, P_4 S_2, O_1, O, A, P_4	O_d OAP_d } + $C_c + S_c$	S_{1+2}, O, A, P_4	'1+2 V each other'
d.	S_1, O_2, O, A, P_4 S_3, O_2, O, A, P_4	OAP_d } + $C_c + S_c$	S_{1+3}, O_2, O, A, P_4	'1+3 V 2 together'
e.	S_1, O_2, O, A, P_4 S_3, O, O, A, P	S_t OAP_d } + C_c	S_3, O_1, O_2, O, A, P_4	'3 made 1 V 2'
f.	S_1, O_2, O, A, P_4 S_3, O_2, O, A, P_4	S_t OAP_d } + C_c	" "	'3 V 2 with 1'

Rule-sets producing indirectly derived clauses

	Type from which derived:		rule-set	type thus derived:	
	structure	name		structure	name
g.	S_2, O, A, P_4 S_3, O, O, A, P	2 V himself underived	S_t OAP_d } + C_c	S_3, O_2, O, A, P_4	'3 made 2 V himself'
h.	S_2, O, A, P_4 S_3, O, A, P_4	2 V himself "	S_t OAP_d } + C_c	S_3, O_2, O, A, P_4	'3 V himself with 2'
i.	S_1, O, A, P_4 S_2, O, A, P_4	" "	OAP_d } + $C_c + S_c$	S_{1+2}, O, A, P_4	'1+2 V themselves together'
j.	S_{1+2}, O, A, P_4 S_3, O, O, A, P	1+2 V each other underived	S_t OAP_d } + C_c	S_3, O_{1+2}, O, A, P_4	'3 made 1+2 V each other'

3. Morphological differences between types

i. The only morphological differences between the types are as follows:

- a. Their class-structures (disregarding the lexical numbers) are sometimes different; e.g. the class-structure of the type '3 made 1 V 2' is: Subject, Object, Object, Object, Adjunct, Predicator,

whereas that of the type '3 V himself' is Subject, Object, Adjunct, Predicator,

- b. The Predicator may be represented in their members by different classes of group (G.4.11.ii.); e.g. the Predicator is represented in '3 made 1 V 2' clauses by causal groups, but in '3 V 2 with 1' clauses by joint or joint/passive/deponent groups,

Neither of the above morphological differences provides an infallible criterion for recognising the type to which particular clauses belong, since on the one hand no element except the Predicator is obligatory in any of the types, and on the other hand the Predicator can be represented by the same class of group in more than one type of clause. Clauses can therefore be ambiguous as to their type, and consequently also as to their meaning; e.g. the clause ;'i/mo;/ma:n/'na; belongs to five different types, and has five different meanings;

<u>type</u>	<u>meaning</u>
'1+2 V each other'	They shaved each other.
'1+3 V 2 together'	They shaved him together.
'3 V 2 with 1'	They shaved him with him.
'3 V himself with 2'	They shaved themselves with him.
'1+2 V themselves together'	They shaved themselves together.

Examples of derived types

a. In these examples, the lexical items are kept constant; i.e. a given number stands for the same item in all cases, viz.:

- 1 - , 'u:/tāk/ø, or , 'o:/tāk/ø, = the man
- 2 - , 'i/san/u/!, or , 'i/san/o/!, = his brother
- 3 - , wi/'ara:w/u/!, or , wi/'ara:w/o/!, = his friend
- 4 - preterite P-groups containing the Radicals;

/b-'-r/ = wake (intransitive)

/m-n/ = shave (^{single}transitive)

/x-'s-y/ = pay (double-transitive)

b. For simplicity, the examples below contain no Adjunct. All the other elements shown in the structural inventories for the types concerned are represented in the examples, except for the Object, which can not be represented the number of times shown in the inventories unless the Predicator is represented by double-

transitive groups. No examples of clauses containing such P-groups are given; the examples are divided into two sets: those in which the Predicator is represented by single-transitive groups, and those in which it is represented by intransitive groups.

i, c. In these examples, the last clause is the one belonging to the type being exemplified; the first clause, or two clauses, are those from which this clause is considered to be derived; the rule-set by which the former is derived from the latter is given below the latter. The structure of each clause is given on the left. The types are exemplified in the order in which they appear in the table in 2, above.

ii. Clauses in which the Predicator is represented by single-transitive groups

a. '2 V himself'

S_1, O_2, P_4 ; 'wi/'θ:r/θ, 'i/san/o/ɸ, 'i/θ/min; = The boy shaved his brother.
rule-set : Sd + Ot

S_2, P_4 ; 'i/san/u/ɸ, 'i/θ/man; = His brother shaved himself,

b. '2 made 1 V him'

S_1, O_2, P_4 ; 'u:/tək/θ, 'i/san/o/ɸ, 'i/θ/min; = The man shaved his brother.

