PACIFIC LINGUISTICS

Series B - No. 30

BARDI VERB MORPHOLOGY (NORTHWESTERN AUSTRALIA)

by

C.D. Metcalfe

Department of Linguistics

Research School of Pacific Studies

THE AUSTRALIAN NATIONAL UNIVERSITY

TABLE OF CONTENTS

PREFACE

This study was carried out under a research grant from the Australian Institute of Aboriginal Studies, (A.I.A.S.), and under the direction of the Linguistics Department of the Research School of Pacific Studies, Australian National University. Apart from the basic grant, the Institute financed two periods of fieldwork: one in Derby, Western Australia, from May 1969, to April 1970, and the other on Sunday Island from October 1970 to February 1971. To the Council and Staff of the A.I.A.S. I wish to record a sincere word of appreciation.

I have benefitted greatly from interaction with colleagues within the Linguistics Department of the Australian National University, and in particular from Professor S.A. Wurm, Dr Tom Dutton, Professor Bob Dixon and Dr John Haiman.

On the field, I was given welcome assistance in the early stages by being allowed full use of rough field-notes on Baṛdi compiled by Alan and Val Rees, Howard Coate and Wilfed Douglas. The Lombadina Mission staff, the Brown family of Cygnet Bay and Lou and Elaine Hills from the Cape Leveque lighthouse generously provided hospitality and assistance in circumstances which were, at time, extremely trying.

Mr David Drysdale who, with his wife, has 'given' himself in every sense to the success of the Baṛdi people in their venture, assisted me in every way possible. I can only express my deep thankfulness for his help, encouragement and companionship.

Without the uncomplaining support of my wife and family and their ready readjustment to field situations, this project could not have been carried through.

My deepest debt must remain with the Baṛdi people and, in particular with my primary informant, Mr Tudor Ejai. These wonderful people so willingly allowed me to share something of their country, their way of life, their hopes and problems and a little of their language.

ABSTRACT

The Baṛdi Aboriginal language is spoken by some three hundred and
sixty people located primarily at Derby, Sunday Island and Lombadina in
the Kimberley division of North-western Australia. It is characterised,
as with many Australian Aboriginal languages, by a complex system of
verbal affixing. The twenty-two sets of affixes which, with free forms,
may be constituents of the verb produce an amazingly complex variety of
verbal forms many of which can stand alone as complete sentences. Such
highly agglutinative languages present considerable difficulties ir
analysis and description, as a linear listing of verb constituents
becomes extremely confusing in its intricacy. Further problems arise
concerning the inter-relations of the affixes and the wider relations
between verb morphology and syntax.

A model of 'generative transformational' grammar has proved to be a
most efficient and revealing analytical device in the study of the Baṛdi
verbal system. The model utilised here is one modified from Noam Chomsky's
Aspects of the Theory of Syntax and from developments within this model.
This framework has proved most appropriate because of its primary concern
with syntax and because its generative base provides a set of explicit
rules which account for the complex morphology. In that many verb
constituents and their inter-relationships can be delineated within the
transformational component, the description of the most important parts
of the verb is considerably simplified. The Baṛdi verb is, in essence,
a 'sentence-in-miniature' so that the morphological/syntactic relation-
ship is of primary concern. Much of this analysis is devoted to the
exploration and description of this relationship within a generative,
transformational framework.

This study has an explanatory emphasis throughout, with the attempt
to demonstrate the processes involved in the derivation of the surface
forms of Bardi verbs from their underlying base structure and to relate
this base to its wider grammatical context.

123°E

Western Australia

Cape
Leveque

SUNDAY ISLAND

Cunningham Pt

LOMBADINA

Pender Bay

Beagle Bay

KING SOUND

17°   17°

DAMPIER

Derby

Mowandjum

PENINSULA

18°   18°

Broome

Roads

0   10   20   30
miles

123°E

ix
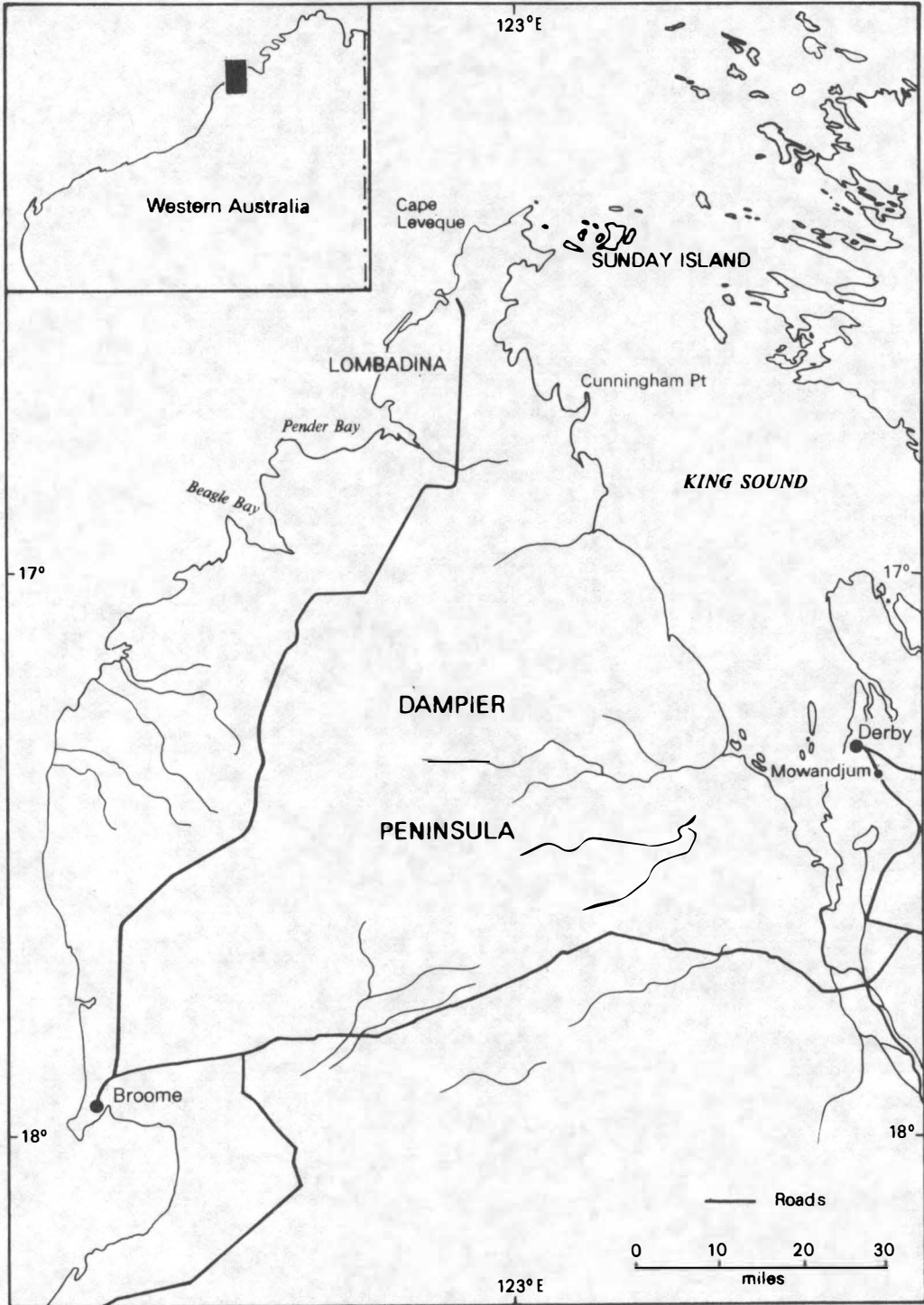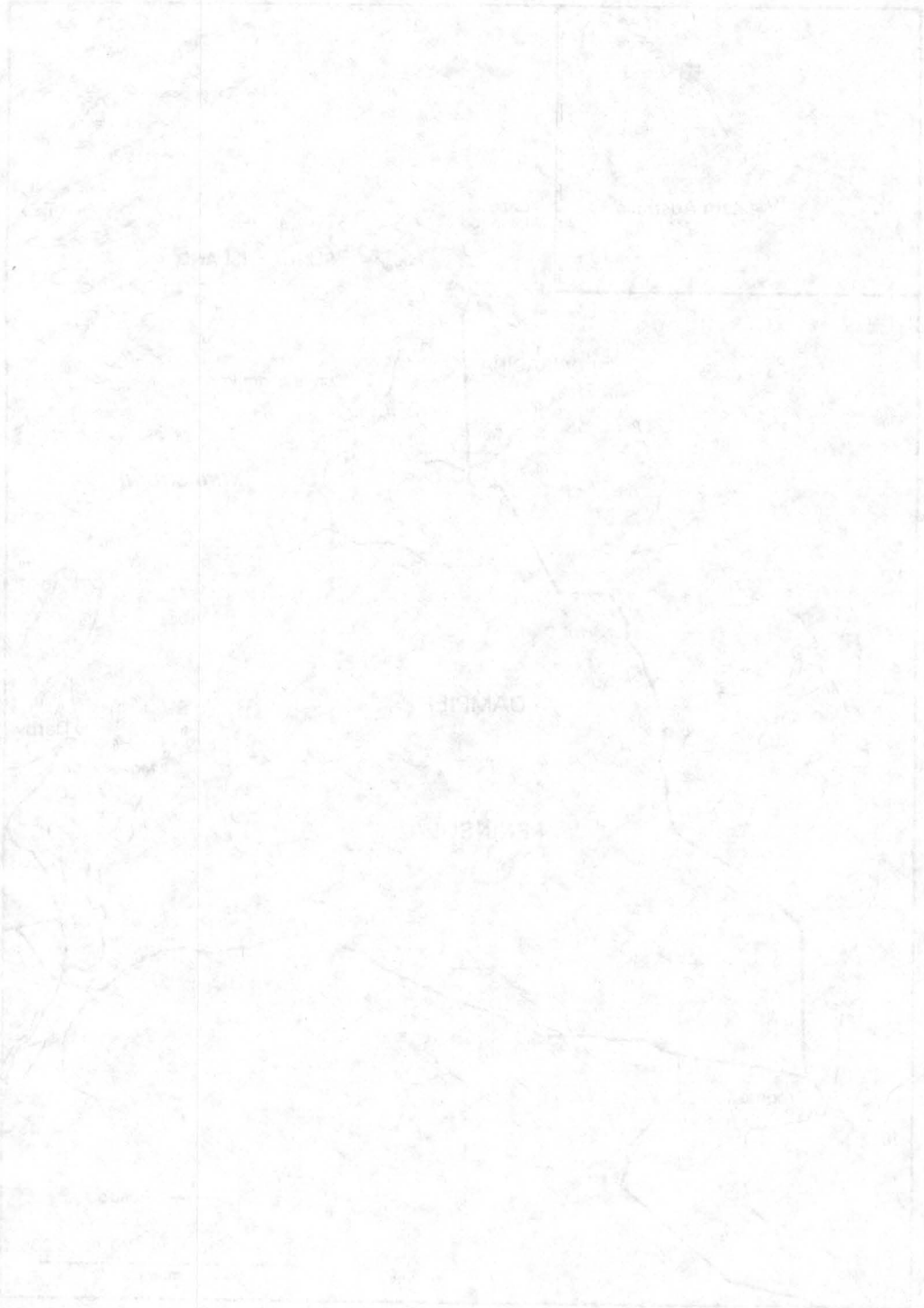
1.0. INTRODUCTION

1.1. *THE BARDI LANGUAGE*

Bardi is an Australian Aboriginal language spoken in the Kimberley division of North-western Australia by some three hundred and sixty people, 90% of whom live in and around Derby, Sunday Island, Broome and Lombadina.[1] (C.f. Map, page ix).

It is a member of what Capell (1963:K.1) calls the 'Dampier Land' complex of languages[2] which are classified more generally as 'prefixing, non-classifying' languages[3] (Capell 1940:411).

Characteristic of the prefixing non-classifying languages of the Kimberley division is their complex morphology and high degree of verbal affixing. The present analysis is confined to Bardi verb morphology and its relationship to the wider syntax. The study is based primarily upon an intensive survey of some four hundred verbs and four hundred and fifty pages of text material.[4]

---

[1] Mr M.V. Robinson, whose dissertation provides a more general and comprehensive discussion of background factors, has kindly supplied the following population figures obtained by a survey carried out during 1971.

Derby and Sunday Island	170
Lombadina	100
Broome	50
Beagle Bay	12
Other Centres (Mowanjum, Wyndham, Port Hedland, Perth, etc.)	30
TOTAL	362

Owing to the difficulty of tracing all Bardi people and because of the high mobility of the people, it is to be stressed that these figures are only an estimate at a particular point of time.

[2] The other 'Dampier Land' languages are: Djaberdjaber, Njulnjul, Nimanburu, Djawi, Djugan, Jauor and Ngormbal. These are the 'Nyulnyulan' family of languages in the classification of O'Grady, Wurm and Hale (1966) although they add Warwa and Nyigina. Kerr (1969) presents a comparative 538-word list for all these languages together with one for Garadjari.

[3] That is, 'non-classifying' in not possessing noun classes, and 'prefixing' in that the verb 'expresses subject and object by prefixes, while tense, mood and aspect are expressed by suffixes.' (Capell 1956:26) In fact, Bardi does not comply entirely with this 'general principle' in that the bound pronominal objects are expressed by suffixes to the verb stem.

[4] To obviate the necessity of a continual repetition of such phrases as 'on the present evidence' and 'as far as is known', generalised claims and principles presented in this study are valid with reference to these verbs and texts. For instance, it is stated on page 54 that there are no T-initial verb stems. This is to say that none have been found, but it does not claim that instances of such stems cannot exist.

Acknowledgment is recorded here of the concordance analysis of 30,000 words of Bardi text material carried out by the Computer Programming Section of the Joint School's Services, Australian National University, Canberra.

There has been no previous published 'depth' study of Bardi, although quite extensive reference has been made to different aspects of Bardi language and culture in anthropological and linguistic literature.[1] These materials, and particularly Nekes and Worms (1953) which contains a considerable body of Bardi material, were of benefit in the early stages of fieldwork and, where relevant, were checked and incorporated into the analysis.

There is a relatively superficial division of the Bardi into two groups - the 'Islanders' and the 'Mainlanders'[2]. Territorial contiguity and intermarriage have been the primary factors leading to a Djawi influence upon the Islanders and a Nyulnyul influence upon the Main-landers.[3] This present study is based upon material collected from the Island group.

The shift in fieldwork location from Derby to Sunday Island (see Preface) followed from a movement among the Bardi people which will affect profoundly the future of their language, social structure and culture. Until the beginning of 1970, Sunday Island had remained uninhabited since being vacated by the Bardi in 1964. In 1970 two of the older men determined of their own accord to return to the Island. From this beginning, and with the judicious and benificent assistance of a retired European couple, Mr and Mrs David Drysdale, there has developed a Bardi community of up to more than 200 people located in the main at the top of the Dampier Peninsula, around Malumbo Bay and One-Arm Point. The mainland location was chosen in preference to Sunday Island to facilitate the setting up of various economic enterprises - in particular, dried sea-foods, fishing and turtle farming. In this case, and with the provision of a school and mobile hospital in 1973, it is certain that the Bardi language will be revitalised and that its

---

[1] Peripheral sources of language data were: Worms (1938,1942,1944,1950a,1950b,1952, 1957); Nekes (1939); Capell and Elkin (1937); Capell's comparative and classificatory articles (1937,1940,1956); Elkin's anthropological articles, particularly (1932,1935); Kerr (1969).

[2] One of the significant linguistic distinctions between the two groups concerns final vowels. A characteristic of Bardi speech is the de-voicing of final vowels but this is less pronounced with the Island group. Nekes and Worms (1953), who concentrated on the 'Mainland' group at Lombadina, recognise comparatively few final vowels.

[3] It seems probable that, over the nineteenth century, continual territorial pressure was being applied to the Bardi by the more southern 'tribes' - in particular, the Nyulnyul, who were their closest neighbours. Towards the end of the century, the Bardi occupied the northern tip of the Dampier Peninsula. At this time, the islands in the mouth of King Sound, and especially Sunday Island, were inhabited by the Djawi people (c.f. Campbell and Bird 1914:52). Throughout the present century, the Bardi increasingly interacted and intermarried with the Djawi, finally dominating the island complex.

use as the primary language of the people will continue for a consider-
able period.

1.2. *AN OVERVIEW OF THE BARDI VERB*

The purpose of this section is to present a preliminary overview of
the free and bound morpheme structure of the Bardi verb. This will
provide a general background to ensuing discussion and will foreshadow
some of the problems involved in accounting adequately for a complex
morphology such as is exhibited by Bardi.[1]

Bardi possesses twenty-two possible sets of affixes which form the
inflected verb, plus four 'free' pre-verb elements. Only a limited
number of these affixes can be found in any one verbal expression. Ten
affixes to a stem was the largest number encountered and the (i.e. 'norm')
is four to six per stem.

The basis for the complexity of Bardi verb morphology is the fact that
almost every free sentential element has, or may have, a corresponding
element affixed to the verb stem.

The following is a simple linear listing of free and bound verb
morphemes presented, at this stage, with no attempt to explain the
morpheme 'labels' or to formulate co-occurrence restrictions, inter-
relationships or position limitations. The morphemes are numbered for
later reference.

---

[1] Capell (1967:43) points up the problems in the analysis of such languages with
particular reference to the Australian Aboriginal field. He says: 'In many Australian
languages, especially those in the far north of the continent, verbal forms can become
extremely complex. The basic Australian language type is agglutinative, but the degree
of agglutination varies greatly from region to region.' Capell's analysis is made with
particular reference to the Tiwi language in the Northern Territory in which the verb
root can take combinations from nineteen 'ranks' of affixes.
   Complex morphologies are, of course, widely represented outside Australia. Hockett
(1958:286) and Elson (1964) provide other examples. Hockett lists languages which have
more than sixty 'positional classes.'

PRE-VERB

(Free Morphemes)

Negative	NegativeEmphasis	Question	PreStem
1	2	3	4

INFLECTED VERB

(Bound Morphemes)

Subject –	ActionType –	Potential –	Tense –	Number –
5	6	7	8	9

RetroActionI –	ClassMarker –	InfinitiveI –	Intensity –
10	11	12	13

STEM –	InfinitiveII –	RetroActionII –	Aspect –	Tense –
14	15	16	17	18

Emphatic –	AssociativeSuffix –	QuestionMarker –
19	20	21

SequentialConjunction –	ObjectPronoun –	ReferentialPronoun –
22	23	24

DiTransitivePronoun –	Relator
25	26

The following examples show something of the manner in which these morphemes can be combined and utilised within the highly expressive Bardi verbal system. The first two are examples with a limited number of morphemes, while the remainder are more complex verbs.[1]

---

[1] Ex.1 to Ex.4 are Text Verbs 1, 62, 89 and 49 respectively.

Ex.1

ŋa-n-ma-nð-ɓ
 5-6-14-18-23
I-ExtraAction-*put*-Present-*it*
I am putting it (the story down).

Ex.2

mi-n-ð-arala-n
 5-6-11- 14 -18
You-IntraAction-Class-*run*-Present
You are running.

Ex.3

i-m-b-añi-n-aŋar
5-6-11-14-18-19
It-IntraAction-Class-*finish*-Present-Emphatic
It (the story) is absolutely finished.

Ex.4

i-ŋ-g-alg-algama-na-na
5-6-11-13- 14 -17-18
It-IntraAction-Class-Intensity-*move*-Durat-DistantPerfect
It kept on moving about vigorously.

Ex.5

ara   gu-l-uru-m-ugul-inði-na-ðan
 1   5-7- 9 -10-14 - 16 -18-24
Negative *You*-Potential-Plural-RetroActionI-*break*-RetroActionII-
        MiddlePerfect-*for me*
You were not breaking yourselves (be deeply concerned) for me.

Ex.6

uŋ-g-iri-gu-gur-a-ðanir
 5-8- 9 -13-14-18-25
They-Future-Plural-Intensity-*make catamaran*-Future-*for me them*
They will surely make them (the two sections of a catamaran) for me.

From this very limited outline of the data to be accounted for in a study of Baṛdi verb morphology, several problem areas are brought into focus:

1. The verb can incorporate within its structure many of the constituents which would be expressed by non-verbal morphemes in many other languages. Each of the verbs in the examples above can stand as a complete sentence. An adequate study of a language exhibiting a highly agglutinative verbal system must, then, explore the interdependence of morphology and syntax.

2. The versatility and complexity of the Baṛdi verb gives rise to an almost endless array of possible surface forms. Thus, the rules of a grammatical description should be formulated with the aim of producing this array.

3. Not only must the tremendous variety of verbal forms be encompassed within an adequate description but forms which are unacceptable to Baṛdi speakers must be excluded. Morpheme interrelationships and restrictions of occurrence and co-occurrence must be satisfactorily controlled. For instance, only transitive verbs can express reflexive and reciprocal action.[1] If Object and Referential pronominal suffixes occur within the same Baṛdi verb, they must be replaced by the Ditransitive pronominal form, as in Example 6. If the Emphatic suffix occurs, it follows an intransitive verb only and it must occur word-finally, as it does in Example 3. Some verb stems can occur only in a restricted environment. Impersonal verbs cannot take first or second person subjects. The verb *to make a catamaran* in Example 6 must take a plural object as there are always the two parts to a catamaran referred to when this verb is used. If reference is made to the making of just one component of the craft, then a different verb is utilised.

4. The linear listing of verb morpheme classes on page 4 brings into focus the very practical problem of providing a satisfactory descriptive and analytical framework within which to organise this considerable range of possible affixes and free elements.

These, then, are some of the key problems and areas of interest which have been suggested through this summary overview of the Baṛdi verb, and it is to these areas that the main attention of this study is directed.

---

[1] Reflexive and reciprocal expressions are subsumed under the more general term 'Retro-action'. (see T.5.-T.8) That is, 'retro' in the sense of 'acting backwards' upon the Subject.

1.3. AIM

To analyse and describe the Bardi Aboriginal verb system and to explore the interdependence between verb morphology and the wider syntax.

1.4. THEORETICAL APPROACH

1.4.1. The primary concern of this study is Bardi verb morphology. Despite this empirical limit, practically every aspect of a more comprehensive grammar is introduced within the analysis. Most parts of speech are involved in some way with verbal agreement and government. Many sentence and clause 'types' can be expressed by verb inflection so that the rules formulated to comprehend morphological processes also provide the basic structure for the majority of expressions which would be included in a fuller grammar. Further, systems of conjunction and recursion must be discussed because certain of these processes can be optionally expressed through verbal affixing.[1] Through the discussion, and by the use of footnotes, the main body of the rules, which have been included only as they are relevant to the verb, will be set in the broader context of other langauge constituents and a fuller grammatical description.

Recent linguistic theory, and in particular generative, transformational theory, has tended to neglect the area of morphology.[2] Yet this is the area of critical importance to the understanding of many of the languages of the world, especially those languages which are complexly agglutinative.

One of the primary problem areas with such languages is simply the presenting of a complete description of the possible range of affixes and their interrelations. Various systems have been propounded. Affixes have been listed in classes with an explanation concerning their relationships, as in Sapir and Hoijer's work on Navaho (1967:85); some studies have used the 'decade notation', such as Garvin (1948); Hymes (1955) and others have utilised 'morpheme order charts'; Hockett (1958: 286f) used the notion of 'positions'; tagmemic formulae have been employed as in Bolt *et al.* (1971:97ff); still other studies have presented the affixes by means of a matrix with lines indicating

---

[1]Some linguists view Relativisation, Complementation and Co-ordination as the only three basic recursive processes in language - all other complex sentences being derived from them. (R. Lakoff 1968:74 and Taylor 1970:17) It is an indication of the versatility of the Bardi verb that all three processes can be expressed through verbal affixing.

[2]Lyons (1970:96) states, in his introduction to Matthew's article on 'Recent Developments in Morphology', that, apart from Matthew's articles, 'so far there has been no comprehensive treatment of morphology within a generative framework.'

possible sequences of morphemes (Elson, 1964:passim).[1] However, these
and other methods have brought into focus certain areas of difficulty
in the description of complex morphologies. There is the difficulty of
presenting an integrated and comprehensive account of all possible
affixes without the description becoming confusing in its intricacy;
there is the difficulty of defining, satisfactorily, occurrence and
co-occurrence restructions of morphemes; and there is the problem of
preventing the analysis from becoming too divorced from the actual
spoken language.