S_2, P ; 'i/san/u/ɸ, diw/θ/yä; = His brother slept,

rule-set : $\left. \begin{array}{l} Od + St \\ OAPd \end{array} \right\} + Cc$

S_2, O_1, P_4 ; 'i/san/u/ɸ, 'o:/tək/θ, 'i/θo:/mæn; = His brother got the man to shave him,

c. '1+2 V each other'

S_1, O_2, P_4 ; 'u:/tək/θ, 'i/san/o/ɸ, 'i/θ/min; = The man shaved his brother,

S_2, O_1, P_4 ; 'i/san/u/ɸ, 'o:/tək/θ, 'i/θ/min; = His brother shaved the man,

rule-set : $\left. \begin{array}{l} Od \\ OAPd \end{array} \right\} + Cc + Sc$

S_{1+2}, P_4 ; 'u:/tək/θ/wa, 'i/san/u/ɸ/wa, 'i/mo:/ma:n/yä; = The man and his brother shaved each other,

d. '1+3 V 2 together'

S_1, O_2, P_4 ; 'u:/tək/θ, 'i/san/o/ɸ, 'i/θ/min; = The man shaved his brother,

S_3, O_2, P_4 ; 'wi/'ara:w/u/ɸ, 'i/san/o/ɸ, 'i/θ/min; = His friend shaved his brother,

rule-set : $\left. \begin{array}{l} Od \\ OAPd \end{array} \right\} + Cc + Sc$

S_{1+3}, O_2, P_4 ; 'u:/tāk/ø/wa, wi/'ara:w/u/!wa, 'i/san/o/!, 'i/mo:/ma:n/na; = The man and his friend shaved his brother together.

e. '3 made 1 V 2'

S_1, O_2, P_4 ; 'u:/tāk/ø, 'i/san/o/!, 'i/ø/min; = The man shaved his brother,

S_3, P ; wi/'ara:w/u/!, diw/ø/yä; = His friend slept,

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_1, O_2, P_4 ; wi/'ara:w/u/!, 'o:/tāk/ø, 'i/san/o/!, 'i/so:/min; = His friend made the man shave his brother,

f. '3 V 2 with 1'

S_1, O_2, P_4 ; 'u:/tāk/ø, 'i/san/o/!, 'i/ø/min; = The man shaved his brother,

S_3, O_2, P_4 ; wi/'ara:w/u/!, 'i/san/o/!, 'i/ø/min; = His friend shaved his brother,

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_1, O_2, P_4 ; wi/'ara:w/u/!, 'o:/tāk/ø, 'i/san/o/!, 'i/mo:/mä:n; = His friend shaved his brother with the man,

g. '3 made 2 V himself'

S_2, P_4 ; 'i/san/u/!, 'i/ø/män; = His brother shaved himself,

S_3, P ; wi/'ara:w/u/!, diw/ø/yä; = His friend slept,

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_2, P_4 ; wi/'ara:w/u/!, 'i/san/o/!, 'i/so:/min; = His friend made his brother shave himself,

h. '3 V himself with 2'

S_2, P_4 ; 'i/san/u/!, 'i/ø/män; = His brother shaved himself.

S_3, P_4 ; wi/'ara:w/u/!, 'i/ø/män; = His friend shaved himself,

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_2, P_4 ; wi/'ara:w/u/!, 'i/san/o/!, 'i/mo:/mä:n; = His friend shaved himself with his brother.

i. '1+2 V themselves together'

S_1, P_4 ; 'u:/tāk/ø, 'i/ø/män; = The man shaved himself,

S_2, P_4 ; 'i/san/u/!, 'i/ø/män; = His friend shaved himself,

rule-set ; $\left. \begin{array}{l} OAPd \end{array} \right\} + Cc + Sc$

S_{1+2}, P_4 ; 'u:/tāk/ø/wa, 'i/san/u/!wa, 'i/mo:/ma:n/na; = The man and his brother shaved themselves together,

j. '3 made 1+2 V each other'

S_{1+2}, P_4 ; 'u:/tāk/ø/wa, 'i/san/u/!wa, 'i/mo:/ma:n/na; = The man and his brother shaved each other,

S_3, P ;wi/'ara:w/u/?, diw/ø/yǎ; = His friend slept.