   A second major problem area in the analysis of agglutinative
languages concerns the very status of the morphological 'level' and
its relationship to other components of grammar. Matthews (1970:111)
questions the traditional boundary between morphology and syntax when
he says: 'Many linguists have declined to treat morphology as a "level"
on a par with phonology and syntax'.[2] However, the place of morphology
within linguistic theory and analysis is a question which has plagued
models of transformational grammar in particular. An article by
C.S. Dik (1967) is very much to the point here. The title gives a
fair summary of its purpose: 'Some Critical Remarks of the Treatment
of Morphological Structure in Transformational Generative Grammar.'
A good deal of the paper seems to be based on a misunderstanding of
Chomsky or is taken up with rather unproductive discussions on Chomsky's
psycholinguistics. However, some significant points are raised. Dik
points out that transformational theory has not given a satisfactory
account of morphological/syntactic relations or of some aspects of
morphology - especially in regard to inflectional and derivitive
processes. He also questions the degree of 'productiveness' of certain
types of transformational rules. The problems concerning morphology
and syntax were raised in Lees' review (1957:404) of Syntactic
Structures which Dik cites as support from his contention that a
separate morphological component is necessary. This is obviously of
concern to Chomsky and his associates. The bulk of the footnote in
Chomsky and Halle (1965:116, fn 13) is worth repeating here:

---

[1]C.f. Perlmutter (1970:250) for a brief discussion of various methods of presenting
complex morphologies.

[2]Lyons (1970:23), speaking of the relations between phonology, morphology, syntax
and semantics, states that many linguists 'will not use the term "morphology" at all
and will apportion its subject matter between phonology and syntax.'

> 'In the same place (Lees, 1957), Lees also suggested that
> an independent sub-grammar might be necessary to account
> for non-transformational morphology . . . As distinct
> from the question of 'phonological grammar', this prob-
> lem seems to us very much open. For some inconclusive
> discussion see Chomsky (1965:Chapter 4)'

In Aspects (1965:174), Chomsky gives as the primary reason for the 'inconclusive' nature of his discussion the fact that 'so few attempts' have been made at transformational analyses of inflectional systems. There has been little attempt since to close this admitted gap in transformational theory and linguistic description.[1]

These, then are the two primary areas of difficulty regarding complex morphologies to which the attention of the present study is directed - the problem of providing an adequate linguistic description of the affixes of a highly agglutinative language, and the problem of inte- grating such a morphology with the syntactic, semantic and phonological components.

It is the contention of this study that, at least with reference to the complex morphology of the Bardi verbal system, there is no justifi- cation for a fourth morphological component parallel with the syntactic, semantic and phonological components and that morphology is most satisfactorily interpreted by its relationship to syntactic categories.[2]

---

[1] There are an increasing number of transformational analyses of languages with complex verbal structures but few have been published and those are available (C.f., for Amerindian studies Postal, 1962; Matthews, 1965; Stanley, 1969 and Frantz, n.d.) give little attention to morphology in its relationship with the other grammatical components.

[2] Perlmutter, in his discussion of 'surface structure constraints' as evidenced by Spanish clitic pronoun placement, parallels the type of rule which he is suggesting with rules which order verbal affixes. He continued (1970:249): 'Parallels of this sort call into question the traditional division between morphology and syntax and suggest that some of the same grammatical devices may account for both syntactic and morphological phenomena.'
Longacre (1964:36) presents an interesting, non-transformational attempt to relate morphology and syntax. In illustrating his discussion of languages in which an inflected verb can stand as a 'clause-in-miniature', he reproduces Fox's pres- entation of a Quiché sentence. The sentence with translation is given first, and then its diagramatic representation:

manuel kebuluk?am lok̞   ri šila čke   pa ri ha   čanim

Manual brings   hither the chairs for them into the house immediately

      Subject Predicate Object Indirect Referent Location Time

   Clause: manuel kebuluk?am lok̞ ri šila čke pa ri ha čanim

   Predicate Tagmeme: _ _ _ _ k-eb-u-lu-k?am lok _ _ _ _ _

Aspect/Time	Object	Subject	Benefactive	Stem	Directional
(present)	(them)	(he)	(for)	(bring)	(this way)

1.4.2. The interrelationships between Baṛdi verb morphology and its wider syntax present one of the central concerns of this analysis, as was expressed in the 'Aim'.

To carry out this aim, a generative transformational model has been utilised. More specifically, it is a modified, practical application of Noam Chomsky's *Aspects of the Theory of Syntax* (1965), and developments within the framework.

A generative approach becomes very relevant when set against the practically infinite array of verbal expressions possible within the Baṛdi language. That is, such an approach recognises the 'cr ative' aspect of language which can 'generate' an indefinitely large number of sentences and, further, provides an explicit set of rules which ennumerates this array of permissible sentences.[1]

The transformational component of the model has two primary functions in view of the aim of this study. Firstly, it simplifies the presentation of the complex range of possible verb affixes, the problem pointed up by the 'overview' of the Baṛdi verb in 1.2. The majority of verbal affixes depend for their existence upon a related formative in the underlying 'deep' sentence (the pronominal affixes, for example) or upon a wider syntactic relationship (as in the case of reflexive and reciprocal constructions). That is, these sets of affixes do not change meaning and may be introduced step by step within the transformational component, thus simplifying considerably the initial presentation of morpheme structure.

The second major function of the transformational component in the analysis of Baṛdi verb morphology is that of relating this morphology to syntactic categories. The Base Rules and the Lexicon provide the essential 'core' of the verb. By relating this core to other syntactic categories, the transformational rules build up, point by point, the range of possible morpheme sets and their permissible sequences.

In this relating or morphology to syntax, an Aspect-type model has been found to provide a useful and revealing theoretical orientation.

---

[1] These two characteristics of generative grammar are emphasised, for example, in the writing of Chomsky and John Lyons. Lyons (1970:24) speaks, in this context, of the 'productive' or 'creative' nature of language in view of which a generative grammar is a 'formalised' or 'explicit' set of rules 'which specifies precisely what combinations of the basic elements . . are permissible, or well-formed.' Chomsky stresses the 'creative aspect of langauge' (1966:3ff); and that 'the normal use of language is innovative.' (1968:10). 'A grammar must . . . contain a finite system of rules that generates infinitely many deep and surface structures, appropriately related.' (1968:15)

Few would dispute its applicability in the realm of syntactic structures.[1]

A full account has been taken of other approaches and their possible relevance will be indicated throughout the discussion of Australian Aboriginal languages (Sharp, 1970 and Sommer, 1972). However, in view of the proliferation of Baṛdi 'surface' cases and the difficulty of 'fit' between them and Fillmore's 'deep' case relationships,[2] such a framework was not found to be optimum for the purposes of this study.

The charge of the 'generative semanticists' that the syntactic component of a Chomskyan framework cannot satisfactorily form the basis for semantic selection and interpretation has yet to be convincingly countered. However, despite the crucial importance to linguistic theory of the present discussion centred in semantics, a 'generative semantic' approach presents considerable difficulty in its application to a field such as Baṛdi morphology. Present theoretical developments are in a confusing state of flux and the trend towards ever more abstract analyses makes practical use of such a model increasingly difficult in reference to a language of which one is not a 'native' speaker.

Similar comments could be made with reference to the possible use of an 'abstract syntax' or 'universal base'. There is the difficulty of applying such a framework effectively to the verb morphology of an agglutinative language; there is the present divergence of opinion as to the viability of the 'Universal Base Hypothesis' as currently formulated; and there is the problem of a lack of a 'native' speaker's competence in the positing of difficult concepts such as 'abstract verbs'.

Thus, despite the challenge being laid down on many fronts to an Aspects-type model, it still appears - with modifications - to provide the most satisfactory framework within which to account for the complexities of an agglutinative morphology in its relation to the syntax of the langauge.

---

[1] Breckle, for example, in proposing a semantically-orientated base component as an alternative to the Chomskyan base, states that the reason for the proposal 'is not to be sought within the purely syntactic domain of grammar. On the contrary, it is assumed that the syntax of a language described according to the principles laid down e.g. in Chomsky's Aspects can be said to be adequately described insofar as the generative and transformational processes leading to well-formed syntactic surface-structures are concerned.' (1969:80).

[2] The conclusions of Sharp and Sommer point up one of the problems inherent in a 'case grammar' analysis. Sharp confirms four of the deep cases proposed by Fillmore as language universals. She has not confirmed, however, his 'Factitive' and is uncertain as to whether to deal with the 'Locative' in the Modality or the Proposition constituent. On the other hand, she suggests that a Purposive and a Benefactive might be necessary to account for all surface cases. Sommer also finds it necessary to propose two additional deep cases. He suggests a Purposive and a Causal. The problem raised here is that, with almost every application of Fillmore's framework to another language, new deep case relationships are being proposed. In addition to this, the universality of some of his own proposed case relationships is being questioned.

1.4.3. Modifications have been mentioned. The Aspects model has been subjected to intense scrutiny and various facets have been more acceptably and adequately formulated. Mention could be made here in particular of 'surface structure constraints', selectional features and the 'extended lexical hypothesis' - areas which will be discussed as they become relevant to the analysis.

Other modifications are introduced to simplify the presentation or to conform to the restricted scope of the study. Instances of simplification are the use of paradigms in the place of a multiplicity of rules of low productivity and the inclusion of the 'Realisation' sub-component. The restriction of the analysis to verb morphology has led to a modified approach in other areas of the grammar. For instance, there is no attempt to carry through a generative analysis of the phonology. The phonological component is described in terms of phonemic units and morphophonemic processes. Little attention will be paid to other areas such as subcategorical redundancy, structures 'higher' then the sentence such as paragraph and discourse, and the derivation of one part of speech from another.

1.4.4. As the Aim states, this study is basically a descriptive analysis of the Baṛdi verb. In view of this more practical orientation, most of the claims made for the approach are on the level of the applicability of a generative transformational model to the problem of relating an agglutinative morphology to wider syntax, rather than towards claims of more 'universal' relevance. However, in using a transformational framework as an explanatory device, there is also entailed an emphasis upon process and generalisation.

The setting of the discussion of the Baṛdi material in a wider context is limited by the fact already noted that so few generative studies have been carried out on verb systems of highly agglutinative languages. In the Australian field the practical application of transformational theory to Aboriginal languages is extremely limited, apart from studies by Dixon, Hale, Sharp and Sommer (Bibliography, various dates).[1]

Despite these factors, generalisations - internal and external to the study - will be stated and discussed whenever they are fully supported by the relevant evidence. Only such valid generalisations at all levels will allow comparative studies to produce cumulative results.

The Australian field is, in fact, one which could provide of great significance in the development of comparison through generalisation.

---

[1] Comparisons with a number of excellent non-transformational analyses of Aboriginal languages are made throughout the study.

Despite the fact that there are some two hundred mutually unintelligible 'languages' still spoken within Australia and that these 'languages' exhibit an amazing variety of surface forms, there exist, nevertheless, certain basic unifying factors. Most evidently, there is a basic phonetic structure, with minor variations, common to almost all languages. 'It has for some time seemed probable to a number of scholars that all Australian languages are descended from a common ancestor.' (Dixon 1969:44)[1] Millenia of lexical replacement have rendered traditional methods of comparison - especially on the word level - of limited value. Dixon (1969), in comparing certain transformations underlying two Australian languages, points the way to a potentially more significant and productive approach in comparative studies. He concludes: (page 44)

> 'That Gumbaiŋgar and Djirbal show such similarities,
> although spoken 1,000 miles apart with several dozen
> other languages separating them, suggests that syntactic
> comparison might prove revealing over the whole
> Australian field, and might provide support for the
> hypothesis of a single Australian ancestor language.'

1.5. PRESENTATION

Matters of presentation discussed here cover more general procedures which are relevant to the analysis as a whole and which apply to every component. Other more specific points of presentation will be outlined in the introductions to each section.

Section 2.0., which follows this Introductory section, presents the Base Component, consisting of the Base, or Phrase-Structure Rules and the Lexicon.

Section 3.0., is the Transformational Component consisting of Transformational Rules and Realisation Rules. The Realisation subcomponent provides the morphemes which correspond to constituents in some way dependent upon transformational processes.

Section 4.0., the Phonological Component, discusses phonological processes in Baṛdi and presents Morphophonemic Rules which act upon the output of the foregoing components to give phonemically-interpreted surface forms.

Section 5.0. demonstrates the Output of the various Components. It illustrates the overall operation of the components from Base formatives

---

[1] For further discussion on Australian Aboriginal linguistic pre-history, c.f. in particular, Wurm (1970) and Capell (1956). In another article, Capell comments: 'It seems quite possible to explain the multiple forms of languages in Australia on the basis of a single original.' (1965:21) See also Dixon's discussion of 'lexical diffusion in Australia' (1970:652ff).

through to surface realisation and it presents representative verb paradigms.

Section 6.0. consists of various Appendices. They concern Irregular Verbs, a Verb Morpheme List, a Text with interlinear and free translations, and, lastly, a summary statement of the derivational rules developed throughout this analysis.

Section 7.0. is the Bibliography.

1.5.1. Organising principles. In the discussion of the theoretical approach in section 1.4.4., the point was stressed that this study is essentially a 'descriptive analysis' of the Bardi verb. This 'more practical orientation' is one of the main determining factors in regard to the presentation of the material. Another factor is the belief that the greatest problem confronting the wider application - especially to non-Indo-European languages - and appreciation of the insights and contributions of transformational theory is the problem of communication. In line with these factors, the material will be presented upon the following principles:

1. There will be an attempt to provide adequate explanation and illustration of the rules, processes and concepts introduced into the discussion. For instance, the Base Rules are set out *en bloc* initially and are then taken singly. They are re-stated in words and presented as phrase-markers. There follows an explanation of their significance, with illustration of the relevant processes involved.

2. Abbreviations will be kept to a minimum and will be as self-explanatory as possible. A category which is of only peripheral significance to the scope of the description and is of only very restricted occurrence will be given in full. Despite this, a considerable number of abbreviations have been necessary and a full list is given in section 1.5.7. below.

3. Although the rules have been presented component by component, the study will seek to avoid tight compartmentalisation. Most of the examples will illustrate a particular rule or process but, from time to time, the derivations of verbs and associated elements will be presented from the Base Rules right through to the point under discussion.

1.5.2. The term derivation is used throughout to include any process which is operative in the 'deriving' of surface forms from Base formatives and, in particular, of verb affixes from wider syntactic categories.

1.5.3. A general system in the presentation of Examples is used throughout. The Baṛdi material is given first, an approximate gloss for each significant morpheme or word appears on the second line under which is given a free translation of the expression in italics. To illustrate:

Ex.30(c)

baṛulu iŋar-andi-gal nidi
Cat-fish they-catch-did Quantit
They had caught many cat-fish.

There are departures from this basic pattern:

1. The presentation is modified according to the rule or process being illustrated. For instance, in the illustration of the Base Rules, many of the examples have an initial line which indicates the categories involved. The presentation of examples in the Transformational Component is often set within a 'tree' diagram context.

2. When the Baṛdi expression concerned takes up more than one line, the free translation is not given under each line but it is written as a whole at the end of the example.

3. Where an explanatory note is necessary in the free translation, it is enclosed within parentheses.

4. Morpheme breaks which are relevant to the point being illustrated, are indicated by a hyphen. However, when derivational processes are being emphasised, the morphemes are conjoined by a plus sign.

Example 9(b) illustrates most of these points:

[NP,S] VP   [NP,PredP]
iŋara- ma-nana-   r
They- put-used to-them
They used to put them (in the tree-coffin).

1.5.4. Within the discussion of the Base Rules only, there is deliberate reference to material contained in the Text, as given in Section 6.3. The reasons for this are:

1. To provide the reader with a more complete body of Baṛdi material to which to refer, especially in regard to non-verbal categories. This is particularly relevant to the Base, one of the functions of which is to set the verb within its fuller grammatical context.

2. The Text provides a source for the sample of Lexical Entries given in Section 2.4. It is essential that such entries be seen in their grammatical context particularly to demonstrate matters of agreement and co-occurrence.

1.5.5. A Reference and cross-reference system is applied throughout
this study. Each rule is prefixed with the initial letter of its
component. Thus, all Base Rules are prefixed with the letter 'B' and
all Realisation Rules with the letter 'R'. This allows immediate
identification of the Component of any rule. The convention has been
extended to include reference to Lexical Entries (LE) and Paradigms (P).
The discussion under any rule is likewise prefixed so that reference
may be made, not only to a rule, but to a particular point in the
discussion of that rule. For instance, the points in the discussion
of Base Rule 2 would be numbered B.2.1., B.2.2., etc.

    Cross-reference between the rule under review and other related
rules and sub-sections is provided by a reference key set out opposite
the heading of that rule. The underlining is continued away from the
word REFERENCE thus indicating the point reached in the discussion.
Previous key references are placed above the line and later references
below the line. For establishing the numbers of the pages on which
the components referred to occur, the reader is referred to the Table
of Contents. An illustration is provided in the discussion of the
category 'Tense' below.

	B.4
B.8.2. Tense	REFERENCE:
	L.7
	T.16.1
	R.2
	M.12

1.5.6. All Bardi material is presented in a phonemic orthography.[1] The
Consonant and Vowel phonemes are set out in the following charts:

---

[1]See Metcalfe (1971) for a fuller discussion of Bardi phonemes.

CONSONANT CHART

MODE OF ARTICULATION	POINT OF ARTICULATION					
	Bi-labial	Apico-alveol	Lamino-alveol	Apico-domal	Dorso-velar	Lamino-palatal
STOPS (Voiceless)	b	d	đ	ḍ	g	
NASALS (Voiced)	m	n	ñ	ṇ	ŋ	
LATERALS (Voiced)		l	ĩ	!		
VIBRANT (Voiced)		r				
SEMI-CONSONANTS (Voiced)	w			ŗ		y

VOWEL CHART

		FRONT (Unrounded)	CENTRAL (Unrounded)	BACK (Rounded)
HIGH	(Close)	i/i:		u/u:
	(Open)			
MID				
LOW	(Close)			ɔ
	(Open)		a/a:	

1.5.7. List of Abbreviations

Assoc	Associative (Suffix)
Aux	Auxiliary
B.	Base (Rule)
C	Any Consonant
Comitat	Comitative
Conj	Conjunction
Contemp	Contemporary
Dist	Distant
Ditrans	Di-transitive
Durat	Durative
EA	Extra-action
Emph	Emphasis
Emphat	Emphatic
EpV	Epenthetic Vowel
Ex.	Example
Exc	Exclusive
IA	Intra-action
Immed	Immediate
Imperat	Imperative
Imperf	Imperfect
Impers	Impersonal
Inc	Inclusive
Inf	Infinitive
Instrum	Instrumental
Intens	Intensive
L.	Lexical (Rule)
LE.	Lexical Entry
M.	Morphophonemic (Rule)
Mid	Middle
N	Noun
NP	Noun Phrase
Neg	Negative
Nom	Nominal
Oblig	Obligatory
ObligRetro	Obligatorily Retro-active
Opt	Optional

P.	Paradigm
PartRedup	Partial Reduplication
Perf	Perfect
Plur	Plural
Postpos	Postposition
PostposP	Postpositional Phrase
Pot	Potential
PredP	Predicate Phrase
PreS	Pre-Sentence
Pro	Pronoun
ProAf	Pronominal Affix
Proj	Projected
Purp	Purposive
Quantit	Quantitative
R.	Realisation (Rule)
RA	Retro-action
Refer	Referential
Relat	Relator
S	Sentence
S.C.	Structural Change
S.D.	Structural Description
Sequ	Sequential
Sing	Singular
T.	Transformational (Rule)
Temp	Temporal
TransitV	Transitional Vowel
TV	Transitional Vowel
V	Any Vowel
VbNuc	Verb Nucleus
Vbs	Verb Stem
VP	Verb Phrase

2.0. THE BASE COMPONENT

2.1. *BASE RULES*

The following section will take the Base Rules in order - explaining, elaborating upon and illustrating them. The discussion will be governed by these aims and principles:

1. In line with the restricted aim of the study, only those rules that are relevant to verb morphology and its related syntax are included. Within the discussion and by means of footnotes, these rules are placed in a wider grammatical context and indications are given of what would be involved in a complete description of Baṛdi. For instance, because only Sequential, Temporal and Purposive Conjunctions are relevant to verbal structure, these are the only ones listed in the rule dealing with conjunction types (B.11). However, the other conjunctions which occur in Baṛdi are also listed in the elaboration upon the rule. To illustrate further, the 'head' of a Noun Phrase is the only constituent necessary for matters of verbal agreement and selection, and so Rule B.7 simply re-writes the Noun Phrase as an obligatory Noun and an optional Sentence. It is necessary to include the recursive Sentence to allow for the introduction of the Relator affix (T.18.2.). Again, other possible constituents such as Adjectives, Determiners, Interrogatives and Numerals will be listed in the discussion.

2. The discussion will concentrate in the main upon more general concepts and categories, rather than processes and constructions. For instance, Negative and Potential expressions are elaborated upon and illustrated under Base 3. However, the processes involved in their construction are not outlined until discussion of their respective transformations.

3. Illustration of the Base presents difficulties as the Component only deals with the production of pre-terminal formatives and corresponding lexical insertion. The output of the Base differs considerably in form from its surface realisation. At this stage, language material not directly being discussed will often be written in its surface form. Where surface forms are relevant to the rule under discussion, these will be related to that rule and to the sequence of Base formatives which underlied them by including, as the initial line in the Examples, the relevant formatives.

Take, for example, the following verb.

NP   INTENS VbNuc Aux NP
iŋuru-lu - luru- nu- ∅ nuru
They Intens *light did it fire*
They lit a large fire.

The operations of the Base Component are further illustrated in the summary derivations given in the other Components (see, for example, Ex.70 and Ex.83) and particularly by the complete derivations presented in Section 5.1.

4. Each Base Rule has associated with it a phrase marker. The markers will be cumulatively developed and drawn together in the form of a 'master' P-marker, given in Section 2.2. Unbroken lines indicate an obligatorily rewritten category, while optional categories are indicated by broken lines.

B.1.   S $\longrightarrow$ (S Conj) (Pres) NP PredP

B.2.   Pres $\longrightarrow$ $\begin{Bmatrix} \text{Question} \\ \text{IMPERAT} \end{Bmatrix}$

B.3.   PredP $\longrightarrow$ $(\{\begin{smallmatrix}\text{NEG (EMPH)} \\ \text{POTENTIAL}\end{smallmatrix}\})$ VP $(\{\begin{smallmatrix}\text{NP} \\ \text{EMPHAT}\end{smallmatrix}\})$ (Comple)

B.4.   VP $\longrightarrow$ (INTENS) VbNuc Aux

B.5.   Comple $\longrightarrow$ (PostposP Adverb)[1]

B.6.   PostposP $\longrightarrow$ NP Postpos

B.7.   NP $\longrightarrow$ Nom (S)

B.8.   Aux $\longrightarrow$ Aspect Tense

B.9.   Adverb $\longrightarrow$ (Time Quantit)[1]

B.10.   Postpos $\longrightarrow$ $\begin{Bmatrix} \text{Comitat} \\ \text{Instrum} \\ \text{Purp} \\ \text{Ablative} \end{Bmatrix}$

B.11.   Conj $\longrightarrow$ $\begin{Bmatrix} \text{Sequ} \\ \text{Purp} \\ \text{Temp} \end{Bmatrix}$

---

[1]Linked parentheses indicate that at least one category must be chosen.

B.1.   S   ⟶   (S Conj) (PreS) NP PredP

```
                        S
                      [B.1]
                     ╱  │  ╲
                    ╱   │   ╲
                   ╱    │    ╲
               S Conj PreS  NP  PredP
```
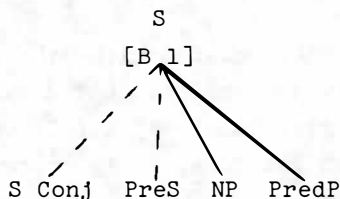
   Base Rule 1 rewrites a Sentence as an optional Sentence plus a
Conjunction, an optional Pre-Sentence constituent, an obligatory Noun
Phrase and an obligatory Predicate Phrase.[1]

B.1.1. The obligatory constituents Noun Phrase and Predicate Phrase
together form the essential basis for practically any Baṛdi verbal
expression. The NP introduced by Rule B.1 is the Subject Noun Phrase
and is identified, where necessary, as [NP,S]. Through the expansion
of the Predicate Phrase by Rule B.3, a second Noun Phrase may be
introduced which functions as the Object of the verb and is identified
as [NP,PredP]. That is, the basic structure for both Transitive and
Intransitive expressions is encompassed by the Subject Noun Phrase and
the Predicate Phrase. Both types of action will be illustrated in
outline here but a fuller discussion will be taken up in Section T.5,
where the whole matter of Baṛdi 'Action Type' will be elaborated upon.

B.1.2. Intransitive expressions, where the optional NP in the expansion
of the PredP has not been chosen.

---

[1]This would not be the first rule in a complete grammar as constituents such as
Exclamations and Interjections do not affect verb morphology and need not be intro-
duced into the Base. Such a rule as the following would be required:

   Initial S ⟶ (Exclamation⟨Response⟩ {$^{Vocative}_{S}$})

The linked parentheses indicate that at least one constituent must be chosen. This
rule would underlie such expressions as:
       Ex.7 ŋɔyaw i: guḷil iŋɔrɔgalḏ
Exclamation Response   S
ŋɔyaw(u)   i: guḷil iŋɔr-ɔ-galḏ
Hurrah   Affirmative *turtle they-spear-just did*
Hurrah! Yes, they just speared a turtle!

Ex.8

a) ŋanɖaralagal   (Text Verb 88)
    [NP,S] PredP
    ŋan- ɖarala-gal[1]
    I-   ran-   just did
    I just ran.

b) giñiŋ inɖalguna
    [NP,S]   PredP
    giñiŋ in-ɖalgu-na
    He   he-born-was
    He was born.

B.1.3. Transitive expressions, where an NP is chosen in the expansion of B.3.

Ex.9

a) iŋaramananar (Text Verb 2)
    [NP,S] PredP   [NP,PredP]
    iŋara- ma-nana-   r
    They- put-used to-them
    They used to put them (in the tree-coffin).

b) gur-nim guŋaraŋayidimanamudu arudu
    [NP,S]   PredP   [NP,PredP]
    gur-nim guŋ-ara- ŋayidima-na-mudu arudu
    You-Agent *you*-Plural-*hit-did-   us   us* (Exclusive)
    You all hit us.

The free forms of the subject and object would, in most cases, be deleted in surface sentences as they are both obligatorily represented by affixes to the verb stem. With the free constituents deleted, the agglutinative nature of the Baṛdi verb and its ability to stand alone as a complete sentence become evident.

B.1.4. Sentential Conjunction is introduced through Rule B.1, but will not be discussed until the review of Conjunction types under Rule B.11. The second optional element - Pre-Sentence - will now be taken up through its expansion in B.2.

---

[1]Verb morphemes are listed in Section 6.2.

B.2.   PreS ⟶ $\left\{{\text{Question} \atop \text{IMPERAT}}\right\}$

PreS
[B 2]
|
$\left\{{\text{Question} \atop \text{IMPERAT}}\right\}$

By Base Rule 2, the Pre-Sentence category is rewritten as either Question or IMPERATIVE.

B.2.1.   The Pre-Sentence introduces sentence-type markers relevant to verb morphology which act on the basic verb structure as presented in Section B.1. It will be noted that 'IMPERATIVE' is the first of a number of categories within the Base Rule which have been capitalised. Capitalisation denotes that the category is a 'dummy' symbol which acts as a 'trigger' for a transformational process.

B.2.2. Question

REFERENCE:

LE.1
T.13

If 'Question' appears as a formative in a terminal string, it denotes a 'Yes-No' Question sentence type. It is expressed either by the free pre-verb morpheme ŋanda plus the Indicative, or the bound morpheme aḍa suffixed to the verb.

aḍa is introduced through the operation of Rule T.13 and will be discussed there. ŋanda is provided by the Lexicon, simply replacing the formative 'Question' (Lexical Entry 1). As it is in correct se- quence and it does not modify the form of the following verb, no transformation is necessary to account for it and it need not, therefore, appear capitalised in the Base. (But see footnote concerning intonation on following page).

Ex.10 The affirmative and then the corresponding interrogative will be set out, using the free morpheme ŋanda:

a) iŋara-ma-na-r   ŋanda   iŋ ara-ma-na-r
     They-place-did-them   Question *they-place-did-them*
     They placed them (there).   *Did they place them (there)?*

b) ŋaŋg-id-a   ŋanđa   ŋaŋg-id-a
    I-go-shall   Question *I-go-shall*
    I shall go.   *Shall I go?*

Ex.11   The alternative interrogatives, using the bound morpheme ađa:

iŋara-ma-n-ađa-r
*They-place-did-*Question-*them*
Did they place them (there)?

ŋaŋg-id-ađa
I-go-shall Question
Shall I go?

B.2.3.   Imperative

Imperative is the second sentence type indicated by the Pre-Sentence.[1]
Its status, independent of the Indicative, could be questioned because,
as with many Australian languages, there is no surface distinction
between it and what will later be termed the 'Projected Imperfect'
(Future) tense.[2]   Thus, anđala could mean: *Look at it!* or *You will see
it.*   However, a number of factors make it necessary to give Imperative
a distinctive status.   One is embodied within this Rule B.2.   That is,
that Imperative and Question are mutually exclusive, while Question may
occur with the Projected Imperfect.   A second factor is that Imperatives
are obligatorily marked for Projected Imperfect tense (c.f. Rule T.14).
Thirdly, Imperatives may make use of an Absolute Pronoun in an emphatic
sense.   An example is given in Line 27 of the Text:

Ex.12   ṛuwil aña đu bađ(a)
        Go   you you off
        YOU go off!

The ṛuwil is a Pre-Stem (to be discussed) supported by the ancillary
verb aña.   The đu is used an an emphatic pronoun.

_____

[1] The indicating of sentence types, such as Question and Imperative, through a Pre-
Sentence constituent varies little from the convention put forward by Katz and Postal
(1964:118-120) and adopted by Chomsky (1965:132).

[2] The statements concerning the non-distinctiveness of Question and Imperative surface
forms are made with reference to verb morphology alone.   Both these sentence-types
are distinguished from the Indicative by an Intonation pattern.   However, a detailed
presentation of Intonation in Baṛdi is outside the scope of this study.

B.3.　　　PredP ⟶ ({NEG (EMPH)}) VP ({NP　　}) (Comple)
　　　　　　　　　　　　　　POTENT　　　　　　　　EMPHAT

PredP
[B.3]

{NEG (EMPH)} VP {NP } Comple
POTENT　　　　　　EMPHAT

By Base Rule 3, the Predicate Phrase is rewritten as either an
optional Negative marker or an optional Potential marker, with an
optional Emphasis following the Negative; an obligatory Verb Phrase;
either an optional Noun Phrase or an optional Emphatic marker; and an
optional Complement.[1]

Rule B.3 has a possible 24-way expansion with every expansion
providing a potential base for a surface variant. Not every expansion
will be discussed and illustrated in this section. The Object Noun
Phrase, [NP,PredP], was introduced into the discussion of transitive
expressions in Section B.1. The category Complement will be elaborated
upon when it is expanded by Rule B.5, the category Verb Phrase will be
more fully dealt with under the discussion of B.4, and, to prevent
premature complications, discussion of Negative Emphasis will be left
until its relevant transformation is formulated (T.12).

Discussion in this section will centre upon Potential and Negative
expressions and the Emphatic.

---

[1] Although there is an 'existential' verb 'to be' in Bardi, there is no copula verb
'to be'. A full grammar, therefore, would have to include as an optional expansion
of B.3 a type of Nominal Predicate to express Equational (Nounal Predicate) or
Stative (Adjectival Predicate) constructions. This is not included in B.3 as it is
irrelevant to verb morphology. Examples follow of an 'existential' expression, then
Equational and Stative expressions.

　　　Ex.13

a) Existential　bugan　in-in

　　　　　　　　　Inside he-is

　　　　　　　　　He is inside.

b) Equational　giñiŋgi mabudi　　dina bɔ

　　　　　　　　　He　　woman's name her　son

　　　　　　　　　He is Mabudi's son.

c) Stative　　　ir　bawa　　lugal-giɖ

　　　　　　　　　Those children bad-Intensifier

　　　　　　　　　Those children are very naughty.

B.3.1. Negative

The Negative is expressed by the operation of three processes
acting upon the Affirmative. There is the placing of the free form of
the Negative, which is also the Negative response, before the verb; the
prefixing of the Potential morpheme l which causes the deletion of a
class of the affirmative prefixes; and a modification to the Tense/
Aspect system.

Ex.14 The Affirmative will be given first to indicate the
modifications introduced through the formation of the Negative:

a) NP VP   NP   NEG NP   VP   NP
    iŋar-ala-na-ri   ara ular-ala-nana-ri
    They-see-did-you   Neg *they-see-did-you*
    They saw you.   *They did not see you.*

b) NP VP   NEG NP
    ŋay-aya-nđ   ara ŋal-ay-a
    I- limping-am   Neg *I- limping-am*
    I am limping.   *I am not limping.*

It is in the Negative that the underlying division of tense into
Imperfect becomes more apparent. There is one form of the Negative
which covers both Imperfect tenses – that is, Present and Projected
action. For instance, in the Negative expression of Ex.14 (b) above,
ara ŋalaya means either *I am not limping* or *I shall not limp*. The
Negative auxiliary is discussed in full in Section R.2.3.1.

B.3.2. Potential

The Negative and the Potential[1] are linked closely within the
derivation rules. There is a structural relation, because the
Potential is exactly the same form as the Negative except that the free
pre-verb Negative morpheme ara is absent. Thus, taking the Negative
expression of Ex.14 (a), ara ularalananari means, *They did not see you.*
The Potential is ularalananari, meaning, *They should have seen you.*

---

[1] Nekes and Worms (1953:173) use the term 'Potential' for this construction and deal
with it and the Negative in the same section.

There is a strong semantic association between the two modes of expression. In its prevailing use, the Potential has the force of expressing an action which a person should have done (using a Perfect form) or should do (using the Imperfect form). There is a strong note of omission or implied negative.

Then there is a syntactic relation in that the Negative and Potential are mutually exclusive in occurrence. The whole discussion could well be set within a Realis/Irrealis framework.[1] The Irrealis would comprehend the Negative and Potential moods. However, it has not been used here as a category title as the Irrealis involves considerably more than these moods. For instance, some aspects of the Projected tense, and Conditional conjunction would also be part of the Irrealis. Examination of the Potential will be carried out under two types of expressions - Omissive and Hypothetical.

(1) Omissive expressions. Omissive expressions assume that the actor has failed or omitted to do some action. Two sets of examples will be given illustrating Perfect and Imperfect tenses respectively.

Ex.15 The Affirmative, the Negative and the Omissive forms will be given for comparison. The Distant Perfect tense is used.

	Affirmative	Negative	Omissive
a)	ŋan-ɖidi-na	ara ŋa-l-idi-nana	ŋa-l-idi-nana
	I-go-did	*Neg I-Pot-go-did*	*I-Pot-go-did*
	I went.	*I did not go.*	*I should have gone.*
b)	in-imbi-na-ri	ara u-l-i-nana-ri	u-l-i-nana-ri
	He-hit-did-you	*Neg he-Pot-hit-did-you*	*He-Pot-hit-did-you*
	He hit you.	*He did not hit you.*	*He should have hit you.*

---

[1] As it is in Capell and Hinch in their analysis of Maung, a Northern Territory Aboriginal language. There is a close parallel here between Baɖi and Maung. They say, of Maung (1970:67): '. . . the ending of the Irrealis may also embrace the potential and the hypothetical, only the negative particle marig before the verb being omitted.' Although there are considerable differences in verb structure - for instance, in Maung moods 'are indicated chiefly by suffixes, the prefixes serving to indicate the tenses within the moods' whereas, in Baɖi, the opposite is true - the following Maung examples show the parallel when compared with Ex.15 (above). The Maung example has been rearranged.

Present Realis	Negative	Present Irrealis
ŋɛjan	marig ŋɛjandi	ŋɛjandi
I see him.	*I cannot or will not see him.*	*I can see him.*

Ex.16 Using Imperfect tenses:

a) aŋgi-nim   u-l-alal-an-ø   diba galgara
Interrogative-Agent *he-Pot-care for-will-her this widow*
Who should be looking after this widow?

b) ŋa-l-al-a   ɖalŋagaguru duli
I-Pot-see-will doctor   soon
I should see the doctor soon.

(ii) Hypothetical expressions. The Imperfect Potential can be used
to express an imaginary situation.[1] The 'implied negative' sense is
apparent in the Hypothetical as it is only used of actions which
definitely have not taken place.

Ex.17 The following complex sentence is taken from a narrative
concerning some mysterious cave paintings which, as it transpired, no
living person seems actually to have seen. This factor added to the
hypothetical, 'irreal' nature of the story.

mi-lu-ŋular-a-ø   ŋa-lu-ŋular-a-ø   ŋayu-nim
You-Pot-wipe off-will-it I-Pot-wipe off-will-it I-Agent

gadu bila daral   u-l-al-a   giñiŋ-ini
still again come out it-Pot-come-will that-same one

If you should wipe it off (one of the cave paintings drawn by
the 'ŋa:ri' spirit-beings), *or if I should wipe it off, that
same one would still come out again.*

B.3.3. Emphatic Intransitive   REFERENCE:
                                                        T.11

B.3 states that the Object NP and the EMPHATIC marker are mutually
exclusive. The Rule has been formulated in this manner to express the
fact that the Emphatic applies *only* to Intransitive expressions. The
Emphatic is realised through Rule T.11 by the morphemes ir or aŋar.

Ex.17 (Text Verbs 61 and 71)

a) iŋilirmanir   b) imbañinaŋar
NP VP   EMPHAT   NP VP   EMPHAT
iŋi- lirma-n-ir   im-bañi-n-   aŋar
They-call-did-Emphat   *It-finish-is- Emphat*
They called loudly.   *It is really finished.*

---

[1] The 'Hypothetical', the term used by Capell and Hinch (1970:67) is a type of
Conditional similar, in fact, to the ancient Greek 'Condition contrary to fact'
clause type.

B.4.   VP ⟶   (INTENS) VbNuc Aux

```
              VP
             [B.4]
           /  |   \
          /   |    \
    INTENS  VbNuc   Aux
```
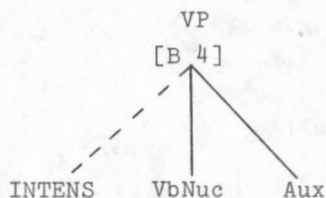
By Base Rule 4, the Verb Phrase is rewritten as an optional
Intensity marker, an obligatory Verb Nucleus and an obligatory
Auxiliary.

B.4.1. The Verb Nucleus

The Verb Nucleus denotes that part of the inflected verb which, with
the Auxiliary, cannot be derived through the transformational component.
The Nucleus encompasses the Class marker and Verb Stem for all verbs
and also provides information concerning Transitional Vowels (for
almost every verb), Pre-Stems where they occur and any other features
peculiar to the verb under question. These elements will not be
examined here as a full account is given when the Verb Nucleus is
discussed as a complex symbol in Section L.4. Two verbs will be given
as illustration of the main components of the Verb Nucleus. The
components will simply be identified here without elaboration.

Ex.18 Text Verb 49:   iŋalgalgamanana

```
      NP              VP
      |              / | \
      |        INTENS VbNuc  Aux
      |          |    / \     |
    Class        |  Verb Transit
    Marker       |  Stem Vowel
      |    |     |   |   |    |
     iŋ - g -  alg - algam - a - nana
     It  -   Intens-move  -  Durative/Distant Perf
     It kept moving about vigorously.
```

Ex.19   lul irgadin[1]

```
                 NP                    VP
                  │                   ╱  ╲
                  │              VbNuc    Aux
                  │             ╱ │ │ ╲     │
                  │            ╱  │ │  ╲    │
                Pre-  Class  Verb  Transit │
                Stem  Marker Stem  Vowel   │
                  │  ╳   │    │      │      │
                 lul    ir - g  -  ad  - i  - nd
                Enter  they  -   enter  -   Present Imperf
                They are going inside.
```
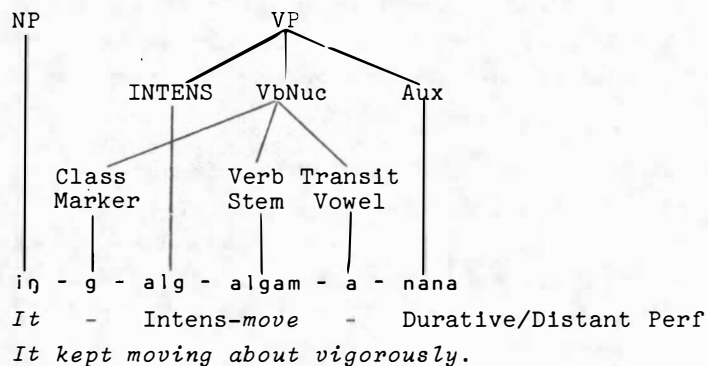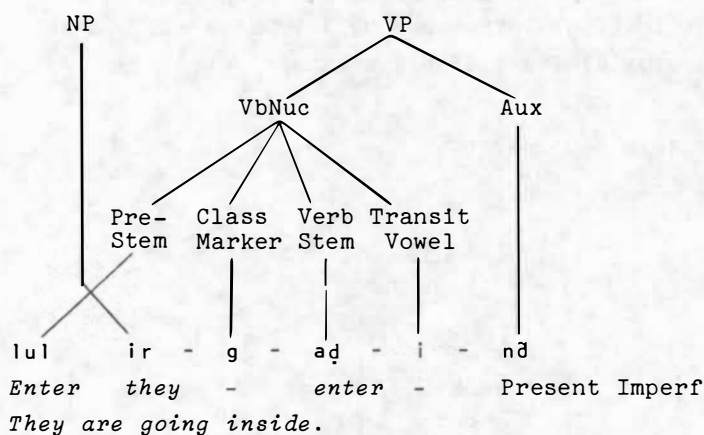
B.4.2. The Auxiliary

<div style="text-align:right">

REFERENCE:

B.8
L.6
L.7
T.16
R.2
M.12

</div>

The obligatory Auxiliary is itself rewritten by two obligatory
formatives by Rule B.8. The reasons for including it as a separate
category are firstly, that it underlines the basic interdependence of
Aspect and Tense and, secondly, it facilitates the formulation of
Structural Descriptions in the transformational rules and the contexts
of the rules of other components. These points will be taken up and a
full discussion of the Auxiliary given in the Sections indicated by
the Reference Key above.

B.4.3. INTENSITY

<div style="text-align:right">

REFERENCE:

L.4.5
T.10

</div>

The INTENSITY marker brings Rule T.10 into operation. It expresses
intensity of action in the verb and can occur with transitive or
intransitive expressions. Its surface manifestation is a reduplication

---

[1]This example also illustrates the difficulties inherent in using surface forms as
examples of Base Rules. Firstly, morphemes must appear, such as the Subject
pronominal prefixes, which are not introduced until the transformational component.
Secondly, constituents such as the 'meaning-sharing' Pre-Stem lul (see Ex.46) are
included which have not been discussed. Thirdly, transformational processes, such
as permutation of Pre-Stems, have been anticipated.

either of the verb stem or of the Pre-Stem where one occurs.

Examples of a simple intensifying of the action will be given first and then modifications introduced by intensity will be considered.

Ex.18 iŋalgalgamanana displays simple Intensity. Another instance is:

Ex.20 minđugulugulinar


```
          NP                                  PredP
                                   VP                    NP

                          INTENS   VbNuc        Aux

                             Class  Verb  Transit
                             Marker Stem  Vowel

          min  -  đ  -  ugul  -  ugul  -  i  -  na  -  r
          You       -      Intens - break    -    Dist Perf-them
          You really broke them up.
```
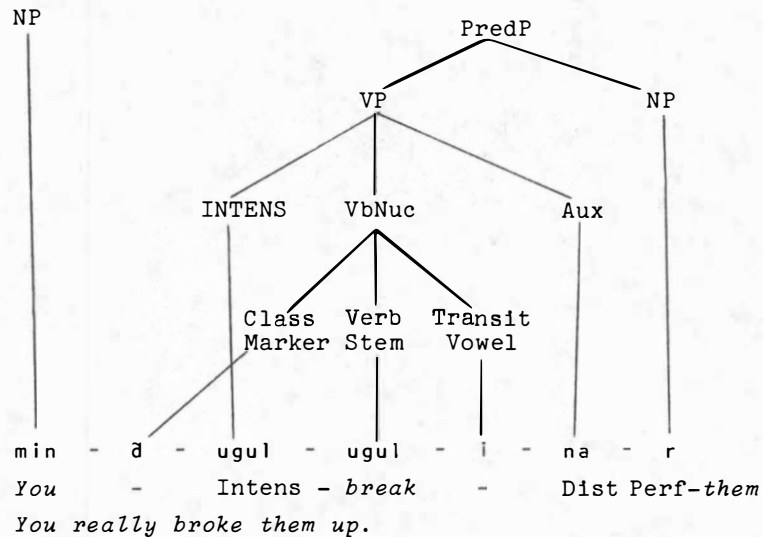
In some cases the intensification leads to a modification of the verb meaning.

(i) Intensity in intransitive verbs often acts back on the Subject. (Examples presented in summary form)

Ex.21 Text Verb 19: dagadag iŋirini

daga- dag iŋir-i-ni
Intens-*sleep they-ø*-Dist Perf
They ALL slept.

In this example the semantic significance of the verb stem -i- *to say*, has been neutralised by the Pre-Stem dagadag (see Section L.4.4.1. for discussion).

(ii) Intensity can refer primarily to the Object.

Ex.22 Text Verb 8: iŋurululurunu nuru

iŋuru-lu- luru-nu- ø nuru
They-Intens-*light*-Dist-*it fire*
                    Perf
They lit a LARGE fire.

(iii) Intensity will often cause a semantic modification. For instance, the verb stem aɭ means *to look at, see*. The reduplicated stem aɭaɭ has the meaning *to look after, care for*. The stem aḍ means *to enter* while the intensive form aḍaḍ is modified to mean *to go in and out*.

B.5.   Comple $\longrightarrow$ (PostposP^n(Adverb^n)

$$\begin{array}{c} \text{Comple} \\ [\text{B 5}] \\ \diagup \quad \diagdown \\ \text{PostposP}^n \quad \text{Adverb}^n \end{array}$$
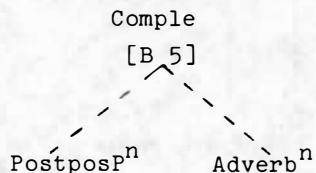
By Base Rule 5, the Complement is rewritten as either a Postpositional Phrase or an Adverb, or both. However, as indicated by the linked parentheses, one at least must be chosen. The superscript ^{n} signifies that more than one of each category may occur in a sentence.

More detailed examination of the Complement elements will be carried out in the sections indicated by the Reference Key below:

B.5.1. Postpositional Phrase   REFERENCE:
                                                 B.6
                                                 B.10
                                                 LE.2
                                                 T.15

B.5.2. Adverb   REFERENCE:
                                                 B.9
                                                 LE.3
                                                 T.16

Surface examples only will be given below to indicate something of the occurrence of Complement categories.

Ex.23   Text Line 66:   iŋararɣina baḍa bali-ŋan

```
        NP                  PredP
        |                  /  |  \
        |              VP  NP   Comple
        |              |   |    /    \
        |              |   |  Adverb  PostposP
        |              |   |    |        |
      iŋar - arɣina - ø   baḍa  bali-ŋan
```

They - brought - him away   camp-to
They took him off to camp.

Ex.24   banaŋgara-giđ iralgal nidi bigibigi ŋurŋul-ɔndar

```
           NP        PredP
           |        /    \
           |      VP     Comple
           |      |    /    |    \
       Adverb     | Adverb  PostposP
         |        |    |        |
  banaŋgara-giđ ir-algal nidi bigibigi ŋurŋul-ɔndar
```

*Now-*Intensifer *they-were* Quantit *pigs   mangroves-into*
Just now all the pigs were in the mangroves.
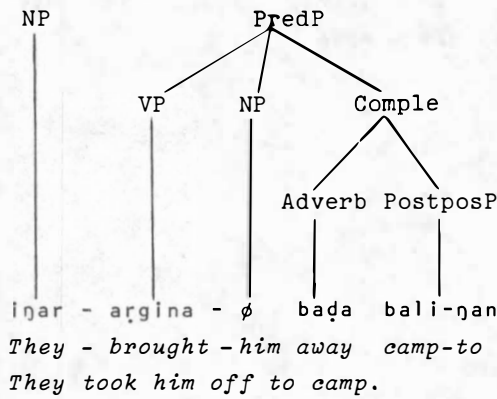
B.6.   PostposP ⟶   NP Postpos
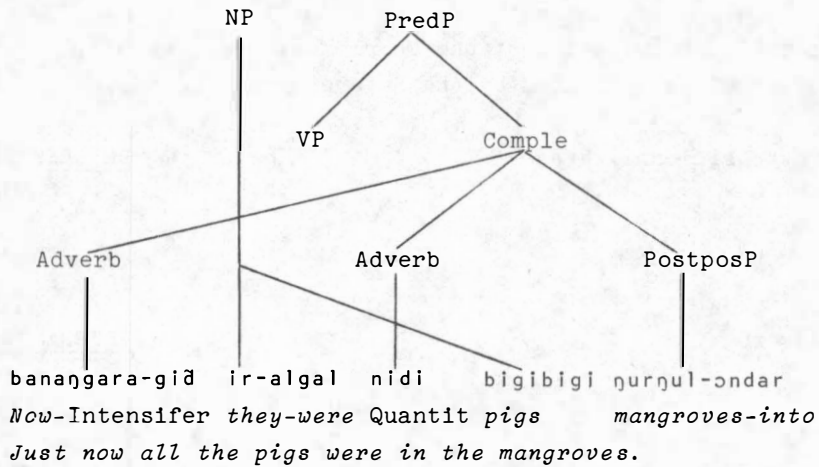
```
            PostposP
            [B 6]
            /    \
          NP    Postpos
```
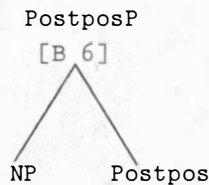
By Base Rule 6, a Postpositional Phrase is rewritten as an obligatory
Noun Phrase and an obligatory Postposition.