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_{1+2}, P_4 ;wi/'ara:w/u/?, 'o:/tāk/ø/wa, 'i/san/o/!/wa, 'i/so:/mamfn;
= His friend made the man and his brother shave each other.

(It is possible that the Predicator must be represented in clauses of this type by groups in which the Head is represented by words containing the C-geminator, as in the above example.)

ii. Clauses in which the Predicator is represented by intransitive groups.

d. '1+3 V 2 together'

S_1, P_4 ;'u:/tāk/ø, 'i/ø/b'ár; = The man woke up.

S_3, P_4 ;wi/'ara:w/u/?, 'i/ø/b'ár; = His friend woke up.

rule-set ; $\left. \begin{array}{l} OAPd \end{array} \right\} + Cc + Sc$

S_{1+3}, P_4 ;'u:/tāk/ø/wa, wi/'ara:w/u/!/wa, 'i/m/ba'a;r/na; = The man and his friend woke up together.

e. '3 made 1 V 2'

S_1, P_4 ;'u:/tāk/ø, 'i/ø/b'ár; = The man woke up.

S_3, P_4 ;wi/'ara:w/u/?, diw/ø/yǎ; = His friend slept.

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_1, P_4 ;wi/'ara:w/u/?, 'o:/tāk/ø, 'i/s/ba'ár; = His friend made the man wake up.

f. '3 V 2 with 1'

S_1, P_4 ;'u:/tāk/ø, 'i/ø/b'ár; = The man woke up.

S_3, P_4 ;wi/'ara:w/u/?, 'i/ø/b'ár; = His friend woke up.

rule-set ; $\left. \begin{array}{l} St \\ OAPd \end{array} \right\} + Cc$

S_3, O_1, P_4 ;wi/'ara:w/u/?, 'o:/tāk/ø, 'i/m/ba'á:r; = His friend woke with the man.

APPENDIX E

SAMPLE OF TEXT WITH EXPLANATIONSIntroduction

- i. This text is an extract from a story recorded by Sa'ad Muhammad Kazim Muhammad Salih, the whole of which lasts for about thirty minutes. This extract is divided into numbered sentences, whose numbers refer to their place in the whole story.
- ii.a. The structure of each sentence and each clause is indicated beneath the transcription. (For the elements of sentence- and clause-structure, and their abbreviated names, see 0.3.ii.). When several items together represent a particular element, the name of that element is written under each of the items, with a different letter after it - e.g. if two groups together represent the element Subject, S(a) is written under the first group, S(b) under the second group. When an element is represented more than once in a particular numbered sentence, the same element-name is written each time, but with a different number after it; e.g. if a sentence contains several clauses in which the Subject is represented, and the above two groups represent the Subject in the first of these clauses, S(1a) will be written under the first, S(1b) under the second.
- ii.b. The symbol :- stands for 'consists of'.

Sentence 11 : . 'u:/ngǎ:l/∅, 'o:/rǎ:w/∅, .yak/∅/'/a:., 'i/∅/dɣ.
 II(1) S O(1) O(2) .. P(1)
 The one (to)the other 'Get up!' he said.

This sentence consists of one clause, representing the element 'Final'. This element is represented in every sentence, and in some sentences the element 'Pre-final' is also represented. Clauses which can represent the Final element can not represent the Pre-final element, and vice-versa. These elements can be represented only by clauses - i.e. not by sentences, groups, words or morphemes. (The last three of these 'units' are excluded by definition, and the first is excluded by the 'facts' of Beja.)

~~This sentence is said to 'consist of' one clause,~~
 although it contains various ~~groups, words, morphemes and even~~ a sentence (.yak/∅/'/a: = Get up!). Such a distinction between

'consisting of' and 'containing' simplifies the description, since an item is thus a constituent of only one other item, and its relations to other items, which contain it, need not be described, since they are implicit in the relations between these larger item and the item of which it is a constituent. Thus, the relations between the words and the clauses containing them, in this sentence, are not described, since the words are constituents, not of the clauses, but of the groups, which are constituents of the clauses.

O-sentence: .yak/ø/°/a:.
 II(2) P(2)
 Get up!

This sentence represents the element Object in the clause of which the above sentence consists; i.e. it is 'structurally related' to the three groups which are also constituents of the same clause, and its relations to these groups, especially to the Predicator-group (, 'i/ø/dī, = he said), are similar to the relations of groups representing the Object to such other groups.