B.6.1. Noun Phrase

   This is the third occurrence of the category NP in the Base Rules.
It is defined functionally as the head of a Postpositional Phrase and
identified as [NP,PostposP] where necessary. The following sentence
contains the three Noun Phrase types:

   Ex.25 inaɾginaŋayu ðal-ɔ
   [NP,S] VbNuc   Aux [NP,PredP] [NP,PostposP] Postpos
   in-   aɾgi-   na- ŋayu   ðal-   ɔ
   He-   pick up-did-me   beach-   from
   He picked me up from the beach.

B.6.2. Postposition

   Postpositions relevant to verb morphology will be discussed under
Rule B.10.

B.7.   NP ⟶ Nom (S)

NP
[B 7]

Nom   S
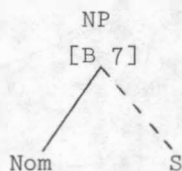
   By Base Rule 7, a Noun Phrase is rewritten as an obligatory Nominal
and an optional Sentence.[1]

_____
[1] In a complete grammar, the NP rewriting rule would introduce a number of modifiers
to the Nominal - at least a set of Determiners and Numerals and an Adjective Phrase
constituent. Certain of the 'wh-' Interrogatives would also be part of the expansion.

B.7.1. Nominal

The term 'Nominal' has been utilised as a more general category to
cover both Nouns and Pronouns, by which it is rewritten in the Lexicon.
Its more generalised reference is important in view of the fact that
the pronominal affixes introduced through Transformations 1 to 3 may be
derived from either Nouns or Pronouns.

In Ex.26, the three functions of the Noun Phrase are represented,
and all are rewritten as Nominal by B.7. In the case of the [NP,S],
this is a Pronoun while with the [NP,PredP] and the [NP,PostposP], the
Nominals are Nouns.

Ex.26   ir-nim girgir iranð ali ðumbaradi-ŋ

ir-nim   girgir   ir-a-nð   ali   ðumbaradi-ŋ
They-Agent *cutting* *they-ø*-Pres *fish* *knife*-Instrum
They are cutting up the fish with a knife.
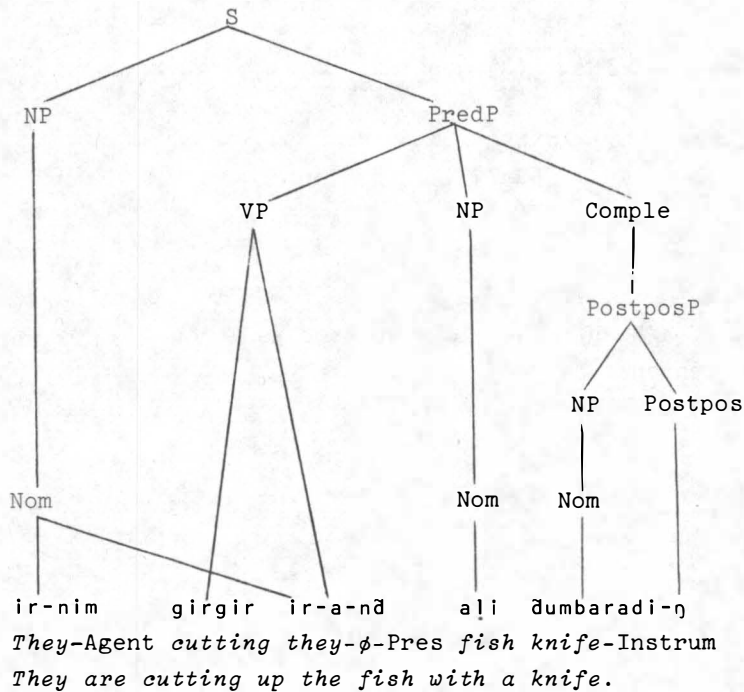
B.7.2.   The Recursive Sentence

The optional Sentence, in conjunction with a Nominal, allows for the operation of the Rule T.18.2 - the Embedded Nominal Relator transformation. This is the Baṛdi construction comparable to the English relative clause and it involves verb morphology in that the Relator morpheme ba (see T.18) becomes affixed to the verb.

The transformation is activated when a pronoun or noun of the recursive Sentence is co-referential with a pronoun or noun of the primary Sentence. This Relator construction will be illustrated in outline here but fuller treatment is reserved for the discussion of Rule T.18.2.

Ex.27   giñiŋgi ŋa:ri inđaliđarŋayu bugun-b-inin
This complex Sentence is constructed from the two Sentences:

giñiŋgi ŋa:ri in-đaliđ-arŋayu and giñiŋgi ŋa:ri bugun in-in
That   spirit he-saw - me   That   spirit inside he-is.

Because the two subjects are co-referential, T.18.2 applies. By it, the subject of the embedded Sentence is deleted and the Relator ba is pre-fixed to the second verb, producing the Relative construction. A tree diagram will illustrate further:
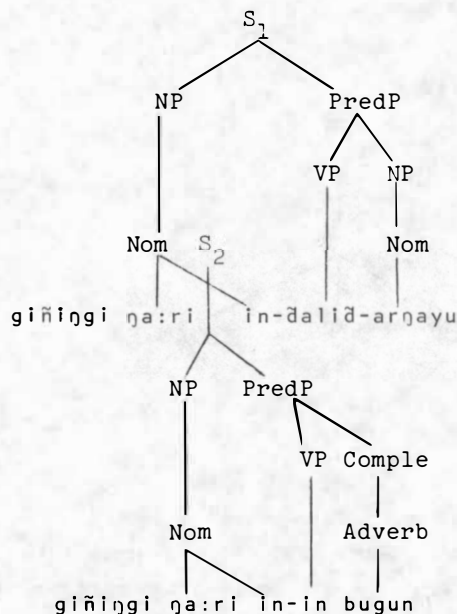
Apply T.18.2: giñiŋgi ŋa:ri inđaliđarŋayu bugun-b-inin
              That spirit, which lives inside, saw me.

B.8.   Aux ———⟶ Aspect Tense

                          Aux
                         [B.8]
                        /   \
                  Aspect   Tense
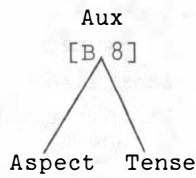
   By Base Rule 8, the Auxiliary is rewritten as an obligatory Aspect
formative and an obligatory Tense formative.

   There are seven tenses in Bardi and each Tense has two Aspects. These
will be fully discussed and illustrated in the Sections indicated below,
particularly under the Lexical Rules.

	B.4
B.8.1. Aspect	REFERENCE:
	L.6
	R.2
	B.4
Tense	REFERENCE:
	L.7
	T.16
	R.2
	M.12

   Ex.28   irbandandamangalḍ
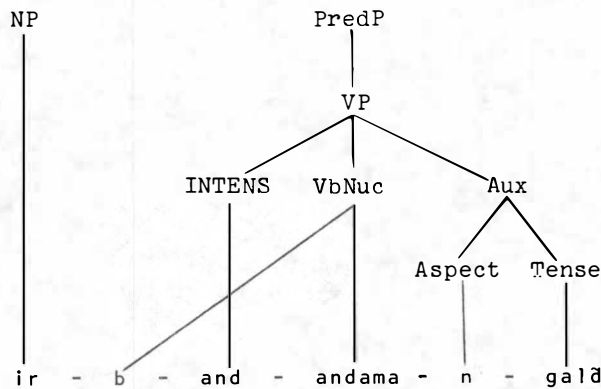
They - Class-Intens -*stumble* - Durat-Immediate Perfect
Up to now, they have been continually staggering around.

B.9.   Adverb ——————⟶   (Time|Quantit)

```
                         Adverb
                         [B 9]
                          ∧
                        ╱   ╲
                      ╱       ╲
                    ╱           ╲
                  Time        Quantit
```
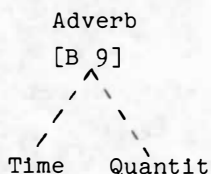
By Base Rule 9, the Category Adverb is rewritten as either Time or
Quantitative or both, but one must be chosen.

These two adverbial types must be included for their relevance to
verb morphology. A full grammar would also include the following types
here or through transformational derivation: Manner, Local, Affirmative,
Continuative and Directional.

                                                          B.5

B.9.1.   The Time Adverb   REFERENCE: _____
                                                            L.5
                                                            LE.3
                                                            T.16

The relevance of Time adverbs to the present study is that, in many
instances, they govern a particular tense or range of tenses in the verb
auxiliary. The Lexicon defines the contexts where this government would
take place and would assign to the adverb its appropriate tense marker.
This would have to correspond with the tense of the related verb to
ensure an acceptable sequence. For instance, the Time adverb milɔn
in Line 2 of the Text would be marked, when used in the sense of the
'before' time of long ago: [+Dist] – that is, Distant Perfect, and the
tense of the verb would have to correspond.

Some Time adverbs do not govern tense and others lose their tense-
significance in particular contexts. These would be marked: [-Tense].
For instance, muyun in Text Line 20, because it is being used in a
narrative, does not govern a particular tense in the verb. The tense is
determined by the time depth at which the reported event actually
occurred – that is, the Distant Perfect. However, if muyun is used in
direct speech, it would be marked to govern the Near Perfect tense, as
with Ex.29:

    Ex.29   muyun   an-darmi-gald
             Time Adverb Dual-*rose*-Perfect
             [+Near]

             Early (this morning) you and I arose.

Government is safeguarded through Rule T.16.1.

B.9.2.   The Quantitative Adverb

The Quantitative adverb nidi can refer either to the verb or to
associated noun phrases. If it acts upon the verb, it functions as an
intensifier; if it acts upon a noun phrase, it expresses quantity. Its
particular relevance to verb morphology is that, when its reference is
to an object NP, the corresponding Object pronominal suffix is
obligatorily deleted by Rule T.16.2.[1]

Ex.30 provides illustration of the Quantitative adverb, where its
primary reference is (a) to the verb, (b) to the subject, and (c) to
the object.

Ex.30

a) Text Lines 21 to 23:
iŋar-ala-na-ø   nidi   baṇi   buṛ iŋar-ala-na-ø
They-look at-did-it Quantit *this way see they-look at-did-it.*

ara-giƌ   ular-ala-na-ø   nidi
Neg-Intensifier *they-see-did-him* Quantit
*They looked at it carefully and there they saw it. There was absolutely
no sign of him at all.* (That is, the *shadowman*).

b) Text Line 58:
uluman-ƌini   giṛ ular-ala-na   nidi
Old-women-group live they-walk-did Quantit
Not a few (from previous line) *of the older women were living (there).*

c) (For fuller context, see Ex.63).
baṛulu   iŋar-andi-gal nidi
Cat-fish they-catch-did Quantit
They had caught many cat-fish.

If the nidi did not occur in this sentence, the verb would be:
iŋar-andi-gal-ƌir
They-catch-did them
They had caught them.

However, nidi causes the deletion of the pronominal object suffix
through Rule T.16.2.

---
[1] Because the morpheme for the third person plural pronominal suffix (the Object suffix
involved in this transformation) is not provided until the Transformational Component,
T.16.2 is identified by using the English pronoun. That is, 'Them'-Deletion.

B.10.　　Postpos ⟶ $\left\{\begin{array}{l}\text{Comitat}\\\text{Instrum}\\\text{Purp}\\\text{Ablative}\end{array}\right\}$

$$
\begin{array}{c}
\text{Postpos}\\
[\text{B 10}]\\
|\\
\left\{\begin{array}{l}\text{Comitat}\\\text{Instrum}\\\text{Purp}\\\text{Ablative}\end{array}\right\}
\end{array}
$$

By Base Rule 10, Postposition is rewritten as any one of Comitative, Instrumental, Purposive or Ablative.

There are, in fact, some twenty-five Baṛdi postpositions but only these four need appear in the Base. Comitative and Instrumental postpositional phrases may optionally introduce the Associative Suffix (T.15.1.), while Purposive and Ablative may introduce the Referential Pronominal Suffixes (T.15.2.). No detailed account will be given of these postpositions as they are outside the main scope of the study. The following examples and comments will give an indication of their use and will set the necessary background for the discussion of the relevant transformational processes.

B.6

B.10.1.　The Comitative　　　　　　　　　　REFERENCE: _____

LE.2.1
T.15.1

The Comitative postposition ñar expresses *with* in the non-Instrumentive sense - that is, *in company with, in possession of* (an inanimate object). The following phrases illustrate its use:

Ex.31

malar-ñar	*with a knife.*
ŋayu-ñar	*with me.*
ðirmi-ñar	*with singing.*
milimili-ñar	*possessing Citizenship Rights.*
marga-ñar	*with a shield.* (in possession of)

B.10.2. The Instrumental

The instrumental postposition $\{^{\eta}_{\eta a}\}$ expresses *with, by means of*.

Ex.32

guṛu-ŋa	*with blood* (they wet him).
ðiwa-ŋa	*with a boomerang.*
ðilamana-ŋa	*with a gun.*
ga:ba-ŋa	*with a cup* (she hit him).
ŋay-ambala-ŋ	*my-feet-by means of = I went by foot.*

In describing the building of the road over the Fitzroy River, the informant told of how they constructed it:

badaga-ŋ badaga-ŋ agal gulbu-ŋ   gulbu-ŋ
Logs-with logs-with and boulders-with boulders-with
With many logs and many boulders.

B.10.3. The Purposive

The Purposive postposition ŋan expresses two main concepts. It is used to express motion **towards**, and it expresses purpose - a dual function paralleled in many other languages.

Ex.33   Illustrating motion towards:

ðariñan-ŋan	*to Lombadina.*
iwañu-ŋan	*to Sunday Island.*
bali-ŋan	*to camp.* (Text Line 19)
ŋandin-ŋan	*to the tree-coffin.* (Text Line 65)
ðanam-buṛu-ŋan	*which-place-to = where?* (Text Line 51)

Ex.34   Illustrating purpose:

Examples of this usage are taken from a narrative concerning a drunken man. He sends *for liquor* ɔla-ŋan. Having drunk that, he seek out his wife *for money* gulbu-ŋan. Upon refusing him, she is knocked down and searches *for a stick* baḍaga-ŋan, with which to defend herself.

B.10.4. The Ablative

The Ablative postposition {$^{ɔ}_{gɔ}$} expresses motion from.

Ex.35 This example contains two instances of the Ablative and one Purposive:

ɖal-ɔ   min in-aṟgi-na-ŋayu baḍa in-aŋga-nana-ŋayu gulɖuman-ŋan.
Beach-from Temp *he-pick up-did-me away he-take-did me Cape Leveque-to*

gulɖuman-gɔ. . .
Cape Leveque-from. . .
Then he picked me up from the beach and took me off to Cape Leveque.
From Cape Leveque. . .

B.11.   Conj ⟶ $\left\{ \begin{array}{l} \text{Sequ} \\ \text{Purp} \\ \text{Temp} \end{array} \right\}$

$$\begin{array}{c} \text{Conj} \\ \text{[B.11]} \\ | \\ \left\{ \begin{array}{l} \text{Sequ} \\ \text{Purp} \\ \text{Temp} \end{array} \right\} \end{array}$$

By Base Rule 11, Conjunction is rewritten as one of the following: Sequential, Purposive or Temporal.

In Base Rule 1, S Conj was placed to the left of the obligatory elements to facilitate the operation of the transformations related to the occurrence of these three Conjunctions. (T.17 and T.18)

Other Conjunction types not relevant to verb morphology are Causal, Continuative, Consecutive, Conditional and Logical. These Conjunctions function in a straight-forward manner, simply coordinating two sentences without affecting verb structure. The three Conjunctions introduced into the Base can cause modifications to verbal affixing.

B.11.1. Sequential Conjunction

The Sequential Conjunction $\{{}^{amba}_{damba}\}$ occurs with considerable frequency, especially in any connected narrative or discourse. Its function is to emphasise sequence within a series of sentences. As with other Bardi parts of speech and particles, it can occur in almost any position in the sentence, including within the verb as a suffix.

Ex.36

ɔ   ira-ma-n-ɖamba-∅   baḷ-gun ir-ɔrgɔrgɔndi-n-∅   baḷ giñiŋg.
Conj *they-put-Pres-Sequ-him bark-on they-tie up-Pres-him bark that.*

gɔbin-mar   amba ɖirir.   ir-a-n-ɖamba-∅   baɖa ñun
Coffin-like Sequ *to them. They-take-Pres-Sequ-him away there*

ira-ma-n-ɖamba-∅   ɖiṛɔr-ɔn.
they-put-Pres-Sequ-him tomb-in.
Then they put him (the dead man) *on the bark and tie him up in that bark. It is like a coffin for them. Then they take him away and place him there in a tomb.*

B.11.2. Purposive Conjunction

The Purposive Conjunction aṛinɖi-ŋan or at times simply aṛinɖi can be replaced through the operation of T.17.2. by an 'Infinitive of Purpose' construction.

Ex.37

a) S_1 Conj S_2

ina-mar-iɖ-∅   mayala aṛinɖi-ŋan in-aḷ-iɖ-∅   ala-nim   ɖin
He-cook-did-it goanna Purposive *He-eat-did-it son-Agent his*
He cooked the goanna for his son to eat.

b) S_1 Conj

giñiŋg gulbu-ba-ɖib   ina-ma-na-∅   aṛinɖ
That   stone-Relat-there he-place-did-it Purposive

S_2

iŋi-miḷŋ-inɖi-ŋa   nu:nɖi
He-prove-Reflex-did alive
That is the stone which he set up there in order that he might prove himself to be alive.

B.11.3. Temporal Conjunction

The Temporal Conjunction is $\{{}^{marab}_{maraba}\}$. It is used to relate both concurrent and subsequent actions. By T.18.1, this relation can also be expressed by the Relator ba suffixe verb-finally.

Ex.38

a) S_1 Conj S_2

iŋ-gaḍi-na   digi   marab bañ iŋara-ma-n-ø   amba-nim
He-go in-did Dickie Temp *Bang they-put-did-him men*-Agent
As Dickie dived in, the men shot at him.

b) S_1 Conj S_2

ŋan-ibi-na-ø   maraba guṛur-gudu liñḍa-nim   iŋara-m-a-ŋayu
I-drink-did-it Temp   *blood-kind Police*-Agent *they-put-did-me*

bugun
inside
After I drank the wine, the police locked me up.

2.2. *THE 'MASTER' PHRASE-MARKER*

This completes the discussion of the Base Rules as they are relevant to verb morphology, although they will be continually re-applied throughout the discussion. The following page presents a 'master' phrase-marker charting the rewriting rules of the Base. It is constructed simply by the putting together in the one P-marker, all the individual rule trees which have been drawn section by section, thus providing an all-inclusive base upon which the transformations can operate. All 'Structural Descriptions' which activate transformations must conform in actual constituents and in their order to its pre-terminal string of formatives. At times, for economy and to preserve a wider generalisation, the formatives will be subsumed under the use of a 'higher' node label. For instance, it is generally more constructive and convenient to refer to the Aux node in Structural Descriptions rather than Aspect plus Tense. This is because very few rules apply to Aspect or Tense individually and, where they function as a unit, there is no point in listing them both.

For easier reference, the Rule numbers are given in sequence down the right-hand margin.

```
                              S                                                    B.1
                            [B.1]
                    _ _ _ _ / | \ _ _ _ _
                   /         |  |      \
         S      Conj       Pres  NP    PredP                                        B.2
                           [B.2]
                                          \
                                           \
                                          PredP                                     B.3
                                          [B.3]
                              _ _ _ _ _ _ / | \ _ _ _ _ _ _
                             /            |  |            \
                   NEG (EMPH)            VP    NP         Comple                     B.4
                   {         }          [B.4] {    }
                    POTENTIAL                  EMPHAT
                                      / | \
                               INTENS VbNuc  Aux        Comple                       B.5
                                                        [B.5]
                                                      /      \
                                              PostposP        Adverb                  B.6
                                               [B.6]
                            NP                 NP  Postpos                            B.7
                           [B.7]             [B.7]
                                                    Postpos     Adverb              B.8
                              Aux                   [B.10]      [B.9]                B.9
                             [B.8]                                                  B.10
        Conj                                                                        B.11
       [B.11]
```

```
 S  {Sequ}  {Question}  Nom S  {NEG (EMPH)}  INTENS VbNuc  Aspect Tense  {Nom S}  Nom S  {Comitat }  Temp Quantit
    {Purp}   IMPERAT            { POTENTIAL}                             {EMPHAT}        {Instrum }
    {Temp}                                                                              {Purp    }
                                                                                        {Ablative}
```

94

2.3. *LEXICAL RULES*

The presentation of the Lexical Rules will be similar to that of the Base Rules. That is, the rules will be set out en bloc initially and then taken one by one and discussed and illustrated. Again, the organisation is basically Chomskyan in that non-verbal Complex Symbols will be specified by context-free selectional features while the Complex Symbol 'Verb Nucleus' will be specified by both selectional features and strict sub-categorisation rules.

The Complex Symbols treated in the Lexical Rules are those formatives which have come down into the preterminal string of the Base as unexpanded categories. These are: Nominal, Verb Nucleus, Aspect and Tense.

L.1.   Nom $\longrightarrow$ ±N

L.2.   -N $\longrightarrow$ [±I, ±II, ±Sing]

L.3.   +N $\longrightarrow$ [γFeature, ±Sing]

L.4.   VbNuc $\longrightarrow$ [(+Pre-Stem (+Action Change)),
+Class, (+PartRedup), +Vbs,
(+TransitV),
(+ObligRetro),
(+Impers),
(+Irreg:n),
+N:_____,± _____N:]

L.5.   Temporal Adverb $\longrightarrow$ [±Tense]

L.6.   Aspect $\longrightarrow$ [±Durat]

L.7.   Tense $\longrightarrow$ ±Perf

L.7.1.   -Perf $\longrightarrow$ ±Pres

L.7.2.   +Perf $\longrightarrow$ ±Definite

L.7.3.   +Definite $\longrightarrow$ ±Comtemp

L.7.4.   +Contemp $\longrightarrow$ ±Immed

L.7.5.   -Contemp $\longrightarrow$ ±Mid

```
                                                        B.1
                                                        B.3
                                                        B.6
                                                        B.7
L.1.     Nom ─────────────→      ±N           REFERENCE: ─────
                                                        LE.5
                                                        T.1
                                                        T.2
                                                        T.3
```

By Lexical Rule 1, the Complex Symbol 'Nominal' is rewritten as plus or minus Noun.

The close interdependence of Nouns [+N] and Pronouns [-N] in their relation to the pronominal affixes of the verb is preserved under the common node 'Nominal'.

```
L.2.     -N ─────────────→      [±I, ±II, ±Sing]



                                                        L.1
                                              REFERENCE: ─────
                                                        LE.5.1
```

Lexical Rule 2 introduces the set of free pronouns.[1] Lexical Entry 5.1 presents the paradigm of the Personal pronouns according to their Number and Person specifications. These eight free pronouns can be accounted for by combinations of the three basic oppositions: ± First Person or Speaker (I); ± Second Person or Hearer (II); and ± Singular (Sing).[2]

For simplicity, these combinations of components will be represented by the following conventions which introduce, in particular, the terms Dual, Inclusive and Exclusive:

```
    [+I, -II, +Sing]  ─────────────→    [+I, +Sing]
    [-I, +II, +Sing]  ─────────────→    [+II, +Sing]
    [-I, -II, +Sing]  ─────────────→    [+III, +Sing]
    [+I, +II, +Sing]  ─────────────→    [+Dual]

    [+I, +II, -Sing]  ─────────────→    [+Inclusive]
    [+I, -II, -Sing]  ─────────────→    [+Exclusive]
    [-I, +II, -Sing]  ─────────────→    [+II, -Sing]
    [-I, -II, -Sing]  ─────────────→    [+III, -Sing]
```

---

[1] See Nekes (1939) for a fuller account of the pronouns system of Dampier Land languages.

[2] Closely paralleling the componential analysis of Hanunóo pronouns presented by Conklin (1962:134f). The feature [Sing] is used here rather than Conklin's [Minimal] because the Baṛdi Dual (q.v.) is basically a singular form, giving four singular and four plural pronouns.

The nature of the Dual, Inclusive and Exclusive will now be discussed and illustrated.

The Baṛdi Dual pronoun is used when a speaker is associated with a singular addressee [+I, +II, +Sing] - that is, *the two of us*. However, the Dual functions as a singular rather than as a plural entity, as it does not take the morpheme indicating a plural subject, (that is, the prefix r). It would, therefore, be better characterised as *I and you* (Singular).

The Inclusive is used when the speaker [+I] is associated with more than one addressee [+II, -Sing]. That is, *I and you* (Plural) or *we all*. The Exclusive is used when the speaker [+I] is associated with another person or other persons not being addressed and where, in fact, the addressee or addressees are excluded [-II, -Sing]. That is, *I and some third party or parties*.

Personal pronouns, in their free forms, alone display a surface distinction between Inclusive and Exclusive. Possessive and affixed forms do not make this distinction.

The free pronouns are not marked for gender and case, so that the one form is used for both subject and object.

These three types of pronouns - all related to the first person singular - will now be illustrated in outline.

Ex.39   The Dual:

ara.   aŋ-gañḍi-gal   ñunu.   gaḍin-ɔn ayu-nim
Exclamation Dual-*forget-just did there. Cave-in we two*-Agent

ḍɔwa   bawa balil.
Possessive Dual *boy* initiation stage
Oh no! You and I just forgot about him there. We two (left) *our
balil-boy in the cave.*

The setting of this illustration is that mother, father and son had gone fishing. The boy went to sleep in a cave and had been left there by his parents. In speaking to each other, the parents used the Dual form of the pronouns and pronominal prefix.

Ex.40   The Inclusive:

in-a-n-amba-mudu-φ   ala giñiŋgi-ḍina aridil-ŋan bunḍa
He-give-did-Sequ-Inc-*him son his-own   Inc-for   all*
And He gave His own Son for us all.

This is part of a Gospel sermon given by a Baṛdi man and his use of the Inclusive is seen here to good effect, supplemented by the bunḍa *all*.

Ex.41   The Exclusive:

ɖawal giñiŋgi baw-ara-b-aŋar-ala-na-na   arudu
Story this   child-time-Relat-Exc-walk-Durat-did Exc
This story is about what we used to do in our childhood.

The elderly informant was relating to me an incident from his child-
hood. I, the addressee, was of course excluded from the action of the
narrative.

L.3.   +N ⟶   [γFeature, ±Sing]

Nouns are not inflected for number, gender or case. Apart from the
special instance of Vocatives[1], which are outside the scope of this
study, Nouns are assumed to be inherently marked [+III] for Person.

However, it is necessary to include a feature for nouns to express
Number. Some nouns are inherently singular and some inherently plural
and this factor has to be accounted for in the Lexicon to safeguard
correct agreement between such a noun and its corresponding pronominal
affix. The word for *people* - amburiñ - is a compound from amba and
ɔrañ, that is, *man* and *woman* and it must always be marked as [-Sing].
Notice the agreement in Ex.43, first with *people* as the object of the
verb *to fight*, and second as subject of the verb *to put*.

Ex.43   Text Line 63:

amburiñ in-ambañi-na-r   giñiŋg-amba iŋara-ma-na-∅. . .
People he-fight-did-them that-is why they-put-did-him. . .
He fought with those people, that is why they put him. . .

All other nouns can be used grammatically with either singular or
plural pronominal affixes. For instance, ɔrañ can signify either *woman*
or *women* as in the sentences of Ex.44:

Ex.44

a) Singular:

in-g-aḷarbu-nɖ-∅   ɔrañ-nim
She-Class-winnow-Pres-it woman-Agent
The woman is winnowing it.

---

[1]The label 'VOCATIVE' was introduced in the foot-note on page 22 as a category which
would have to be included within a full grammar. It is capitalised to foreshadow a
transformational process which would cover the matter of agreement between the party
addressed and the 'vocative', that is, second person verbal affix. An example of this
is given in the sentence:

Ex.42

amb- yi   ana-ŋayidim-a-∅ bigibigi
Man-Exclamation you-hit-Proj-it pig
Hey, man! Hit the pig!

b) Plural:

ir-aḷarbu-nḏ-∅   *ɔṛañ-nim*
*They-winnow-Pres-it women-*Agent
The women are winnowing it.

The other marker used to specify nouns is [γFeature]. This is an attempt to compromise between, on the one hand, the inherent difficulties and the practical usefulness of a 'Chomskyan' system of features[1] and, on the other hand, accepted universal categories versus language particular necessities. The Aspects system has been convincingly questioned, and there is a recent tendency to abandon it altogether.[2] However, in coming down to the practicalities of analysing a particular language and in seeking to present rules which will, as far as possible, produce only the 'acceptable' sequences, some sort of feature system becomes essential. Although in Baṛdi there is not the same multi-referential problem highlighted, for instance, in Bolinger's treatment of English words such as *bachelor* or even *soup* (1965:555ff;566f) there are complex problems in other areas. Illustration is provided by two areas of Baṛdi sacred life - age-grades and ceremonial dancing. Through the age-grade system, Aboriginal youths are gradually introduced into the sacred and secret beliefs, privilege and participation. To ensure correct relationships between agent and action, for instance, age-grade names and verbs denoting actions acceptable for that age-grade would have to be mutually marked to allow appropriate lexical insertion. With reference to ceremonial dancing, different verbs for *to dance* are used according to the ceremony being performed. Further still, each major ceremony has its own peculiar verb denoting the commencement of dancing.

---

[1]Modifying an Aspects model for syntactic features, these, or similar rules would have to be added under Rule L.3:

(i)	+N	⟶ [±Common]
(ii)	+Common	⟶ [±Count]
(iii)	+Count	⟶ [±Concrete]
(iv)	−Common	⟶ [±Personal]
(v)	+Concrete	⟶ [±Animate]
(vi)	+Animate	⟶ [±Human]
(vii)	−Count	⟶ [±Abstract]

[2]No attempt will be made to outline the relevant literature, which is now considerable. Two important studies will be mentioned only. Bolinger (1965) examined the marker system and its development especially in Katz and Fodor (1963), and showed up serious difficulties inherent in its logical application. McCawley (1968a and 1968b), and the 'generative semanticists' generally claim that Chomskyan selectional features have no place in the Base but are semantic in nature and cannot be determined through syntactic relationships. See Lang (1971:5ff) for a comprehensive discussion of 'features'.

Over the range of the whole language, the number of specialised markers
would be legion and it would be almost an impossible task to delimit
every one and present it within a unified framework. This has led to
the compromise suggested by Rule L.3, where the noun is marked, simply
[γFeature]. γ is unspecified and potentially infinite in range.
However, the γ markers on any interdependent noun and verb sequence
must correspond. Such features would be introduced into the lexical
entries wherever they become necessary. For instance, the Lexical Entry
6.5, gives a highly restrictive γ feature. The verb lur *to light a
fire* is marked, [+_____N:nuru]. That is, it must take an object and
that object can only be the noun nuru, *fire-wood*. I have no recorded
case where nuru does not occur in the surface following this verb.

In fact, the great majority of sequences can be adequately controlled
by an Aspects system as set out in the foot-note on the previous page and
this system is utilised with the Lexical Entries. Such a set of features
is more or less accepted as language universal and thus need not be
stated in the description of every specific language. The γ marker
would then represent language particular requirements.

L.4.   VbNuc ⟶   [(+Pre-Stem (+Action Change)),
                        +Class (+PartRedup) +VbS
                        (+TransitV),
                        (+ObligRetro),
                        (+Impers),
                        (+Irreg:n),
                        +N:_____, ±_____N:]

By Rule L.4, the Complex Symbol, Verb Nucleus, is specified by the
following features:

It is obligatorily specified by its Class, the Verb Stem [+VbS], the
noun or class of nouns which may occur as its subject [+N:_____], and
the presence or absence of an object noun or class of nouns [±_____N:].
It may also be specified by a Pre-Stem, in which case the feature
[+Action Change] may follow; by a feature Transitional Vowel
[(+TransitV)]; by a feature Obligatorily Retro-active [(+ObligRetro)];
by a feature Impersonal [(+Impers)]; and by a feature Irregular, which
itself is identified by a numeral [(+Irreg:n)].

This appears to be a complex rule but, in fact, all the non-
obligatory features together would only involve a small proportion of
Bardi verbs. The components will be taken one by one and discussed,
commencing with the obligatory features.

L.4.1. The Verb Stem

The Verb Stem expresses the meaning content of the action expressed, except in some cases where a Pre-Stem has neutralised the semantic significance of the ancillary Stem (see L.4.4.1.(1)). The derivation of a limited number of Stems is apparent, but it does not seem possible to trace the origin of the great majority. Some are formed from other roots. The Stem for *to become bogged* alaḍ almost certainly comes from the roots al *to go* and aḍ *to go inside*. The Stem for *to cook* is mar while the Stem ŋɔyi-mar means *to cook in a bush over*, although the meaning of the root ŋɔyi is uncertain. The common word for *meat* is aḷi and this can be widened in reference to be used as a generic tense for *food*. The related verb *to eat* has the Stem aḷ.

Two types of Verb Stem exhibit peculiarities with regard to their vowel systems. Some b- and g-Class Stems have the morphophonemes (capitalised) U and A. For example, g+UdAl *to lose*, and b+U *to spear, to give needles*. This device is to bring into operation the phonological rule M.6, which controls the alternation between the vowels a, u, and ɔ.

Other Stems display the morphophoneme I but they are members of the ɖ-Class. For instance, ɖ+Igur *to make a catamaran*, and ɖ+Iduṛ *to knock accidentally*. The morphophoneme I activates the Rule M.6, which controls alternation between the vowels u and i.

Apart from phonological verb classes denoted by the four Class markers (as discussed in the next section), Verb Stems can be divided into Transitive and Intransitive types. Generally, the two types of Stems are grouped in mutually exclusive sets. That is, the Stem for the Transitive verb *to frighten* ŋulm is quite different in form from the Intransitive verb *to be frightened* aṛg. (See discussion of Action Type).

L.4.2. Class

Every verb has a Class marker. There are four markers, one of which is realised as a zero morpheme. It is possible with the majority of Verb Stems to predict which Class marker they will take as most relations are phonologically defined. However, the number of unpredictable markers is significant enough to force a listing of them as the first obligatory feature preceding the Verb Stem. In view of this

degree of unpredictability and the fact that the different Class markers
do not have any particular semantic significance, the four markers, in
effect, form the basis for the division of the Stems into four phono-
logical classes: ∅-Class, b-Class, ɗ-Class and g-Class.

The following principles determine the Class for the majority of
verbs:

1. All consonant-initial Stems are ∅-Class. All intransitive
∅-Class Stems are consonant-initial. However, some 15% of transitive
∅-Class Stems are vowel-initial, and it is impossible to predict their
class on a phonological or semantic basis. For instance, and *to pick
up* (an object) is ∅-Class, whereas the homomorph and *to scratch*, is
g-Class. aɾg *to pick up* (a person) is ∅-Class, while aɾg *to be
frightened* is an intransitive ɗ-Class Stem. iriḷa *to wave* is ∅-Class
and iril *to fly* is b-Class.

Although the ∅-Class is larger than any of the other Classes, only
a limited range of consonants - l, ḷ, m, ŋ and ɾ - have been found to
commence Stems. The Stem for *to take up* is ñ, but this consonant does
not commence any other Stem. The reasons for much of this restriction
are apparent in that none of the consonants which can occur as
contiguous prefixes to the Stem are utilised Stem-initially. Thus the
Class markers, the plural Number morpheme r, and the semi-consonants w
and y (see Rule M.5.4.) have not been found to commence a Verb Stem.

2. ɗ-Class Stems commence with a, i or u, but not with ɔ.

3. With two exceptions, b-Class transitive Stems commence with the
morphophonemes A or U. The exceptions are b+ilir *to rock to and fro*,
and the zero Stem b-Class verb meaning *to hit*. Further, the majority
of intransitive Stems of this Class commence with A or U, but a-, i-
u-initial Stems are found. For instance, umar *to shiver*, alal *to squat*
and ilg *to blow, of wind*.

4. The predictability problem arises with reference to the
morphophoneme-initial Stems due to the fact that g-Class Stems also
frequently commence with A or U. For instance, compare b+UlŋAɾ *to drag*
with the Stem g+UlAɾ *to fill*, and further, g+UlUrb *to answer a challenge*
with b+Ul *to come out*.

No g-Class Stem commences with an i, and every intransitive g-Class
Stem, with one exception, is a-initial. The exception is g+ɔl *to wear*.

This discussion points up the need to include the Class marker as a
feature in the Lexical Entries of all verb Stems.

For practical purposes, verbs will be identified by stating their
Class marker plus their Stem, except in the case of ∅-Class verbs which
will be identified simply by stating their Stem. Thus and is *to pick
up* (an object) while g+and is *to scratch*; mal is *to be burned*, ɗ+al

is *to see* and g+al is *to walk*.

L.4.3. The Transitional Vowel

With eight exceptions, Verb Stems end in a consonant. Every
consonant-final stem, apart from those ending with ɾ, is followed by a
Transitional Vowel in the Lexical Entry of the verb, although this may
be later deleted by Rule M.12.3. r-final Stems assimilate to the
following consonant of the Auxiliary (see Rule M.10), making a
Transitional Vowel unnecessary.

As with the Class markers, the Transitional Vowels are predictable
phonologically in the majority of cases. But again, there are enough
exceptions to make it necessary to include the Vowel as a feature in
the verb Lexical Entries.[1]

There are certain phonological principles upon the basis of which
some 75% of the Transitional Vowels can be predicted. These will now
be given and exceptions to them discussed:

1. b-final Stems take u as their Transitional Vowel. This
relationship is phonologically explicable in that the sequence from a
bi-labial consonant to a rounded vowel occurs frequently. For instance,
maḷamb+u *to chip with a tomahawk*, ḏ+ayib+u *to ask for* and ŋunb+u *to sink
down*.

2. Stems ending in the apico-domals ḍ, ḷ, ṇ and the bi-labial and
dorso-velar nasals m and ŋ take a as their Transitional Vowel. The
relationship between these consonants and the low, open, central,
unrounded vowel a is consistent phonologically. For instance, g+alaḍ+a
to be bogged, g+alal+a *to follow*, b+AlAm+a *to mix up* and b+UlUŋ+a *to
come in, of tide*.

3. Stems ending in the lamino-alveolars ḏ, ñ, ȶ,and the apico-
alveolars d, n, l, r and the dorso-velar g take i as their Transitional
Vowel. Again, the phonological relationship between the high, close,
front, unrounded i and the alveolar consonants is predictable. However,

---

[1]Precedent for this type of feature can be found in Chomsky and Halle (1968:39) where
a closely parallel English anomaly is discussed. In view of the derivational pairs:
proverb-proverbial versus habit-habitual and tempest-tempestuous, the authors say:
'The underlying forms must be represented in the lexicon in such a way as to indicate
that they take the stem-forming augment [i] or [u] in their derived forms. A natural,
and apparently the simplest, proposal is to enter these words in the lexicon in the
form professor + i, habit + u, etc. ...'

the g+i sequence cannot be so accounted for. It is well attested as in
the verbs ḏ+aṟg+i *to be frightened*, b+ilg+i *to blow, of wind*, b+Aŋg+i
to claim, miŋg+i *to choke* and ḏ+al̠g+i *to hide*. Examples of the alveolar
consonant final Stems are: ŋañ+i *to refuse*, mirɔnḏ+i *to explain*,
b+Arḏad+i *to distrust* and ḏ+ugul+i *to break*.

Many of the Transitional Vowels which do not conform to the above
principles have been affected by two factors in particular:

1. Vowel Harmony. In many of these verbs the Transitional Vowel
corresponds with the vowel or vowels of the Stem. For instance, ṟimb+i
to land, b+UdUg+u *to stamp off*, g+andar+a *to roll, of waves*, and
ḏ+ilil+i *to lick*.

2. Derivational History. In a small number of cases it seems
probable that a verb Stem has been derived from another part of speech
and the Transitional Vowel has been carried over into the Verb Nucleus.
The verb *to eat* appears to have been derived from the noun for *meat,
food*, al̠i. The Stem is al̠ and the i has been retained as the Trans-
itional Vowel against the phonological pattern. The same process probably
operates with the verb g+aḍ+i *to enter*, which seems to have been derived
from the noun for *cave*, gaḍini.

However, there still remains a small set of verb Stems which take
Transitional Vowels for which no explanation can be offered at present.
For instance, ḏ+arg+u *to shave*, b+ariñ+a *to fall* and ṟiñ+a *to instruct*.

B.4

L.4.4. The Pre-Stem

The Pre-Stem is one of the most interesting features of the Baṟdi
verb. Approximately one third of all verbs employ a Pre-Stem and
evidence will be presented to suggest that they represent the most
dynamic and fastest growing area of Baṟdi speech.

L.4.4.1. The Pre-Stem modifies, shares or completely carries the
meaning of the verbal expression in which it occurs. Apart from
reduplication, it is invariable in form. It occurs as a free form and
is followed by a verb Stem which is inflected in the 'normal' manner.[1]

_____

[1]C.f. similar structures in Young (1964:71,78) and Coate (1970:54ff). Bolt, *et al.*
(1971:42, 88ff) describe a close parallel in the Ngaliwuru Aboriginal language. They
speak (page 88) of 'the use of a preposed particle with a conjugated verb which . . .
assumes the function of an auxiliary.' (Emphasis mine)

The affix-carrying verb Stem will be referred to as the 'Ancillary' verb. The relationship between the Pre-Stem and its ancillary verb forms the basis for a three-fold division of Pre-Stem type:

1. The Meaning-bearing Pre-Stem

In this type, which is by far the most common, the semantic force is carried entirely by the Pre-Stem and the semantic significance of the ancillary verb is completely neutralised. With these expressions, the ancillary simply acts as an affix bearer thus allowing the same versatility to the Pre-Stem verbs as to the 'simple' verbs. Six of the most common of Baṛdi verbs account for about 90% of the ancillary expressions. These are the verbs m+a *to place*, ñ+a *to take up*, g+ɸ+a *to carry*, ḍ+l *to say*, ḍ+iḍ+i *to go, walk* and, *surprisingly*, aṛ *to look for lice*. The final ancillary is so out of character that an obsolete homomorph must be posited.

The following set of Pre-Stem verbs gives examples of the use of each of these main ancillaries. As can be readily seen from the glosses, the Pre-Stem bears the meaning of the expressions. The meanings of the Pre-Stems and, therefore, of the whole verb are given along with the meanings which the ancillaries would carry if they were standing alone. Inflected examples show the affix-bearing function of ancillaries:

Ex.45

Pre-Stem	Ancillary
a) rawin	guŋ-ara-ma-na-na
Walk	*You*-Plur-*place*-Durat-*did*
	You all kept walking.
b) ḍiñba	ŋangi-ñ-a-ḍin-ɸ
Avoid weapon	*I-take up-will-from him-it*
	I will avoid his weapon.
c) ṛuḍ	an-aŋg-iḍ-ir
Pass	Dual-*carry*-*did*-*them*
	You and I passed them.
d) gudgud	in-ḍu-na-na
Crouch	*he-say*-Durat-*did*
	He was crouching.
e) duᴵ	ir-ḍidi-nḍ
Dump, of waves	*they-walk-are*
	The waves are dumping.

Pre-Stem	Ancillary
f) � ꝺul	an-aṛ-a

f) ꝺul   an-aṛ-a
   Kneel   *you-look for lice(?)-Imperative*
   Kneel down!

From this point on, neutralised ancillary verb Stems will be glossed
as ϕ. For instance, verb (f) above, would appear:

f) ꝺul   an-aṛ-a
   Kneel   *you-ϕ-Imperative*
   Kneel down!

2. The Meaning-modifying Pre-Stem

With this type, the Pre-Stem modifies or supplements the meaning of
the ancillary so that the meaning of the total verb is related to that
of the ancillary but is a development from it. For examples, there
follow a number of onomatopoeic Pre-Stems which describe various noises
and which take as their ancillary the verb ꝺ+l *to say*.

Ex.46

Pre-Stem	Ancillary

a) dumbul dumbul   in-ꝺu-na-na
   Turtle hitting water in love-play *it-say-Durat-did*
   The turtle was hitting the water in love-play.

b) dudul   in-ꝺu-na-na
   Knocking noise   *it-say-Durat-did*
   It kept on making a knocking noise.

c) dalar   in-ꝺu-na-na
   Light noise of rattling   *it-say-Durat-did*
   It kept up a light rattling noise.

d) ꝺambal ꝺambal   in-ꝺu-na-na
   Smacking noise while eating   *he-say-Durat-did*
   He was making a smacking sound while he was eating.

e) dadur dadur   in-ꝺu-na-na
   Crunching noise while chewing   *he-say-Durat-did*
   He was making a crunching sound while he was chewing.

3. The Meaning-sharing Pre-Stem

Here the ancillary verb shares the same or similar meaning to the
full Pre-Stem expression with the Pre-Stem reiterating or specifying

the meaning of the ancillary:

Ex.47

a) The verb g+aḍ means *to enter, to drown*. When preceded by the Pre-Stem luḷ the meaning of *entering* is specified.

b) The verb g+al can mean *to walk about* or *to live*. If it is associated with the Pre-Stem ḍamaḷ, it bears the former meaning, but if associated with giṛ it bears the latter.

c) The verb ḏ+al means *to see, look*. However at times it is preceded by the Pre-Stem buṛ with little apparent change in meaning.

L.4.4.2. Although the origin of some of the Pre-Stems is not apparent, the source of many others is not difficult to trace. For illustration in this section, the Pre-Stem will be given followed by the Class and Stem of the ancillary verb.

1. Many are onomatopoeic.
Ex.48

ḏubuḷ ḏubuḷ ḏ+l expresses the action of *sloshing* through shallow water.

gɔṛ gɔṛ ḏ+l describes someone *chomping* on capsicum or some similar food.

biʈ biʈ g+al is the *skipping* of fish across the water.

buruḷ buruḷ aṛ means the *boiling* of water.

dilaṛa dilaṛa ḏ+l is the *ringing* of bells.[1]

2. Pre-Stems are the source of the majority of verbal borrowings.
Ex.49

bulawayi ḏ+l is to *pull away* in rowing.

galawayi ḏ+l is to *skull away*.

bulayi   ḏ+l is to *play* (especially card games).

di:l   ḏ+l is to *deal* cards.

bañ   m is to discharge (*bang*) a firearm.

Ex.50 In one highly Anglicised story concerning a motor journey, the following set of loan words was recorded:

fix-im-up	m	*to repair*
pass-im	g+∅	*to overtake*
push-im	m	*to push*
lift-im	m	*to lift up*
cut-im-up	ñ	*to cut up*

Each of these ancillaries was appropriately inflected.

---

[1] See Worms (1938:164ff) for further examples of onomatopoeia.

3. Nouns may act as Pre-Stems.

Ex.51

An interesting compound, where the meaning is derived from both constituents, is the verb *to miss* (with a spear, rifle, etc.). The Pre-Stem is buṛu meaning *ground* while the ancillary is the verb ŋayidim, which means *to hit*. Thus *to miss* is, quite appropriately, *to hit the ground*.

ɔla means *water*. When followed by the ancillary aṛ, it means *to rain*.

liyan signifies *the seat of the emotions*, while in conjunction with the ancillary ñ it means *to desire*.

4. Adjectives can act as Pre-Stems.

Ex.52

gɔṛna is *good, well*; gɔṛna ɖ+l is *to feel happy, to be in good spirits*.

alig means *bad, weak*; alig ɖ+l is *to feel weak, to be beaten*.

buda means *correct, proper*; buda buda m is *to correct, to fix up*.

5. Adverbs may be utilised as Pre-Stem as distinct from their 'primary' function of modifying verbal action.

Ex.53

wawi is *across*; wawi m is *to cut across*.

baḍa is *away*; baḍa plus the ancillary ɖ+l *to say* means *to go away*.

bɔngɔñi means *in that direction*, but with the ancillary m its meaning is *to turn around*.

The fact that loan words, onomatopoeic expressions and almost any part of speech can function as a Pre-Stem makes Pre-Stem verbs the most dynamic, creative and rapidly expanding area of the Baṛdi language.

L.4.4.3. Action Change   REFERENCE:
                                                            T.7.2

The most common Pre-Stem expressions are, in the great majority of cases, intransitive and many are verbs of motion and state. This raises a difficult problem in that the main ancillary verbs are all transitive when they stand alone, and the matter of transitivity determines a part of the derivation of the inflected verb. (This whole matter will be fully taken up in the discussion of Rule T.7.2). To safeguard the correct derivation of the ancillary with such intransitive Pre-Stems, the feature [+Action Change] must be inserted as part of the Lexical Entry of the particular verb.

L.4.5. Partial Reduplication

Some verbs must be marked 'Partial Reduplication' because only part
of their Stem is repeated to express intensity of action. Reduplication
is again predictable in most cases. The following principles govern
practically all reduplication: (Note that the repeated element is
prefixed to the Stem).