This sentence is said to be 'rankshifted' - i.e. it is syntactically similar to, and structurally related to, members of a 'lower' unit (viz. to members of the unit 'group'). Sentence 11, on the other hand, is said to be 'unshifted', since it is not thus related to members of a lower unit.

This sentence, like the above, consists of one clause.

II-clause(1):- three groups and the above O-sentence. Each of the group represents (i.e. is a member of) a different element, but the group , 'o:/rǎ:w/ø, = the other one, represents the Object, as does the sentence .yak/ø/°/a: = Get up! Thus, this element is represented twice in the one clause.

The sequence of the constituents of this, and of every, clause is free, in the sense that syntactically identical clauses can consist of the same items in any sequence. The sequence in which the constituents of this clause occur is, however, the most common - viz. the item representing the Subject before that representing the Object, and the latter before the item representing the Predicator.

II-clause(2):- one group, representing the element Predicator.

Only this element must be represented in every clause, whereas the other elements - Subject, Object, Adjunct - may or may not be represented.

S-group:- one nominal word ($\text{'u:/ng\ddot{a}:l/\emptyset}$ = the one). This word represents the element Head; like the elements Final, Predicator (and Root - see below), this element is the only element which is always obligatory. I.e. the element Head is represented in every group, whereas the element Complement (the only other element of group-structure) is represented in some groups, but not in others.

O-group:- one nominal word ($\text{'o:/r\ddot{a}:w/\emptyset}$ = the other). This word is accusative, whereas $\text{'u:/ng\ddot{a}:l/\emptyset}$ is nominative. (Only these two cases are distinguished in Beja.)

P-group(1):- one verbal word ($\text{'i/\emptyset/d\ddot{i}}$ = he said).

P-group(2):- one verbal word (yak/\emptyset/'a = get up!). Since the elements Head, Predicator and Final are the only obligatory elements in groups, clauses and sentences respectively, and since any verbal word can be the only constituent of a group, any verbal word can also be the only item contained by a sentence, as in the case of this word.

h-word in S-group (i.e. the word which represents the Head in the S-group):- three morphemes, whose sequence is determined, as in the case of all groupings of morphemes, by their respective classes:

'u:/ = the - Modifier morpheme

$\text{/ng\ddot{a}:l/}$ = one - numeral Radical morpheme, representing the Root.

$\text{/}\emptyset\text{/}$ - masculine nominative Marker. All nominal (and verbal) words contain a Marker morpheme among their constituents; in nominal words, the Marker shows the gender/number of the word.

h-word in O-group:- three morphemes:

'o:/ = the - the exponent of the Modifier varies according to the class of the Marker.

$\text{/r\ddot{a}:w/}$ = other - substantive Radical; like $\text{/ng\ddot{a}:l/}$ = one, $\text{/r\ddot{a}:w/}$ can be structurally related to either masculine or feminine Markers.

$\text{/}\emptyset\text{/}$ - masculine accusative Marker

h-word in P-group(1):- three morphemes:

/'i/ - 3rd.-person masculine preterite Marker. In verbal words, the Marker shows the person/gender/number of the word, and also its 'tense' (this term is not used in the description of Beja; it is used loosely to cover the distinctions between all classes of verbal word except the person/gender/number classes - viz. preterite, present, past, negative, imperative, preterite participial, et al.)

/ø...i/ - unmarked short Transitisor. Every verbal word contains a Transitisor; different classes of Transitisor (unmarked, causal, passive, et al.) characterise P-groups in different clause-types (transformationally defined classes of clause); different classes of Transitisor (short, long) characterise P-groups which can be structurally related to different classes of O-group; and different classes of Transitisor (short or strong long - weak long) occur in different places in the word. Short and strong long Transitsors always precede the Radical morpheme, and are discontinuous - i.e. in most cases, the V-phonemes which separate the C-phonemes of the Radical are part of the Transitisor, if the latter precedes the Radical.

/d/ = say. This is an irregular consonantal verbal Radical. Only consonantal Radicals can occur with short or strong long Transitsors; they are usually expounded by two or three C-phonemes.

h-word in P-group(2):- 4 morphemes:

/yak/ = get up - syllabic verbal Radical. Such Radicals can occur only with weak long Transitsors, and are always expounded by both C- and V-phonemes.

/ø/ - unmarked long weak Transitisor. Weak Transitsors always follow the Radical, and are never discontinuous.

/'/ - imperative Marker. This is always followed by a second-person morpheme.

/a:/ - Second-person morpheme (masculine). All and only 2nd.-person words contain a Second-person morpheme among their constituents.

Sentence 12: . 'i/nđiwa/:o/∨,há:y,∅/be/:t(/δ:k).
 II O A P (A)
 (to) my home with I'll go (you).

This sentence consists of one clause, which consists of three groups. The group representing the Adjunct is discontinuous; the Pronominal morpheme /δ:k/ = you, is structurally related to the morpheme /há:y/ = with, not to the other morphemes in the verbal word. (Only groups in which the Head is represented by a word of which /há:y/ is a constituent can be discontinuous in this way.) In similar verbal words, without /há:y/, Pronominal morphemes correspond to English object pronouns - e.g. ∅/rib/t/δ:k_o = I'll refuse you.

The morpheme /∨/ = my, is also a Pronominal. In nominal words, as here, these morphemes usually correspond to English possessive pronouns.

Sentence 13: . ;há:y,gi:g/∅/ya:y;/ 't;; 'i:ba:b/∅/ya/:n;/f:t,
 II A(la) A(lb)
 He left with him, then they travelled, then

., 'o:/ngă:l/∅,/nă:y/∅_o nđiwa/∅,/:y/∨/da, ,wi/'awl/∅,/i/ʔb, 'e/∅/ya/
 A(lc) A(ld) P(l)
 to the one's home in the Auleb they came

This sentence consists of one clause, which consists of five groups. The first four of these together represent the Adjunct i.e the latter is a complex element, since the environments in which it can be represented by more than one group are the same in every case as those in which it can be represented by one group. Various relations are possible between items thus representing a complex element - viz. gemination, coordination, apposition, listing - but the groups which here represent the Adjunct are 'listed'.

The first two words (each representing the Head in a different A-group) contain a clause among their constituents. These clauses both represent the Root, and are structurally related to the 'then' adjunctival Marker morpheme (expounded here by /'t/ and /f:t/). With slightly different exponents, the same clauses can be the constituents of sentences - viz.:

.há:y,	gi:g/∅/yă.	and;	'i:ba:b/∅/ya/ʔn.
II A	P	II	P
with him	he left.		they travelled

Similarly, the words which represent the Head in the third and fourth A-groups contain a group among their constituents, structurally related to the Genitival morpheme (/y/ and /i/), an adjunctival Marker morpheme (/ʷ/ and /ʷb/) and, in the first word, the Than/on morpheme (/da/). The groups which thus represent the Root are:

., 'o:/ngǎ:l/∅, /nǎ:y/∅ nǎiwa/∅, and : ,wi/'awl/∅,
 the one's home the Auleb

The first of these two groups consists of two words, the first of which also contains a group among its constituents. This group, which represents the Root, is: , 'o:/ngǎ:l/∅, = the one. If a nominal word thus contains a group and the Genitival morpheme among its constituents, the word normally corresponds to an English 'possessive' with -'s. Such a word, like all other nominal words, also contains a Marker morpheme, which can be of any gender or case.

Note that these groups (and the clauses described above) are structurally related 'in toto' to the Genitival, Marker, etc. morphemes; there is no structural relation between the latter and the morphemes to which they are juxtaposed. (In the same way, there is no structural relation between 'England' and the -'s in: "the King of England's".)

entence 14: ., ,wi/'awl/∅, /i/ʷb, 'e/∅/:ya/:n;/e/ʷho:b, ; 'u:/dháy/∅,
 I(1a) A(1a) A(1b)
 when in the Auleb they came the people

'afrah/∅/ya/:n;/f:t, ; ; 'e/∅/:ya/:n;/e/ʷnaa/ʷ, 'i/∅/e/:n;/f:t,
 A(1b)-cont. A(1c)
 rejoiced then '(How nice)that they've come they said, then

ré:w/∅, yi/∅/ha:rid/ʷna/;; kaam/∅/it, dihá:y, 'i/∅/kwa:lil/ʷna/;;
 O(1) P(1) I(1b) O(2) A(2) P(2)
 cattle they slaughtered and camels for them they circled and

;te:/kǎm/∅/∅, dihá:y, 'i/∅/kwa:lil/n;/f:t, ;wi/hawa/ʷ, dihá:y,
 A(3a) A(3b)
 the camels for them they circled, then the game for them

'i/∅/d'i/:n;/f:t, ;fa:y/am/ya/:n;/f:t, ;hiddǎ:b, 'i/∅/sa'/n;/e/ʷho:b,
 A(3b)-cont. A(3c) A(3d)
 they did, then they finished, then when together they sat