1. Pre-Stems are always fully reduplicated. Partial reduplication,
then, applies only to verb Stems.

2. Two phoneme Stems are fully reduplicated. These would be either
V(owel) C(onsonant) or CV syllable patterns.

Verb	Meaning	Reduplicated Stem
g+am	*to laugh*	am-am
b+Al	*to make* (a small object)	Al-Al
mi	*to look around for*	mi-mi
du	*to turn over*	du-du

3. VCC Stems are fully reduplicated.

Verb	Meaning	Reduplicated Stem
g+añb	*to vomit*	añb-añb
aɽg	*to pick up* (a person)	aɽg-aɽg
ð+inb	*to think*	inb-inb

4. CVCC Stems are fully reduplicated, with the Transitional Vowel
coming between the repeated element and the Stem.

Verb	Meaning	Reduplicated Stem
land	*to sit, stay, anchor*	land-a-land
miñd	*to receive*	miñd-i-miñd
lulm	*to put right*	lulm-u-lulm

5. Most VCVC Stems are fully reduplicated, as with:

Verb	Meaning	Reduplicated Stem
ð+ayib	*to ask, especially a question*	ayib-ayib
ð+ulug	*to wash, clean*	ulug-ulug

However, this is not always the case, as with the following verbs in
which only the first syllable is repeated:

ð+idiŋ	*to touch, feel*	id-idiŋ
g+UdAl	*to disappear*	Ud-UdAl

6. Most CVC Stems are fully reduplicated, as with:

Verb	Meaning	Reduplicated Stem
maḍ	*to build*	maḍ-a-maḍ
ŋañ	*to refuse*	ŋañ-i-ŋañ
lum	*to approach*	lum-a-lum

However, a small number of verbs reduplicate only the first CV, as with:

muṟ	*to waste*	mu-muṟ

7. All CVCCVC and CVCVC Stems are reduplicated fully apart from the final consonant.

Verb	Meaning	Reduplicated Stem
liñgan	*to try out*	liñga-liñgan
maŋgad	*to leave* (a person)	maŋga-maŋgad
miŋar	*to miss, not find*	miŋa-miŋar

8. In two-syllabled Stems where the first syllable is VCC and the second commences with a vowel, only the first syllable is reduplicated. These are mostly of the pattern VCC+VC, although one instance will be given of a VCC+VCC Stem:

Verb	Meaning	Reduplicated Stem
b+AndAm	*to stop, especially a fight*	And-AndAm
undur	*to cut across*	und-undur
algam	*to move*	alg-algam
b+ArgAnd	*to wrap, tie, roll up*	Arg-ArgAnd

A development of this principle is shown in the tri-syllabled Stem ararbal *to drop*, which has the reduplicated form ararb-ararbal. However, Stems this complex are rare.

9. These principles cover most verb Stems. However, because of the unpredictability of some Stem types and the complexity of the processes, any partial reduplication will be entered as a feature to the particular verb. A further complication is added by the fact that a small number of verbs do not seem to follow any pattern in their reduplication. For instance, ŋayidim *to hit* becomes ŋayidim-ayidim[1] and alaḍ *to be bogged* becomes alaḍ-ad.

L.4.6. Obligatorily Retro-active Verbs   REFERENCE: ____

                                                                T.8

A small set of verbs must be marked 'Obligatorily Retro-active'. These are the verbs which always appear in the frame $[+N_1\underline{\quad}, +\underline{\quad}N_1]$ -

_____

[1]This Stem is probably from the English *I*(ŋay)*hit*(id)*him*(im).

where the [NP,S] and [NP,PredP] are identical. Thus, they must undergo
the Retro-action (Reciprocal or Reflexive) transformation, T.8, and
never occur in transitive forms.

L.4.6.1. The following verbs must be marked 'Obligatorily Retro-active'
because they are always Reflexive:

b+ind   *to put oneself forward, push one's own interests and importance.*
ilbiṛ   *to echo.*
g+UdAl *to disappear.* Literally and appropriately *to lose oneself.*

L.4.6.2. The following are examples of verbs which always express
Reciprocal action:

mand   *to embrace.*
b+iṛ   *to copulate.*
mal   *to even a score, to hit in return.*

L.4.7. Impersonal Verbs

   A limited set of verbs must be marked 'Impersonal'. These are verbs
which appear in the frame [+N:-Human____]. That is, verbs which cannot
take a human Subject. If the Subject is not human, where 'human' includes
beings which share human faculties (such as spirit beings or the 'shadow-
men' referred to in the Text), then it can only appear in the third
person.[1]
   Apart from the case of Passive Impersonals (see below), impersonal
verbs also appear in the frame [-____N]. That is, they are intransitive
verbs.
   There are four main categories:

L.4.7.1. There are meteorological verbs. For instance:

to blow, of wind   b+ilg
to rain   ɔla aṛ
to flood   b+Urŋ
to roll, of waves   g+aṇdaṇdar

   This is by far the richest source of Impersonal verbs.

L.4.7.2. There are inanimate source verbs.

to ricochet   birbaḍ ð+id
to echo   ilbiṛ

_____

[1] This is referring to 'real world' categories. When pressed, for instance, one
informant gave first and second person forms for the meteorological verb *to blow, of
wind.* However, this was on the basis of an imaginary situation of a personified wind
speaking. There is also a legend concerning some people who were changed into dugongs
with human faculties.

The verb *to echo* would have to be marked with both [+ObligRetro] and [+Impers].

L.4.7.3.   There are animal-agent verbs.

to come up for breath, of dugongs   mad
to fly, of birds and aeroplanes   b+iril
to hover, of birds   balbal ñ
to cast off the skin, of snakes   b+unug

The final example would also be featured [+ObligRetro, +Impers], as it is expressed Reflexively.

L.4.7.4.   There are passive impersonal verbs.

There is no surface passive construction in Baṛdi and this interesting set of verbs is the closest approach to a passive. There is a 'dummy' element in the Subject NP which functions as an impersonal source of the action. The recipient of the action is specified either by the Object pronominal suffix or the Referential pronominal suffix.

Ex.54 The verb *to choke* is miŋg. To express *I was choking (yesterday)* the Baṛdi would say: *Something was choking me yesterday* ini-miŋgin-ḏarŋayu. Analysing the verb more closely:

[NP,S]		VbNuc		Aux		[NP,PredP]
ini	–	miŋg	–	inḏ	–	ḏarŋayu
Impers Source		*choke*		Durat/Mid Perf		*me*

Something was choking me (yesterday).

In some cases the impersonal source is identified as with this verb:

iri-miŋgi-n-ḏi
They-choke-Pres-you
You are being choked by them (some pieces of meat).

Ex.55 The verb Stem b+Añ provides an interesting case. When used transitively, it simply means *to finish off, to complete an object*. When used intransitively, it becomes an impersonal verb and usually means, *to finish an activity*. It is used, for instance, to express the conclusion of a ceremony but it is framed in a passive sense. *They finished* is expressed, *it finished for them*, with the actors being specified by a Referential pronominal suffix. The following example points up the distinction. *I will finish them (some objects) tomorrow*, is contrasted with *I will finish (an activity) tomorrow*: ŋɔngɔñar versus uŋgɔñaḏan.

a) [NP,S]   VbNuc   Aux   [NP,PredP]
    ŋɔŋg   –   ɔñ   –   a   –   r
    I   *finish*   *will*   *them*
    I will finish them (some objects).

b) [NP,S]   VbNuc   Aux   Referential Suffix
    uŋg   ɔñ   a   ɗaŋ
    Impers   *finish*   *will*   *for me*
    Source
    I will finish up (tomorrow).

L.4.8. Irregular Verbs

Some of the most common Baṛdi verbs exhibit a limited range of
irregularity, mainly in the form of abbreviations of the 'regularly'
derived structures. Such verbs are marked [+Irreg:n]. All the most
common irregular verbs are set out in Section 6.1, and the 'n' refers
to the number of the verb in this Section.

L.4.9. The Subject Frame

The feature [+N:_____] specifies the class of nouns which can fulfil
the [NP,S] function for that verb. The colon indicates that the noun is
specified according to the conventions presented in Section L.3, con-
cerning the noun feature system. Almost all Subject NP nouns will be
marked [+Human] or [+Animate], where the verb can take an animal Subject.

L.4.10. The Object Frame

The feature [±_____N:] specifies both the type of action and the type
of noun which can fulfil the [NP,PredP] function. The feature [+_____N:]
indicates transitive action, while [-_____N] indicates intransitive action.

B.9.1

L.5.   Temporal Adverb ⟶ [±Tense]   REFERENCE:_____

T.16.1

Rule L.5 adds either the feature [+Tense] or the feature [-Tense] to
the Temporal Adverb.

If it is negatively marked, the adverb has no effect upon verb
morphology. If it is positively specified for Tense, it governs the
same tense in the verb auxiliary.

This matter of government was foreshadowed and illustrated in outline
under Rule B.9.1 and will be taken up in fuller detail when the relevant
agreement rule, T.16.1, is introduced.

L.6.   Aspect ⟶ ±Durat   REFERENCE:

Every tense has two Aspects, expressing either Durative or non-Durative action. The Durative morpheme is n which is suffixed to the verb Stem, immediately preceding the Tense marker. This is with the exception of the Middle Perfect auxiliary where the Durative marker is infixed within the tense morpheme. The non-Durative marker is a zero morpheme.

In the following examples, Durative and non-Durative action will be contrasted.

Ex.58

a) Non-Durative   Durative

ŋang-arb-a-ri   ŋang-arbu-n-d̄-iri

I-send-Projected-*you*   *I-send*-Durat-Projected-*you*

I will send you (once).   *I will keep on sending you.*

b) The verb b+UndAr means *to bite* with the non-Durative Aspect. However, in the Durative, and usually associated with Intensity of action, the verb means *to chew*. This example uses the Middle Perfect to illustrate the infixing of the Durative morpheme.

Non-Durative   Durative

an-amb-und-ar-i d̄-∅   an-amb-und-undar-i-n-d̄-∅

Dual-Class-*bite*-Middle-*it*   Dual-Class-Intens-*bite*-Mid-Durat-*it*

You and I bit it (yesterday).   *You and I were chewing it.*

If an Auxiliary is unmarked for Aspect, that is, if only a Tense feature is given, the action is non-Durative.

L.7.   Tense   ⟶   ±Perf
L.7.1.   -Perf   ⟶   ±Pres
L.7.2.   +Perf   ⟶   ±Definite
L.7.3.   +Definite   ⟶   ±Contemp
L.7.4.   +Contemp   ⟶   ±Immed
L.7.5.   -Contemp   ⟶   ±Mid

L.7.   Tense

As indicated previously, Baṛdi Tense can be divided into either Perfect or Imperfect [-Perf] action - completed versus uncompleted activity. There are two Imperfect Tenses: Present and Projected, that is [-Pres], and five Perfect Tenses: Indefinite [-Definite], Immediate, Near [-Immed], Middle and Distant [-Mid]. Perfect Tenses cover a time depth from the remote times of creation and the ancestral beings right up to actions which have just been completed at the point of speaking.

The relationship which exists between the Present Imperfect and the Projected Imperfect Tenses in indicated in that they share the same Negative and Potential forms and that they are marked, in the Realis, by the same Tense suffixes (see Rule R.2), being distinguished by their prefixes.

L.7.1.   The Present Imperfect

As with many languages, the Baṛdi Present Tense is in almost every instance Durative in Aspect. The following example is made up of exerpts from a narrative concerning the social evils of drinking and gambling, almost all of which was related in the Present Durative (glossed as *do*):

Ex.59

aṛaŋ lugal ɔl   iri-ña-n-ø   galur-gudu.
Some bad   water they-take-do-it. Froth-kind = beer.

aṛaŋa guṛur ɔl   iri-ña-n-ø   alig
Others blood water = wine they-take-do-it. . . Feel ill

in-da-n   n-alma.   giñiŋgi-yunu ɔla.   gulbu gidi
it-ø-does his-head. That-from   liquor. Money then

i-wañi-n-ðir.   ir-gaṇbu-nði-n. . .
it-finish-does-for them. They-growl-Reciprocal-do. . .
Some procure bad liquor - beer. Others take to wine. . . His head
feels ill from that liquor. Then their money comes to an end. They
growl at each other. . .

L.7.2.   The Projected Imperfect

The term 'Projected' has been preferred to a more specific term because this tense expresses a considerable range in meaning. It expresses:

a) **Futurity.** Simple statements of expected future action.

b) **Determination.** The semi-obsolete distinction in English between futurity - *I SHALL go* - and determination - *I WILL go* is expressed by the same form in Baṛdi.

c) **The Desiderative.** *I WISH, DESIRE, HOPE to go.*

d) **The Imperative.** This was discussed in Section B.2.3. where it was pointed out that, although there is only one surface form, the Imperative has to be extracted transformationally from the other Projected action meanings because it is distinguished in its wider syntactic relations from them.

These types of Projected action are all represented in the following example taken from a tape recorded message concerning a projected trip to do with an initiation ceremony:

Ex.60

Friday-ara ungi-ñ-a-ø   bayi. giñiŋ-amba wayid
Friday-time he-pick up-Proj-it pay. That-is why wait

an-d-a-ɖada   aŋgiri-ñ-a-ø   gɔrɔrɔ almidan taxi
you-ø-Proj-for us we-pick up-Proj-it if   any way taxi

guna aŋgar-ay-amba-ø   bawa. . . ŋang-al-a-mba-gur.
there we-take-Proj Sequ-him boy. . . I-see-Proj-Sequ-you.
On Friday, he (my younger brother) will pick up [Futurity] his pay.
That is why you must wait for us [Imperative]. If, somehow, we can
pick up a taxi, we will take [Determination] the boy there. . . I
hope to see you all [Desiderative].

L.7.3. The Indefinite Perfect

The first division of the Perfect Tenses is between the Indefinite [-Definite] Perfect and the Definite Perfects. The Indefinite has only one form, marked by the suffix a. It is used to express any completed action in which the time depth is unknown, doubtful or irrelevant.

The following illustration is taken from a hunting story which an informant was asked to invent. For the first ten sentences, he apparently had not decided upon the time depth of the imaginary incident and this section is related in the Indefinite Perfect. From then on he recounted the story as if it had happened that day and, because of this choice, he consistently used the Near Perfect.

Ex.61

in-ꟈarm-a-ꟈan   ñunu   inu-ŋul-a-ŋayu.
He-came up-Indefinite-*for me there he-left*-Indefinite-*me.*

bindana.   ñalab in-ꟈaral-a. . .
Bush.   *There he-ran off*-Indefinite. . .
He came up for me (in the car, SOMETIME in the past) and left me
there in the bush. For there, he ran off. . .

L.7.4. The Contemporary Perfects

The Definite Perfect is sub-divided into Contemporary and non-
Contemporary Tenses. There are two Contemporary Perfects which correspond
in that they both refer to action which has taken place on the day of
speaking and in that they are both marked by the same suffix gal(ꟈ).
The two Tenses - Immediate and Near - are differentiated by their pre-
fixes. As with the distinction between Present and Projected Imperfect
forms, this illustrates the fact that Tense, in Baṛdi, is indicated by
both suffixes and prefixes.

L.7.5. The Immediate Perfect

The Immediate is a transitionary tense in both meaning and form. It
describes actions which have only just been completed. Thus, it is a
Perfect tense in that the action has actually ceased. However, because
of its immediacy, it impinges upon the Present and, in this way, performs
a linking function between the Perfect and the Imperfect. In form, the
Immediate shares morpheme classes with both Perfect and Imperfect tenses.
Its prefixing system is identical to that of the Present, while its
auxiliary suffixes are identical to those of the Near Perfect. In Ex.62,
it can be seen that the Immediate shares the prefixes a+r with the
Present, and the suffix gal with the Near.

Ex.62

a-r-ulugu-nꟈ-∅   a-r-ulugu-gal-∅   aŋ-ur-ulugu-gal-∅
We-Plur-*wash*-Pres-*it*   *We*-Plur-*wash*-Immed-*it*   *We*-Plur-*wash*-Near-*it*
We are washing it.   *We just washed it.*   *We washed it earlier.*

L.7.6. The Near Perfect

The Near expresses action which has taken place earlier on during the
same day. The illustration is taken from a hunting story. The narrator
is describing how he came upon a fishing party and, here, he lists their
catch for that day:

Ex.63

ɖabiaŋ iŋiri-ña-gal-ø   aṛa. baṛulu iŋar-andi-gal nidi.
Saw-fish they-take-Near-it one. Cat-fish they-catch-Near Quantitative.

ɖamba   guwiyara baramandi iŋuru-luŋ-gal-ir.   daŋgan aṛa
Sequential two   baramundi they-pull in-Near-them. Duncan another

baramundi i-ña-gal-ø
baramundi he-take-Near-it.
That day they had taken one saw-fish. The had caught many cat-fish.
Further, they had pulled in two baramundi. Duncan has taken another
baramundi.

L.7.7. The Middle Perfect

The non-Contemporary tenses are the Middle and Distant Perfects. It
is difficult to provide any exact division in time depth between these
two tenses. All that can be said is that the Middle expresses actions
which have taken place from 'yesterday' back through recent weeks and
that the Distant is used of actions in recent weeks back to the 'beginn-
ing' of time. However, the flexibility of this boundary is illustrated
in that, with narratives, events within the previous week are frequently
expressed in the Distant. In the following incident, a woman had just
lost her job through drunkenness. The narrator blamed the woman's way-
ward husband for 'driving her to drink'. Speaking on the day after the
sacking, the narrator says:

Ex.64

aṛinɖi alig   in-ɖuw-iɖ-ø   amba-nim   ɖin
Causal *make wrong he-ø*-Middle-*her husband*-Agent *her*

in-aŋgaṇbuw-iɖ-ø
he-growl at-Middle-*her*
It was because her husband made her go wrong in that he growled
at her (yesterday).

L.7.8. The Distant Perfect

The Distant is the tense of narrative. The Distant Tense morpheme
and its Durative Aspect morpheme are homomorphous, that is, na.
There is an extension of the Distant which demonstrates the close
relationship between tense and aspect in Baṛdi. On rare occasions, the
Durative Distant form of a verb is used to emphasise a 'pushing back' of

the time depth into the remote[1] times of the ancestral heros and the beginning of the society and its environment.

Lines 40 and 41 of the Text give examples of the Durative and non-Durative Aspects of the Distant Tense:

Ex.65

ñun   in-ɗala-na-∅   ŋuːɗin   iŋ-g-alg-algama-na-na   gaŋdi.
There he-see-Dist-it intentine it-Class-Intens-move-Durat-Dist on top
Up there on top he saw (non-Durative) an intestine which kept moving
about (Durative).

2.4. *LEXICAL ENTRIES (LE)*

In this Section, Lexical Entries will be supplied for:

1. Formatives which have come down fully expanded into the pre-terminal string of the Base, such as Conjunction and Adverb types and Postpositions.

2. Non-capitalised sentence-type markers. This only involves the Question formative within the scope of this study.

3. Complex Symbols, the realisation of which is not dependent upon the transformational component. That is, Nouns, Pronouns and Verb Nuclei.

Categories not represented in the Lexical Entries are the capitalised markers introduced through the Base Rules such as IMPERATIVE, POTENTIAL and INTENSITY, and Tense and Aspect morphemes which cannot be realised until their context is defined through transformational processes.. Morphemes for these categories are provided within the operation of the transformations, as with POTENTIAL and NEGATIVE, or by the Realisation Rules, which act as a type of 'extended lexicon', as in the case of the Auxiliary.

These entries are not 'rules' as such but they have been given the identification 'LE' because of their relevance to the operation of certain rules and for ease of reference.

The Text has been used as the source for a 'sample' of Lexical Entries in the case of Nouns, Verb Nuclei and Adverbs. A limited number of other items have been included where necessary, as with the Temporal Adverbs.

---

[1]In an earlier draft of this study, this extension was, in fact, termed the 'Remote Perfect Tense'. However, it is more appropriate to include it under the Distant Perfect.

	FORMATIVE	GLOSS	MORPHEME/WORD
LE.1.	Question		ŋanᶁa
LE.2.	Postpositions		
LE.2.1.	Comitative	*in company with*	ñar
LE.2.2.	Instrumental	*with, by means of*	$\begin{Bmatrix} ŋ \\ ŋa \end{Bmatrix}$
LE.2.3.	Purposive	*to, for*	ŋan
LE.2.4.	Ablative	*from*	$\begin{Bmatrix} ɔ \\ gɔ \end{Bmatrix}$
LE.3.	Adverbs		
LE.3.1.	Temporal		
	[+Dist]	*long ago*	milɔn
	[+Mid]	*yesterday, recently*	baᶁi
	[+Contemp]	*today*	banaŋgara
	[+Proj]	*tomorrow*	ŋuriᶁi
LE.3.2.	Quantitative	*many, intensely*	nidi
LE.4.	Conjunctions		
LE.4.1.	Sequential		$\begin{Bmatrix} ᶁamba \\ amba \end{Bmatrix}$
LE.4.2.	Purposive		aɾinᶁi-ŋan
LE.4.3.	Temporal		$\begin{Bmatrix} marab \\ maraba \end{Bmatrix}$
LE.5.	Nominals		
LE.5.1.	Pronouns [-N][1]		
	[+I,+Sing]	*I, me*	ŋayu
	[+II,+Sing]	*you*	ᶁu
	[+III,+Sing]	*he, she, it, him, her*	giñiŋgi
	[+Dual]	*you and I, you and me*	ayu
	[+Inclusive]	*we, us*	aridil
	[+Exclusive]	*we, us*	arudu
	[+II,-Sing]	*you all*	gur
	[+III,-Sing]	*they, them*	ir

---

[1]Interesting parallels can be drawn with the pronominal forms of certain Northern Territory languages. For instance, identical forms, such as gur for the second person plural, the separating of the Dual from the Plurals, and the marking of Plural forms by the morpheme r, are all found in Djingili (Chadwick 1967:224f) and Djamindjung and Ngaliwuru (Bolt *et al.* 1970:594ff).

FORMATIVE	GLOSS	MORPHEME/WORD
LE.5.2. Nouns [+N]		
[-Animate]	*divining peg*	yandal
[+Animate]	*shadow-man, spirit of doctor-men*	miṟurunu
[+Human]	*people*	ambuṟiñ
[-Animate]	*camp, shade*	bali
[+Human]	*murderer*	gaṇabini
[-Animate]	*foot-print*	ninbil
[-Count]	*time*	buṟu
[+Personal]	*Loki bin Sali*	lagi
[-Concrete]	*day, sun*	a:lga
[-Animate]	*intestine*	ŋu:ɟini
[-Animate]	*marsh*	bi:nba
[+Human]	*brother, one of same generation level*	alguṟu
[+Human]	*mother*	biri
[+Human]	*father*	gulu
[+Human]	*old woman, women* (Eng.)	uluman
[-Count]	*social deviance, (humbug)*	ga:l
[-Count]	*teasing*	ɟidɔ

LE.6. Verb Nuclei

Unless a Subject frame is given as a feature to a Verb Nucleus, it is assumed that the Nucleus is marked +N:[Animate]____. Text numbers are given below the LE number for each verb.

	ENTRY	GLOSS
LE.6.1. (1)	[m+a, +___ :[+Count]]	*put, place*
LE.6.2. (3)	[ɟ+ib+i, -___N]	*die*
LE.6.3. (4)	[b+Añ+i, -___N]	*finish, die*
LE.6.4. (5)	[g+ɸ+a, +___ N]:[+Concrete], +Irreg:1]	*carry, take away*
LE.6.5. (8)	[lu+lur+u, +N:[+Human]___, +___N:nuru]	*light a fire*
LE.6.6. (9)	[ɟagud +Action Change, ɟ+l, -___N]	*return*
LE.6.7. (10)	[g+ạd+i, -___N]	*enter, go down*
LE.6.8. (11)	[b+U, +N:[+Human]___, +___N:[+Animate], +Irreg:2]	*spear, kill, give needles*

74

	ENTRY	GLOSS
LE.6.9. (13)	[ŋurub+u, +___N:[+Animate]]	*chase, follow*
LE.6.10. (15)	[ɗ+lḷŋ+a, +___N:[+Count]]	*tell, send*
LE.6.11. (16)	[biṛar, ɗ+l, +___N:[+Animate]]	*leave behind*
LE.6.12. (17)	[rawin +Action Change, m+a, -___N]	*walk, travel*
LE.6.13. (18)	[giṛ, g+al+a, -___N]	*stay, reside*
LE.6.14. (19)	[daga +Action Change, ɗ+l, -___N]	*sleep*
LE.6.15. (20)	[ɗ+arm+i, -___N]	*rise up*
LE.6.16. (21)	[dar +Action Change, aṛ, -___N]	*arrive, come up*
LE.6.17. (22)	[ɗ+al+i, +___N:[+Concrete]]	*see, look at*
LE.6.18. (23)	[buṛ, ɗ+al+i, +___N:[+Concrete]]	*see, look at*
LE.6.19. (28)	[mar +Action Change, ɗ+l, -___N]	*elapsing of time*
LE.6.20. (29)	[baṇ, ɗ+l, +___N:[+Animate]]	*address*
LE.6.21. (31)	[ɗ+l, +___N:[+Animate], +Irreg:3]	*address, say to*
LE.6.22. (30)	[ruwil +Action Change, ñ+a, -___N]	*walk, go off*
LE.6.23. (32)	[lagal, g+añ+i, -___N]	*climb*
LE.6.24. (33)	[land+a, -___N]	*sit, stay, anchor*
LE.6.25. (38)	[dab +Action Change, ñ+a, -___N]	*go up*
LE.6.26. (44)	[g+ɔnb+u, +___N:[+Animate]	*send*
LE.6.27. (45)	[di:l, ɗ+id+i, -___N]	*burst open*
LE.6.28. (47)	[ɗigir +Action Change, ɗ+l, -___N]	*peep*
LE.6.29. (49)	[g+alg+algam+a, -___N]	*move about*
LE.6.30. (50)	[ø+a, -___N, +Irreg:4]	*be, exist*
LE.6.31. (56)	[ŋaŋganmaḍ +Action Change, ɗ+l, -___N]	*try to stop*
LE.6.32. (57)	[ɗ+aṛg+i, -___N]	*be frightened*
LE.6.33. (58)	[ɗ+aral+a, -___N]	*run*

	ENTRY	GLOSS
LE.6.34 (59)	[yur +Action Change, m+a, -___N]	*go down*
LE.6.35. (60)	[arar Action Change, đ+l, -___N]	*stand about*
LE.6.36. (61)	[lirm+a, -___N]	*call out*
LE.6.37. (64)	[lamang+a, -___N]	*listen*
LE.6.38. (77)	[b+Añ+i, +___N:[+Animate]	*fight*
LE.6.39. (81)	[aṟg+i, +N:[+Human]___, +___N:[+Human]]	*pick up, carry (a person)*
LE.6.40. (86)	[mañ+i, -___N]	*wave*

3.0. THE TRANSFORMATIONAL COMPONENT

The Transformational Component is comprised of two sub-components –
the Transformational Rules and the Realisation Rules.