. 'u/ʷn̄ bar/u/ʷk, ., 'o/ʷn̄ 'an/∅, /i/ʷgé:b, 'i/:stǎ', ., ti/n/di/ʷa/;;
 O(3a)
 You with me stay you will, and

bar/u/!k/wa, 'ane/~/:wa, ,hamada'a/~/:b, o/ø/a/;; 'u/!n, 'ane/~/, bar/o/!k,
 O(3a)-cont.
 (and) you and I friends we are, and I you

takát/t, si/da'ir/t/ó:k. takát/t, ø/hi/:t/ó:k. , (*'i/ø/di.)
 O(3a)-cont. O(3b) P(3)
 a wife I'll let you marry A wife I'll give you. he said.

This sentence consists of three clauses, of which the first two are 'listed', and together represent the Pre-final element. The sentence also contains four rankshifted sentences:

1. .; 'e/ø/ya/:n;/e/!naa/~/
 II
 (How nice) that they've come!

This sentence is a 'special' sentence, as described in the 'Special sentences' chapter.

2. . 'u/!n bar/u/!k, ., 'o/!n, 'an/ø, /i/~/, gé:b, '/i:/stǎ', ., ti/n/di/!a/;;
 I(2a) S(1) O(4) P(4)
 You with me stay you will, and

bar/u/!k/wa, 'ane/~/:wa, ,hamada'a/~/:b, o/ø/a/;; 'u/!n, 'ane/~/,
 I(2b) S(2a) S(2b) P(5) II(2) S(3)
 (and) you and I friends we are, and I

bar/o/!k, takát/t, si/da'ir/t/ó:k.
 O(5) O(6) P(6)
 you a wife I'll let you marry.

This sentence, like sentence 14 itself, consists of three clauses, the first two of which are listed, and together represent the Pre-final element.

3. .takát/t, ø/hi/:t/ó:k.
 II(3) O(6) P(7)
 A wife I'll give you.
4. ., 'o/!n, 'an/ø, /i/~/, gé:b, '/i:/stǎ'.
 II(4) A(4) P(8)
 with me stay

This sentence is 'intensive', whereas all the other sentences representing the Object (including that in Sentence 11) have been 'extensive'. That is, whereas all the others correspond to English direct quotations, this sentence corresponds to an English infinitive. Some intensive sentences, such as this one, cannot occur except when representing the Object, whereas all extensive sentences can also occur unshifted. This intensive sentence, however, like the preceding extensive sentences, is, and must be, structurally related to a P-group containing the

Radical /y-d/n-y/ = say (translated in this case, however, as 'you will', not 'you say').

The Subject is represented, in the clauses of which the above sentences consist, sometimes by a single group - e.g. , 'u/'n_o'ane/√, = I, , 'u/'n_o'bar/u/'k, = you (the word , 'u/'n_o means 'this' in other environments, but with pronominal words, as here, it has no isolatable meaning); in one clause the Subject is represented by two coordinated groups - , 'ane/√/;wa, = (and) I, and , bar/u/'k/wa, = and you (the morpheme /wa/ = and, occurs in both such coordinated groups - c.p. Arabic: 'ana wa 'inta = I and you).

The Object is represented by a group - e.g. , kaam/ø/'it, = camels - , by a sentence - sentences 1 and 4 above - or by two listed sentences - sentences 2 and 3 above. In clause II(2), the Object is represented twice, each time by one group - , bar/o/'k, = you, , takāt/t, = a wife .

The Adjunct is represented in all cases except one by a group consisting of a single word. In most of these words, the Root is represented by a clause - e.g. ; , wi/'awl/ø, /i/'b, 'e/ø/ya/:n; -
A
P
in the Auleb
they came

but in one word it is represented by a group - , wi/'awl/ø, = the Auleb - and in two words it is represented by a single morpheme - /dihā:y/ = for them/him/her/it, /hiddā:b/ = together. The one A-group which consists of two words is: , , 'o/'n_o'an/ø, /i/√ , gé:b, = with me. In this group, the Head is represented by an adjunctival word consisting of one morpheme, = with him/her/them/it, while the Complement is represented by a nominal word in which the Root is represented by a group. C.f. the group , , 'o/'n_o'an/ø, /i/√ , gāw/ø, = my house, where the word , 'o/'n_o'an/ø, /i/√ , = my, is structurally related to a nominal word.

The Predicator is represented in every case by a group, except in the Final clause of Sentence 14 itself, where the P-group must be considered to have been 'elided' (and has been 'restored' in the above transcription). All of these P-groups except one consist of a single verbal word. In the words , yi/ø/ha:rid/√na/: , = they slaughtered, and , 'i/ø/kwa:lil/√na/: , (, 'i/ø/kwa:lil/n_o) = they circled, the Transitisor is long, and therefore the P-groups

consisting of these words are structurally related to O-groups which are 'collective' - viz. ,ré:w/ø, = cattle, ,kaam/ø/it, = camels, and ,te:/käm/ø/ø, = the camels. (I.e. the latter groups could not be replaced by ,'o:/ša'a/∞, = the cow, or ,to:/kă:/ø, the camel.) In one of the other verbal words - ,si/da'ir/t/ø,k, = I'll let you marry - the Transitor is causal; c.f. ,ø/di'ir/t/ø, = I'll marry you, in which the Transitor is unmarked.

One of the groups representing the Predicator - ,,hamada'a/∞/:b,ø/a/:, = we are friends - consists of a group - ,hamada'a/∞/:b, = friends - and an equative word ,ø/a/:, = we (or they) are, representing the Complement and the Head respectively. Equative words are always structurally related to a group, and usually correspond to English 'I am', etc.

APPENDIX F.GLOSSARY OF TECHNICAL TERMS.

- applies: System X applies to element Y if the classes belonging to system X include all and only members of element Y. More loosely, a system can be said to apply to a class, in which case it is to be understood that it applies to an element whose membership is coterminous with that of the class. (O.O.v.c.)
- apposition: relation between constituents X and Y of a complex element: X and Y are always equatable, i.e. can occur, as lexical items, in a clause meaning 'X is Y' (O.3.vi.a.)
- belong: X belongs to Y if X is a member of Y
- category: theoretically defined set of features of language on a particular level - viz. on the grammatical and phonological levels: unit, element, class, system, structure (I.3.iii.b.)
- class: set of syntactically similar members of a given unit (O.O.iv. class-structure - v. 'structure')
- compatible: X is compatible with Y if X can, but need not, be structurally related to Y.
- consist: X consists of Y and Z if it is most convenient to describe the use of Y with reference to Z, and vice-versa.
- constituent: Y is a constituent of X if X consists of Y, with or without other items.
- contain: X contains Y if Y occurs as part of X - i.e. if Y is written in the transcription between the boundaries of X. Thus, Y need not be a constituent of X.
- complex: element X is complex if some of its members are groupings of unit-members (O.O.iii.f. - c.p. 'simple')
- coordination: relation between constituents X and Y of a complex element: neither X nor Y can be the only constituent of an element. (O.3.vi.a.)
- coterminous: X and Y are coterminous if X includes all the members of Y, and no others, and vice versa.
- derive: X is considered to be derived from Y if it is possible to predict X from Y, on the analogy of other pairs of items which are similarly related.
- descriptive: valid for only one language (I.3.ii.a. - cf. 'theoretical')
- determine: X determines Y if the feature Y is an instance of the category X (I.3.iii.d.).
- element: set of syntactically similar constituents of all members of a given unit - e.g. Subject, Root. A member of the element Subject is also referred to as 'a Subject' (O.O.iii.)

- element-class: set of members of a given primary element which are also members of a given unit (0.4.ii.a.)
- element-free/-bound: a class is element-free if its members belong to more than one element-class, but it is element-bound if they belong to only one element-class. (0.4.iii.)
- environment: the environment of X is the utterance, or part of the utterance, in which X occurs.
- expound: a phonological item expounds - i.e. is the realisation of - a formal item. The former is the exponent of the latter.
- formant: the 'lowest' of the four phonological units of Beja. Formants are constituents of phonemes. (P.1.)
- formula: a structural formula is a sequentially ordered list of the elements belonging to a particular structure (0.0.vi.e. - c.p. 'inventory')
- gemination: relation between constituents X and Y of a complex element: X and Y are the same formal item.
- generalised: the generalised exponent of a formal item is the 'Lowest Common Multiple' of the different exponents of the item in different environments (NOTE M.1.)
- group: one of the five units of Beja (and English) grammar. The group is lower than the clause, and higher than the word. (0.2.)
- grouping: a set of items occurring together
- higher: unit X is higher than unit Y (Y is lower than X) if every member of X must contain at least one member of Y among its constituents (0.0.ii.a.)
- include: X includes Y if Y is a member of X
- incompatible: X is incompatible with Y if X can not be structurally related to Y.
- inherent: an accent is inherent in the (generalised) exponent of a formal item if it appears in the latter's exponent in at least some environments (MP,0.iii.b.)
- inventory: a structural inventory is a sequentially unordered list of the elements which belong to a particular structure (0.0.vi.e. - c.p. 'formula')
- item: a grammatical, lexical, formal or phonological item is an abstraction from stretches of text, which are considered to be identical on the level concerned,
- item-structure - v. 'structure'
- level: a theoretically defined set of linguistic features, viz. substance, form; grammar, lexis; phonology; context. (I.3.iii.a.)
- listing: relation between constituents X and Y of a complex element: X and Y are not related in gemination, apposition or coordination (0.3.vi.a.)