3.1. *TRANSFORMATIONAL RULES*

These Rules act on the terminal strings of formatives produced through
the operation of the Base Rules and after appropriate Lexical insertion.

3.1.1. Ordering

The transformations have been ordered and the ordering is critical for
most of the rules. As a general principle the verbal affixes have been
introduced in their order as they would occur from left to right. That
is, the verb-initial morpheme – the Subject prefix – is introduced first
and, apart from the early introduction of the Object suffix, all the
prefixing transformations are applied before the suffixing ones. The
choice of left-to-right ordering is arbitrary except that such a sequen-
tial development assists particularly in the formulation of Structural
Descriptions.

3.1.2. Obligatory/Optional

There is a tendency in recent grammatical description to ignore
optional constructions in that they express stylistic variations and are,
therefore, of secondary importance.[1] However, while minor variants in
Baṟdi verbal expressions have been omitted from consideration, there are
a number of optional constructions which must be comprehended if an

---

[1]See Chomsky (1965:127) and Dutton (1969:198f).

adequate account of verb morphology is to be given. These are the
constructions which introduce morphemes which, in turn, affect the
realisation of other contiguous morphemes. Thus, the optional Sequential
Conjunction (T.17.1.) and the Pronominal Suffix Relator (T.18.3.) must
be introduced because of their influence upon the realisation of any
pronominal suffixes which may follow.

3.1.3. 'Simple' versus 'Complex' categories

The transformational rules introduce certain syntactic categories,
such as Pronominal Affixes, Action Type, Relator, Associative Suffix and
Number. Wherever these categories are realised by a single morpheme or
by freely fluctuating allomorphs, these morphemes are introduced imme-
diately into the Structural Change and their 'label' discarded. These
have been termed 'simple' categories. The 'Action Type' morphemes n
(Extra-active), ŋ (Intra-active) and indi (Retro-active) which are
introduced in Transformations 5 to 8 inclusive are examples of 'simple'
categories as these realisations are invariable.

However, some categories have complex realisations depending upon their
syntactic context and their specifying features. Thus, the realisation
of a Pronominal Affix depends upon its Person and Number and upon its
syntactic function - whether it is Subject or Object, for example. In
these cases a 'generic' label is retained throughout the Transformational
sub-component. The morphemes corresponding to these specified categories
are supplied through the Relaisation sub-component. (C.f. fuller
discussion in Section 3.2.).

3.1.4. Presentation

The title of the Transformation plus either OBLIG(ATORY) or OPTIONAL
appears on the initial line of the rule, followed by its referential
index. The transformations are set out according to the conventional
pattern with the Structural Description (SD), by which the transformation
is activated, presented first, followed by the Structural Change (SC)
introduced by the rule. Any Conditions upon the operation of the rule
are then stated. The Structural Descriptions must conform to the sequence
of formatives as presented by the preterminal string of the 'Master
Phrase-marker' in Section 2.2. Continual reference to this P-marker is
suggested, for instance, to ascertain the possible content represented
by the variable context symbols (the capitalised final letters of the
alphabet).

Illustration is both by interlinear example and by the fuller pre-
sentation of the process using derivational trees.

T.1.   OBLIG   PRONOMINAL AFFIX

$$
\text{S.D.} \quad X \quad \begin{bmatrix} \pm N \\ \alpha\text{Person} \\ \beta\text{Number} \end{bmatrix} \quad Y
$$

$$
\phantom{\text{S.D.}} \quad 1 \qquad\qquad 2 \qquad\qquad 3
$$

$$
\text{S.C.} \quad 1 \qquad\qquad 2 \begin{bmatrix} +\text{ProAf} \\ \alpha\text{Person} \\ \beta\text{Number} \end{bmatrix} 3
$$

T.1.1.   The first transformational rule applies to every **Nominal** - that is, Noun [+N] or Pronoun [-N] - which occurs in the terminal string of the Base Component.

T.1.2.   Three types of Nominals may be involved within the rule. There may be Subject Nominals, which have come down through Rule B.1; there may be Object Nominals, which have come down through B.3; and there may be Postpositional phrase Nominals introduced through B.7. The Subject and Object Nominals are relevant to the operation of Rules T.2 and T.3 respectively, while the Postpositional Nominal is relevant to T.15.

T.1.3.   The effect of the transformation, as outlined in the Structural Change, is to add a Pronominal Affix to the right of every Nominal (element 2). This affix agrees with its Nominal in Person and Number, as indicated by the unspecified α and β markers.

T.1.4.   As stated previously, the Bardi verb is a 'sentence-in-miniature' and one of the main aims of this study is a demonstrate and explore this characterisation by giving an account of the relationships between verb morphology and the wider context of its 'deep structure' sentence.

The first three transformations, concerning the production and affixing of the Subject and Object pronominal forms, introduce the primary elements involved in the concept of verb-as-sentence. They are primary because of the universality of the Subject-Verb-Object categories; and they are primary for Bardi in that, in surface sentences, Subject pronominal

prefixes are obligatory in all forms of the verb (apart from Infinitives),
and Object pronominal suffixes are obligatorily present in all transitive
verbs, while the free Nominals corresponding to these affixes are optional.
This factor has made the presentation of examples up to this point pre-
mature in that the affixes had to be expressed even though they had not
been introduced into the grammatical description.

    An inherently plural noun ambuɾiñ, *people,* and a Personal Pronoun ɗu,
you (singular) will be used here to demonstrate the effect of T.1:

Ex.66 (a)   ambuɾiñ   (b)   ɗu

S.D.
$$\begin{bmatrix} +N \\ +III \\ -Sing \end{bmatrix} \qquad \begin{bmatrix} -N \\ +II \\ +Sing \end{bmatrix}$$

$$\Downarrow \qquad\qquad\qquad\qquad \Downarrow$$

S.C.
$$\begin{bmatrix} +N \\ +III \\ -Sing \end{bmatrix}\begin{bmatrix} +ProAf \\ +III \\ -Sing \end{bmatrix} \qquad \begin{bmatrix} -N \\ +II \\ +Sing \end{bmatrix}\begin{bmatrix} +ProAf \\ +II \\ +Sing \end{bmatrix}$$

T.2. OBLIG   SUBJECT PRONOMINAL PREFIX

	B.1
	L.1
	LE.5
	T.1
REFERENCE:	
	R.1
	M.1

S.D.	[±N]	[+ProAf]	(S)	Y	VbNuc	Aux	Z		(Comple)
1	2	3	4	5	6	7	8		9
S.C. 1	∅	∅	∅	5	3 + 6 +	7	8	2 4	9

T.2.1. Constituents 2 and 3 in the Structural Description remain after
the transformational change dictated by T.1. However, because the matter
of agreement has been determined, there is no need to specify Number and
Person again.

T.2.2. The Nominal and its Pronominal Affix involved in T.2 are defined
functionally by their position in the Terminal string. They occur
preceding the Verb Nucleus and, because of this, function as the Subject
of the sentence.

T.2.3. Through the operation of T.2 the Subject Pronominal Affix becomes
prefixed to the Verb Nucleus. The free Nominal, element 2, is moved to

the right of the Auxiliary, giving a Verb-Subject free word order (to be discussed in Section T.3.3.). In most instances, this Nominal would be later deleted and a complete grammar would provide a transformation which would allow for the optional deletion of free Subjects.

T.2.4. A further function of Rule T.2 is to suffix the Auxiliary to the Verb Nucleus. Already the agglutinative nature of the Baṛdi verb is becoming apparent. At this point, two processes of affixing have taken place, giving the sequence: [+ProAf] + VerbNucleus + Auxiliary. For illustration, the Nominal ɖu of Ex.66 (b) will be taken and will be 'built' into the sentence: mi-lirma-gal   ɖu

> *You-call out-*Immed *you*
> *You called out just now.*

The derivation of this sentence from Base Formatives through to surface forms will now be followed by means of a 'tree' diagram. In this example, the variables 'X', 'Y' and 'Z' are null and are represented in the Base Formative string as zeros. The rules and components involved in each stage in the derivation are listed in the left-hand column.

Ex.67

Base Formatives: ø   Nom   ø   VbNuc   Aux   ø

                               ɖu   lirma [+Immed]

Lexicon:
$$\begin{bmatrix} -N \\ +II \\ +Sing \end{bmatrix}$$

Apply T.1:
$$\begin{bmatrix} -N \\ +II \\ +Sing \end{bmatrix} \begin{bmatrix} +ProAf \\ +II \\ +Sing \end{bmatrix}$$

S.D. for T.2:   1   2   3   5   6   7   8

Apply T.2:   1   ø   ø   5   3 + 6 + 7   2   8

                 ø   ø   [ProAf]+lirma+Aux   ɖu   ø

                                            mi+lirma+gal   ɖu

Later Rules ⟶

              ⟶   milirmagal   ɖu
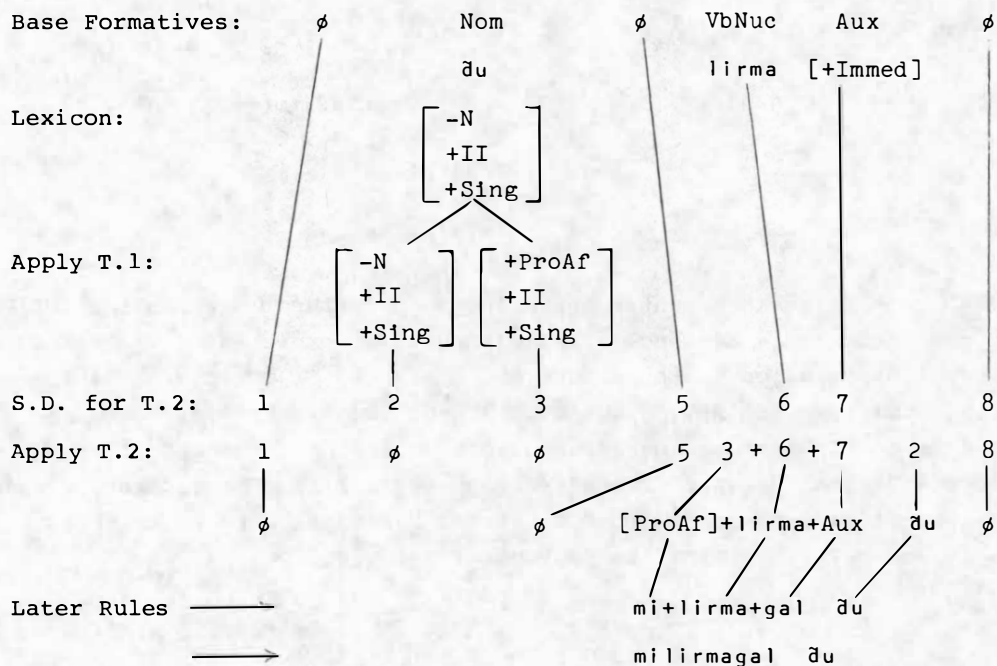
The following example presents a more complex construction in that the variables 'X' and 'Y' are represented by actual formatives and not by zeros.

Ex.68 ŋanð iŋi-mi-mi-na bawa
Question *he*-Intens-*look about*-Dist *child*
Did the child look about thoroughly?

Base Formatives: Question   Nom   INTENS   VbNuc   Aux   ø
                     | | | |
                  ŋanða   bawa   mi   [+Dist]

Lexicon: ⎡ +N   ⎤
                           ⎢ +III ⎥
                           ⎣ +Sing⎦

Apply T.1:   ⎡ +N   ⎤ ⎡ +ProAf⎤
                    ⎢ +III ⎥ ⎢ +III ⎥
                    ⎣ +Sing⎦ ⎣ +Sing ⎦

S.D. for T.2:   1   2   3   5   6   7   8

Apply T.2:   1   ø   ø   5   3 + 6 + 7   2 8

                  ŋanða   INTENS [+ProAf]+mi+Aux bawa ø

Later Rules ——————⟶   ŋanða iŋi+mi+mĩ+na bawa

            ——————⟶   ŋanð iŋimimina bawa
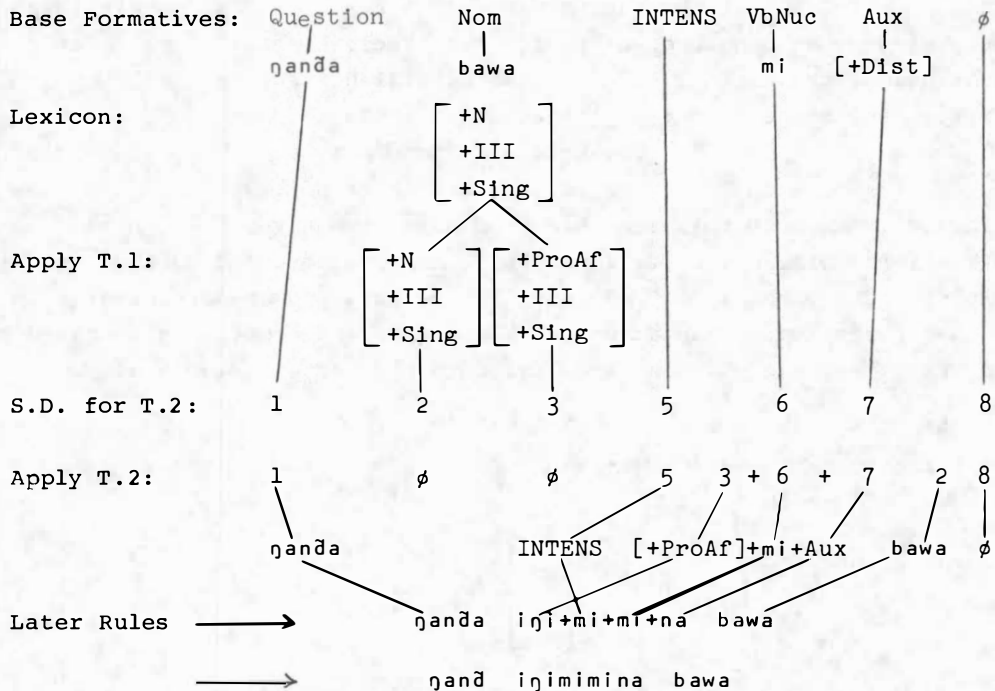
T.2.5. Two optional elements appear in the Structural Description of T.2. They are element 4 - Sentence - and element 9 - Complement. The effect of the transformation is to permute the Sentence, if it occurs, to the right of the free Nominal, element 2. These two elements must be reunited in contiguous sequence as a condition to the operation of the 'Embedded Nominal Relator' transformation (T.18.2.). The category 'Complement' is included in the Structural Description to ensure that, when it occurs, it retains its Sentence-final position.

T.3. OBLIG   OBJECT PRONOMINAL SUFFIX

S.D.	X Aux	[±N]	[+ProAf]	(S)	Y	(Comple)
	1	2	3	4	5	6
S.C.	1 + 3	∅	∅	∅	5 2 4	6

T.3.1. Elements 2 and 3, because of their position immediately following the Auxiliary, function as the Object of the verb. They can only have been derived from a noun phrase immediately dominated by the Predicate Phrase.

T.3.2. T.3 suffixes the Object Pronominal Affix to the Auxiliary and re-orders the remaining elements. The rule makes the Object suffix obligatory to the transitive verb. In practice, this is not at first easily established because of the nature of the third person pronominal suffixes. As has been posited earlier, the third person singular suffix has been interpreted as a zero morpheme. The most common form of the third person plural suffix is r. This is an apico-alveolar vibrant which normally becomes de-voiced word-finally (Metcalfe 1971:88) and is, in this case, very difficult to hear. The third person is by far the most common. The first and second person pronominal suffixes are very similar in form to their corresponding free pronouns. These factors have probably led other investigators to conclusions differing from those presented here.[1]

T.3.3. The third transformational rule completes the reordering of the primary free Sentence constituents. The fifth element 'Y' can only be the free Subject Nominal plus, if one occurs, an embedded Sentence (elements 2 and 4 of the second transformation). T.3 permutes the free Object Nominal (element 2) and its associated optional Sentence (element 4) to a position between the free Subject and the Complement. The basic

---

[1]Capell and Elkin (1937:221), in their survey of the Kimberley division languages, state: 'There is no incorporation of pronoun object. . .' However, it should be added that, in the words of the authors, 'these are merely notes on languages which still await skilled investigation.' (page 225). Nekes (1939), in his article on the pronouns of this language group, makes no mention of object pronominal suffixes, although in fact he deals almost entirely with intransitive verbs.

word order of Bardi sentences is thus defined as V(erb) S(ubject) O(bject).[1] The free Object Nominal, as has been indicated, is very often deleted in the surface sentence.

Ex.69 gives examples, in surface form, of sentences which retain at least one of the free Nominals and the verbs of which demonstrate Subject and Object affixation. Ex.70 carries through a complete derivation of Text Verb 2 up to the present point in the analysis.

Ex.69

a) [NP,S]

giniŋgi-nim amba ir-ɔnbu-n-ɗir   gulbu
Those-Agent men   they-send- did-them moneys
Those men (the Government) sent those lots of money (money is usually expressed in the plural) *(to the pensioners).*

b) [NP,S] VbNuc Aux [NP,PredP]   [NP,S]   [NP,S]

in-   aŋga- na- ŋayu   ŋayu-nim ɗana maɗa inu-
He-   take- did-me   my-Agent my   boss he-

VbNuc Aux [NP,PredP]   Complement
ŋulu- na- ŋayu   ñunu
put- did-me   there
He picked me up - my own boss - and put me down there (on the Reserve).

c) [NP,S]   VbNuc   Aux [NP,PredP]
bigi bigi-nim[2] in-uŋgɔlbu-gal-ɗarŋayu
Pig-Agent   he-chase- did-me
The pig chased me this morning (Near Perfect).

---

[1] The positing of Bardi as a VSO language is primarily on the basis of the system of Topicalisation. If a Subject or an Object is to be topicalised, its free Nominal form is placed in the pre-verb position. Thus: inɗidina ɗul = *Ɖul came*, while ɗul inɗidina could be translated, *It was ƉUL who came.* And, to illustrate a topicalised Object:

barulu iŋar-andi-gal nidi

Cat-fish they-catch-did Quantitative

Many CAT-FISH they had caught.

The only way in which Topicalisation can be indicated by the pre-verb position is for the underlying free word order to be VSO.

[2] The nim is a clitic which is suffixe to the first constituent of a Noun Phrase and has been termed the 'Agent' marker. It always occurs with the free subject of a transitive verb. In that free objects and most free subjects of intransitive verbs remain unmarked, Bardi appears to be an 'ergative' language and the nim, the ergative case marker, after the definition of Hockett (1958:235) and as applied to Australian languages, for example, in Hale (1970), Dixon (1969:35) and (1973:167) and Bolt *et al.* (1971:43). However, there are usages of nim which do not conform to the

Ex.70   iŋara-ma-na-na-r   amb agal ɔɽañ
They-put-Durat-did-them men and women
They used to put those men and women (in tree-coffins).

```
                               S
                             [B 1]
               ┌───────────────┴───────────────┐
              NP                              PredP
             [B 7]                            [B 3]
               │                       ┌────────┴────────┐
               │                      VP                NP
               │                     [B 4]             [B 7]
               │              ┌────────┴────────┐        │
               │           VbNuc              Aux         │
               │             │            ┌─────┴─────┐    │
              Nom          VbNuc       Aspect      Tense  Nom
             [L 1]           │          [L 6]      [L 7]  [L 1]
               │                                           │
          ┌────┴───┐                                  ┌────┴───┐
          │ -N  │                                     │ +N  │
          │ +III│                                     │ +III│
          │ -Sing│                                    │ -Sing│
          │ [T 1]│                                    │ [T 1]│
     ┌─────┴─────┐                                ┌─────┴─────┐
  ┌ -N  ┐  ┌ +ProAf ┐                        ┌ +N  ┐  ┌ +ProAf ┐
  │ +III │  │ +III   │                        │ +III │  │ +III   │
  └ -Sing┘  └ -Sing  ┘                        └ -Sing┘  └ -Sing  ┘
```

Apply T.2   [+ProAf] + m + a + Durat + Dist + [+ProAf] [-N]   [+N]
and T.3:   Perf

Later Rules ────────▶   iŋara + m + a + na + na + r ø amb agal ɔɽañ

            ────────▶   iŋaramananar   amb   agal   ɔɽañ

---
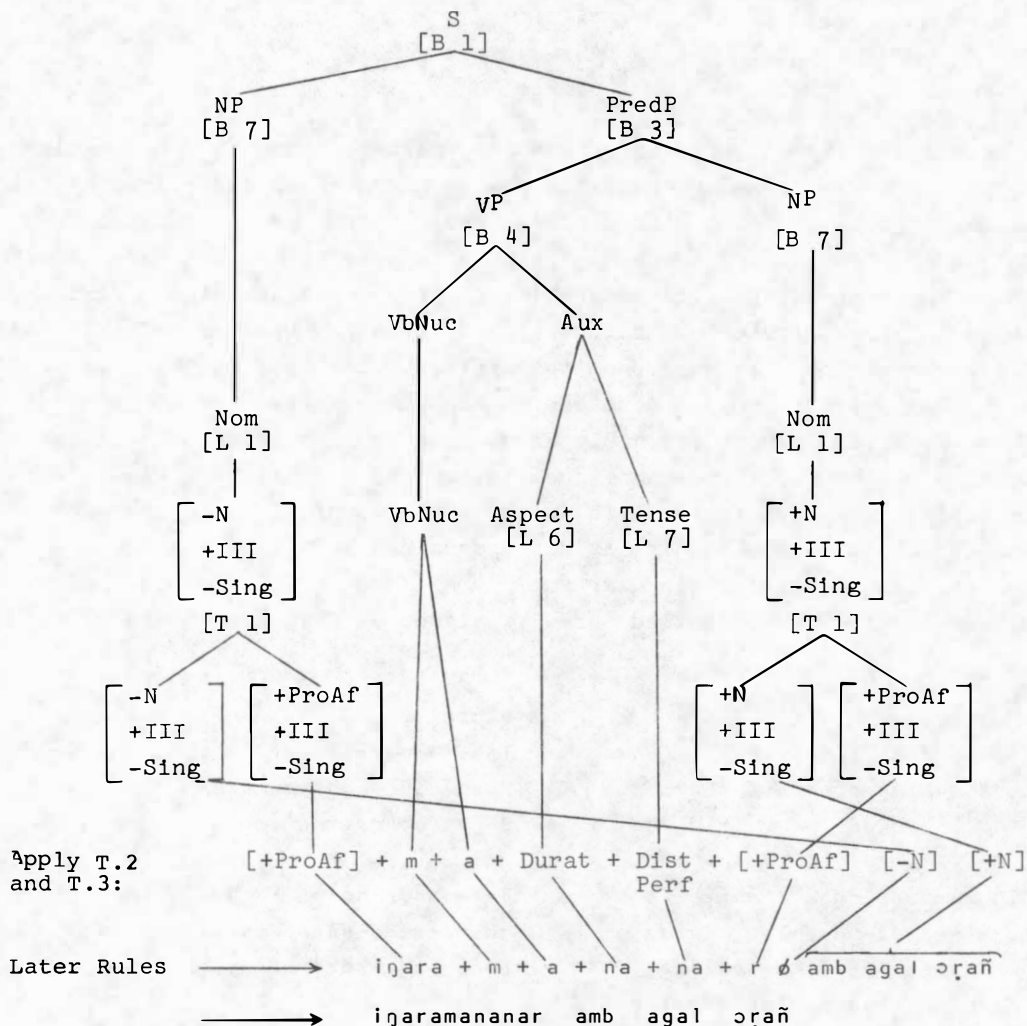
2 (Continued)

ergative pattern. It can be used with an intransitive verb where the subject is strongly topicalised. In the first sentence of Ex.71 the emphasis is upon the fact that the 'white' men, and not the Baɽdi, returned by that track. In the second sentence, the Person of Jesus Christ was emphasised:

    Ex.71

a) wayibala-ðini-nim   ðagud iŋir-i-ni bila giñiŋ mɔr
Whites-group of-Agent return they-ø-did again that path
It was the group of 'white' men who returned on that path.