- lower - v. 'higher'
- morphology : internal relations; X and Y are morphologically similar if their structures are similar (c.p. 'syntactic')
- obligatory : a feature - especially an element - is obligatory if it occurs in all the items belonging to a given set (c.p. 'optional')
- optional : a feature is optional if it occurs in some, but not in all, members of a given set of items. (c.p. 'obligatory')
- paradigmatic : X and Y are paradigmatically related if both can occur in a given environment - i.e. if X contrasts with Y (c.p. 'syntagmatic')
- phoneme : one of the four phonological units of Beja. Phonemes consist of formants, and are constituents of syllables. (P,2,)
- place : a position in a structural formula. All elements which occur in the same place have the same sequential relation to other elements.
- primary : an element is primary if none of its defining criteria are shared by other elements belonging to the same unit-structure (O,O,iii,d. = c.p. 'secondary')
- rankshifted: X is rankshifted if it is a constituent of an item which belongs to a unit which is not higher than the unit to which X belongs (O,O,ii,d. = c.p. 'unshifted')
- represent : X represents Y in environment Z if X occurs in Z as a member of Y. (O,O,iii,c.)
- require : X requires Y if X must be structurally related to Y
- rule-set : set of rules by which one set of items (viz. clauses) can be derived from another set (Appendix D.1,iv,a.)
- scale : relation between a member of a category and another member of the same or a different category, or between a member of a category and a particular formal item (I,3,iii,c.)
- secondary : a secondary element shares some defining criteria with other elements, which are therefore secondary elements of the same primary element (O,O,iii,d. = c.p. 'primary')
- sequence : the order in which items appear in the transcription.
- simple : element X is simple if its members are all single unit-members (O,O,iii,f. = c.p. 'complex')
- structure : set of all elements which are constituents of the members of a given set of members of a particular unit, and the sequential relations between these elements, in as far as these relations are not determined by the elements themselves. (O,O,vi.)
 A unit-structure includes all the elements which are constituents of all members of a given unit; a class-structure includes all the elements which are constituents of all members of a class of members of a given unit;

an item-structure includes all the elements which are represented among the constituents of a particular item. X is structurally related to Y if X and Y are both constituents of the same item - i.e. if the elements which they represent both belong to the same item-structure (O.O.vi.e.f.)

sub-element : a grouping of the constituents of a complex element (O.O.iii.i.)

syllable : one of the four units of Beja phonology. Syllables consist of phonemes, and are constituents of phonological words (P.3.)

syntax : external relations. X and Y are syntactically similar if both have the same syntagmatic or transformational relations to other items (c.p. 'morphology'.)

syntagmatic: concerned with relations - e.g. sequence, selection - to other items in the same utterance. (c.p. 'paradigmatic')

system : set of all those classes which belong to a given element and which are defined by a given criterion or set of criteria (O.O.v.)

theoretical : valid for any language (I.3.ii.a. - c.p. 'descriptive')

transformational : X is transformationally related to Y if one can be derived from the other by the application of a certain rule-set.

type : a clause-type is a set of clauses which are transformationally related in the same way to other clauses (Appendix D)

unit : set of items in a particular relation to other such sets (O.O.ii.) - viz. in Beja and English grammar: sentence, clause, group, word, morpheme.

unit-member : a single member of a given unit (O.O.ii.b.)

unit-structure - v. 'structure'

unshifted : X is unshifted if it is a constituent of a member of a unit which is higher than that to which X belongs (O.O.ii.d. - c.p. -'rankshifted')

variant set : a set of phonological items which are in complementary distribution, and expound the same formal item. (MP.O.ii.)

word : one of the five units of Beja grammar. Words are constituents of groups, and consist of morphemes.

Phonological word : the highest of the four units of Beja phonology. Phonological words consist of syllables.