T.4.   OBLIG   NUMBER PREFIX   <u>REFERENCE:</u>

S.D.   <u>X   [+ProAf]</u> + <u>VbNuc   Y</u>
                  1   2

S.C.   1 + Number + 2

All finite Baṛdi verbs carry a Number marker, although the singular
is marked by a zero morpheme. The Number morpheme is determined by the
number of the Subject. With a plural subject, the pronominal prefix is
followed by the Number morpheme r. This is consistent with reference to
the wider context, as r is indicative of the plural throughout Baṛdi.
ir is the free form of the third person plural pronoun and is basic to
all forms of the related pronominal affixes. The same morpheme is used
as an intensifier, and to denote emphatic intransitive action (see T.11).
These functions almost certainly have an underlying semantic relationship
in view of the Baṛdi fusion of qualitative and quantitative aspects of
language. Illustration of this fusion was also provided by the uses of
the Quantitative Adverb nidi as discussed in B.9.2.

Ex.72 contrasts the singular and plural forms of two verbs. Ex.73
and Ex.74 give more detailed 'tree' analyses of the operation of T.4.

Ex.72

Singular   Plural

a) ina-∅-mar-iḏ-ir   iŋa-ra-mar-iḏ-ir
   She-Sing-cook-did-them   *They-Plur-cook-did-them*
   She cooked them. (Mid Perf)   *They cooked them.*

b) ŋan-maḍa-nḏ-∅ *I build it*   a-ra-maḍa-nḏ-∅ *We build it*
   min-maḍa-nḏ-∅ *You build*   gu-ra-maḍa-nḏ-∅ *You all build*
   in-maḍa-nḏ-∅ *He builds*   i-ra-maḍa-nḏ-∅ *They build*
   an-maḍa-nḏ-∅ *You and I build*

Ex.73   Taking up the derivation of the verb in Ex.67 after the
application of Rule T.2.

---

2 (Continued)

b) Jesus-nim   gidi in-ḏibi-na-ḏugara

   Jesus-Agent *then he-die-did-for you all* (Referential)

   Jesus himself, then, died for you all.

Nekes and Worms (1953:72f) term nim the 'Agentive' and provide a useful discussion
of it with reference to other Australian Aboriginal studies.

$$\begin{bmatrix} +\text{ProAf} \\ +\text{II} \\ +\text{Sing} \end{bmatrix} \quad + \quad \begin{array}{l} \text{lirma} + \text{Aux} \quad \text{ðu} \\ \text{VbNuc]} \end{array}$$

S.D. for T.4:   1   2

Apply T.4:   1 + Number + 2

Later Rules ⟶ mi + ⌀ + lirmagal ðu ⟶ milirmagal ðu

Ex.74 Taking up the derivation of the verb in **Ex.70**, after the application of Rules **T.2** and **T.3**:

$$\begin{bmatrix} +\text{ProAf} \\ +\text{III} \\ -\text{Sing} \end{bmatrix} \begin{array}{l} + \text{m} + \text{a} + \text{Durat} + \text{Dist} + \\ \text{[VbNuc]} \qquad\qquad\quad \text{Perf} \end{array} \begin{bmatrix} +\text{ProAf} \\ +\text{III} \\ -\text{Sing} \end{bmatrix}$$

S.D. for T.4:   1   2

Apply T.4:   1 + Number + 2

Later Rules ⟶ iŋ + ara + m+a+na+na+r

⟶ iŋaramananar

T.5 to T.8. Action Type

Under this general heading, there are four obligatory transformations. Before discussing them, the concept of 'Action Type' in Baṛdi expressions will be examined.

This concept comprehends the traditional terms 'transitive', 'intransitive', 'reflexive' and 'reciprocal'. Although these terms have been used up to this point, the basic discussion of transformational processes will be couched more in the 'Action Type' concepts of 'Extra-action', 'Intra-action' and 'Retro-action'. There are a number of reasons for suggesting the terms.

Firstly, it is a convenient generalisation to incorporate the two processes of reflexive and reciprocal action under the one term, 'retro-action'. In English, we can differentiate between reflexive plurals - *they hit themselves* - and reciprocals (which must be plural) - *they hit each other*. In Baṛdi there is no surface distinction and context must disambiguate the expression.

Secondly, 'intra-' and 'extra-action' express more closely the underlying verbal processes involved. Extra-action and transitive

action are practically synonymous, denoting the passing of the effect of
the action from Agent to Object.   Intra-action, however, stresses more
the coming back of the action into the Subject.   This is illustrated
particularly by verbs such as ð+aṟg *to be frightened, afraid,* as in:

Ex.75   (The ŋ is the Intra-action morpheme)

u-ŋ-g-aṟg-a-ði (Note the discontinuous Projected Tense morpheme g+a)
He-IntraAction-*will-be afraid-will-of you*
He will be afraid of you.

The absence of a general surface construction or marker for passive
action contributes to the fact that intra-action, while including
intransitivity, also expresses the coming back of the action upon the
Subject.   In addition to the Impersonal verbs, the passive is sometimes
expressed within the meaning of the verb stem.   The verb maŋgar means
to be ignored and it takes the intra-active morpheme.   In the following
example, it is accompanied by the third person plural Referential
pronominal suffix ðir:

Ex.76

ŋa-ŋa-maŋgara-na-na-ðir
I-IntraAction-*ignored*-Durat-*was-by them*
They kept on ignoring me.

Thirdly, in this discussion of the nature of Baṟdi action type, there
is the small class of verb stems which can express both intra- and extra-
action.   Apart from these few verbs, extra- and intra-action stems are
in mutually exclusive sets, as was pointed out in L.4.1.   There is the
verb b+Añ *to finish* which, with an extra-action marker, means *to finish,
to complete an object.*   With the intra-action marker, it can mean either
to die or *to finish (an activity)*, as was illustrated in Ex.55.   Another
group of verbs are those represented by such verbs as *to cry, to laugh*
and *to hide,* a set paralleled in English.   The stem ŋalg is primarily
intra-active, expressing the action of *crying* without particular
reference to the cause of the action.   However, the same stem can take
the extra-action marker, in which case it is modified to mean *to cry for
someone,* where the *someone* is specified by an object pronominal suffix.

In Ex.77, an intra-active verb is compared with an extra-active one.
Note the change in action type morphemes and the obligatory inclusion
of an object suffix in the extra-active expression.

Ex.77

```
ŋa-ŋ-ga-ŋalg-a                    ŋa-n-ga-ŋalg-a-r
I-Intra-shall-cry-shall           I-Extra-shall-cry for-shall-them
   Action                            Action

I shall cry.                      I shall cry for them.
```

The fourth area which demonstrates the function of the action type markers is in the derivation of the retro-action expressions. Retro-action occurs when the Agent NP and the Object NP are identical, setting into operation Rule T.8. The action now, as it acts back upon its own subject, ceases to be **extra**-active. In fact, it becomes inherently **intra**-active. The interesting thing is that, with this change in action type, the deep structure action type marker changes from n to ŋ. The deep structure reference is necessary here because the markers may be deleted or modified at the surface level by the phonological rules. The verb g+am *to laugh*, because it can express both action types, serves as an excellent base upon which to compare the operations of action type transformations. The following example gives intra-, extra- and retro-active expressions in that order:

Ex.78 (Using the Middle Perfect Tense marked by iɗ.) The aŋ prefixed to the verb stem in the extra-action verb has no action type significance but is a phonological modification introduced by Rule M.8.

Ex.78

```
a) mi-ŋ-gam-iɗ                    You laughed.
   You-Intra-laugh-did
      Action

b) mi-n-aŋgam-iɗ-arŋayu           You laughed at me.
   You-Extra-laugh at-did-me
      Action

c) mi-ŋ-gam-inɗ-iɗ                You laughed at yourself.
   You-Intra-laugh at-Retro-did
      Action          Action
```

The complete paradigm of this verb, showing the three action types, is set out as Paradigm 4.

T.5.   OBLIG   EXTRA-ACTION

S.D. $\underbrace{X \quad [+\text{ProAf}]}_{1}$ + $\underbrace{Y + [+\text{ProAf}] \quad z}_{2}$

S.C.   1   +   n   +   2

T.5.1. The two Pronominal Affixes in the Structural Description can only be Subject and Object affixes respectively.

T.5.2. This transformation dictates that, when an Object pronominal suffix occurs, the extra-action marker n is suffixed to the Subject pronominal prefix of the same verb.

   Ex.79   A paradigm of the singular forms of the Distant Perfect of the verb mulb *to lend to:*

ŋa-n-umulbu-na-r   *I made a loan to them.*
mi-n-umulbu-na-r   *You made a loan to them.*
i-n-umulbu-na-r   *He made a loan to them.*
a-n-umulbu-na-r   *You and I made a loan to them.*

   Ex.80   Derivational tree for verb (above):   ŋanumulbunar

$$\begin{bmatrix} +\text{ProAf} \\ +\text{I} \\ +\text{Sing} \end{bmatrix} + \text{VbNuc} + \text{Aux} + \begin{bmatrix} +\text{ProAf} \\ +\text{III} \\ -\text{Sing} \end{bmatrix}$$

S.D. for T.5:   1   2

Apply T.5:   1   +   n   +   2

Later Rules ——→   ŋa + n + mulb+u + na + r

            ——→   ŋanumulbunar

T.6.   OBLIG   INTRA-ACTION

S.D. $\underbrace{X \quad [+\text{ProAf}]}_{1}$ + $\underbrace{Y}_{2}$

S.C.   1 + ŋ + 2

Condition: 2 does not include [+ProAf].

T.6.1.   The **Condition** introduces the critical distinction between the
Structural Descriptions of T.5 and T.6.   For T.6 to be activated there
must not be an Object pronominal suffix (or, at the higher node, an
[NP,PredP]) generated in the Base.   That is, the action of the verb does
not pass over onto an Object.

T.6.2.   In the absence of an Object pronominal suffix, Rule T.6 introduces
the intra-action marker ŋ as a suffix to the Subject pronominal prefix.

   Ex.81   A paradigm of the singular forms of the Distant Perfect of the
verb mulg *to sleep.*   (Compare Ex.79)

ŋa-ŋ-umulgu-na   *I slept*
mi-ŋ-umulgu-na   *You slept*
i-ŋ-umulgu-na   *He slept*
a-ŋ-umulgu-na   *You and I slept*

   Ex.82   *Tree* for the first verb in Ex.81: ŋaŋumulguna

$$\begin{bmatrix} +ProAf \\ +I \\ +Sing \end{bmatrix} + \quad VbNuc \quad + \quad Aux$$

S.D. for T.6:   1   2 (where 2 does not include [+ProAf])

Apply T.5:   1   ŋ   2

Later Rules: ⟶ ŋa +   ŋ   +   mulg+u   +   na ⟶ ŋaŋumulguna

T.7.   PRE-STEM TRANSFORMATIONS

                                                                    L.4.4.
T.7.1.   OBLIG   PRE-STEM PLACEMENT   REFERENCE: _____

S.D.   X   [+ProAf]+Y   +   [Pre-Stem(+Action Change), Z]
                VbNuc   VbNuc

           1   2   3   4

S.C.   1   3   2   +   4

T.7.1.1.   If a Pre-Stem occurs it will have been listed, in accord with
Rule L.4 and the relevant Lexical Entry, as the first element of the
Verb Nucleus.   Thus, for example, the verb *to climb* is set out in Section
2.4. (LE.6.23) as [lagal, g+añ+i, etc.].   A Pre-Stem may also be marked
with the feature [+Action Change] (to be discussed further under T.7.2),

as in the case of the verb *to go down*, which is given in Section 2.4. (LE.6.34) as [yur+Action Change, m+a, etc.].

T.7.1.2.   Up to this point in the operation of the transformational component, three obligatory prefixes would have been affixed to the Verb Nucleus, all three of which are included in element 2 of the S.D. of T.7.1.   The Pronominal Affix is given, and the Action Type and Number constituents are represented by the symbol 'Y'.

T.7.1.3.   This 'Pre-Stem Placement' transformation reverses the order of elements 2 (the prefixes) and 3 (the Pre-Stem and the feature [+Action Change] if it occurs), and prefixes element 2 to the fourth element.   Element 4 must be either the class marker or, in the case of ∅-Class verbs, the verb stem of the ancillary verb.

The following example, using the verb *to climb*, will be derived right from the Base Rules through to the present point in the analysis.

Ex.83   lagal aŋargañingal

We all went climbing this morning (Near Perfect)

Base Rules:
                              S
                            [B 1]

              NP   PredP
            [N 7]   [B 3]

                                          VP
                                        [B 4]

                              VbNuc   Aux
                                                [B 8]

Formatives: Nom   VbNuc   Aspect   Tense
                 [L 1]   [L 6]   [L 7]

Lexicon: ⎡ -N ⎤   lagal g+añ+i   Durat   Near
              ⎢ +I ⎥   Perf
              ⎣ -Sing ⎦

Apply T.1 and T.2: [-N] [+ProAf] + lagal g+an+i + Durat + Near
                                                              Perf
                     ∅

Apply T.4:   [+ProAf]+Number+

Apply T.6:   [+ProAf]+ŋ+Number+ lagal g+añ+i +

S.D. for T.7.1:   2   3   4

Apply T.7.1:   3   2 +   4

Later Rules ⟶   lagal   aŋ+ŋ+r +g+añ+i + n + gal

             ⟶   lagal   aŋargañingal
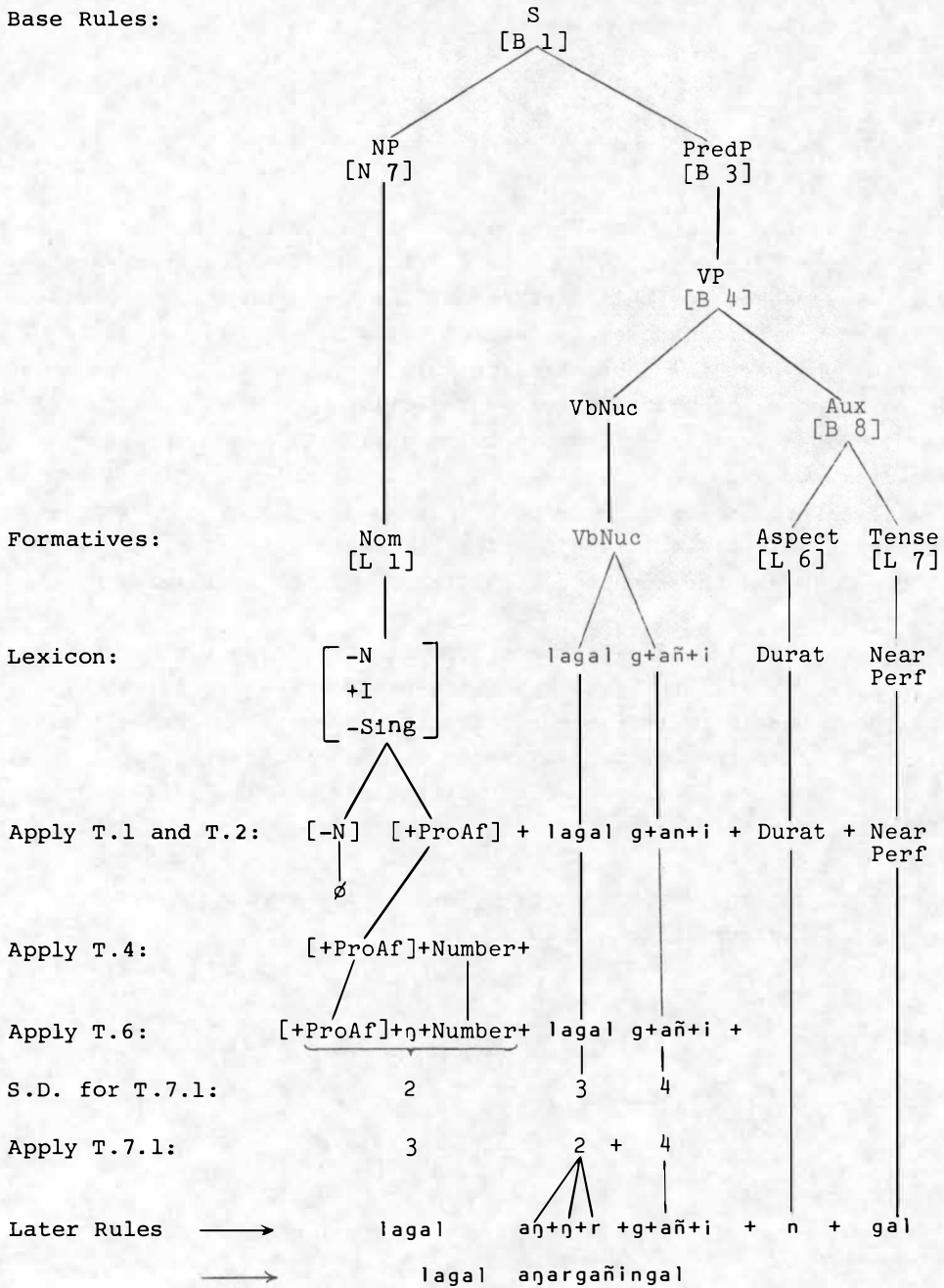
T.7.2.   OBLIG   ACTION CHANGE   REFERENCE: _____

S.D.   X   Pre-Stem +Action Change   [+ProAf] + ŋ + Y

           1   2   3   4   5

S.C.   1   Ø   3   + n + 5

T.7.2.1.   A number of the Pre-Stems which will have been placed in the
pre-Pronominal Affix position by Rule T.7.1. bear the feature [+Action
Change].   The reason for this feature and the transformational process
it initiates was foreshadowed in Section L.4.4.3.   Simply, it is to
account for the peculiar, but significantly large set of Pre-Stem intra-
active verbs whose ancillaries are extra-active when they function alone.
For example, the verb *to go down* is intra-active.   It is expressed by
the Pre-Stem yur and the ancillary m+a *to place, to put*, which is an
extra-active verb in its own right.   It is an example of a 'Meaning-
bearing Pre-Stem' (L.4.4.1.-1) in which the meaning is carried entirely
by the Pre-Stem and the semantic significance of the ancillary is
neutralised.

   Because the complete Pre-Stem verb of this type cannot take an Object
NP, the ancillary will undergo the 'Intra-action' transformation, T.6,
and will have the intra-active morpheme ŋ suffixed to the Pronominal
Affix.   This is an incorrect realisation as the ancillaries are inflected
for 'Action Type' as if they were standing alone.   Rule T.7.2. allows
for the correct realisation of the ancillary by changing the Action Type
morpheme from ŋ to n.

   Ex.84 sets out the derivation of a form of the verb *to come down*
commencing at the Formative level.

Ex.84   yur   ina-ma-na-na
          Come down he-∅-Durat-did
          He used to go down.

Formatives:	Nom [L.1]		VbNuc		Aspect [L.6]	Tense [L.7]

Lexicon:	$\begin{bmatrix} -N \\ +III \\ +Sing \end{bmatrix}$		yur+Action Change	m+a	Durat	Dist Perf

Apply T.1 and T.2:   [-N]   [+ProAf] + yur+Action   m+a + Durat + Dist
                                            Change   Perf
                       ∅

Apply T.4:   [+ProAf]+Number+

Apply T.6:   [+ProAf]+ŋ+Number+ yur+Action   m+a + Durat + Dist
                                       Change   Perf

Apply T.7.1:   yur+Action [+ProAf]+ŋ+Number+m+a +
                  Change

S.D. for T.7.2:   1   2   3   4   5

Apply T.7.2:   1   ∅   3 + n +   5

Later Rules ⟶   yur   i + n + ∅ + m+a +   na + na

            ⟶   yur inamanana

Without the operation of T.7.2, the following unacceptable form would have been derived: *yur iŋamanana

T.8.   RETRO-ACTIVE VERBS

Two sub-rules are presented under this heading. T.8.1 introduces the obligatory marker for retro-action. T.8.2 introduces the optional marker. The obligatory morpheme is the suffix inđi; the optional marker is the prefix m.

As discussed previously, retro-action is the general concept embracing reflexive and reciprocal action. The same surface form expresses both although the reciprocal requires plural noun phrases.

T.8.1.   OBLIG   RETRO-ACTION I

S.D.   X   [+ProAf] + n + Y   +   Aux + [+ProAf] Z

        1   2   3   4   5   6   7

S.C.   1   2   ŋ   4 + inɟi + 5   ∅   7

Condition: 2 = 6

T.8.1.1.   The Condition is the critical factor which causes the operation
of this transformation. Whenever the Subject and Object noun phrases are
identical within the same sentence, retro-action must occur.

T.8.1.2.   The third element in the S.D. is transformed in action type
from extra-action (n) to intra-action (ŋ). The significance of this
change was discussed in Ex.77, where it was pointed out that the intra-
active morpheme is used to indicate the coming back of the action upon
the Subject.

T.8.1.3.   The obligatory retro-action marker inɟi is introduced as a
suffix to the Verb Nucleus (which is included in the symbol 'Y'), and
immediately preceding the Auxiliary. The realisation of the Auxiliary
is not affected in any way.

T.8.1.4.   The Object pronominal suffix, element 6, is deleted. In a
full grammar, the free form of the [NP,PredP] would also be deleted by
a later transformation.

   Ex.85 Comparing Extra-active and Retro-active forms:

   Extra-active   Retro-active
a) ŋa-nu-mundu-na-∅   ŋa-ŋu-mund-inɟi-na
   I-Extra-*wet-did-him*   I-Intra-*wet*-Retro-*did*
     Action   Action   Action

   I wet him.   (Dist Perf)   *I wet myself.*

b) mi-na-mara-gal-ɟir   mi-ŋa-mar-inɟi-galɟ
   You-Extra-*burn-did-them*   *You*-Intra-*burn*-Retro-*did*
     Action   Action   Action

   ou burnt them. (Near Perf)   *You burnt yourself.*

   Ex.86 This sentence is taken from a traditional children's story of
the race between the kangaroo and the land hermit-crab. The crab is
addressing his kinsmen concerning the contest. In this case, the free

Subject is expressed and it precedes the verb in Topicalised position. The free pronoun used is in the first person plural Exclusive as the hearers are not included in the coming event.

The semantics of the example is interesting. The extra-active form of the verb means *to chase*. With retro-action, in this case reciprocal, it means *to have a race* or, literally, *to chase each other*. The hermit-crab says:

arud · · · · · aŋgur-ŋurub-inð-a
· · · · · · · Exclusive *We-chase*-Retro-*will*
· · · · · · · · · · · · · · · · · · Action

We will race each other.

Formatives: · · · · · · · · · · · Nom · · · · · · · VbNuc · · · Aux · · · · · · · Nom
· · · · · · · · · · · · · · · · · · [L.1] · [L.1]

Lexicon: · · · · · · · · · · · · $\begin{bmatrix} -N \\ +Exc \end{bmatrix}$ · · · · · ŋurub+u [+Proj] · · · $\begin{bmatrix} -N \\ +Exc \end{bmatrix}$

Apply T.1: · · · · · · · · · [-N] [+ProAf] · · · · · · · · · · · · · · · · · · · [-N] [+ProAf]

Apply T.2 and T.3: · · · · · · · [+ProAf] + ŋurub+u +Aux+[+ProAf] [-N] [-N]

Apply T.4 and T.5: · [+ProAf]+n+Number +ŋurub+u +Aux+[+ProAf] [-N] [-N]

S.D. for T.8.1: · · · · · · · · 2 · · · 3 · · · · · · 4 · · · · · · · 5 · · · · · · 6 · · · · · · 7

Condition: 2 = 6

Apply T.8.1: · · · · · · · · · 2 · · · ŋ · · · · · 4 + inði + 5 · · · · · ø · · · · · · · 7

Later Rules · · ⟶ · · · aŋ+ŋ+g+r+ŋurub+u+inði+a · · · · arudu · · arudu

· · · · · · · · · · · ⟶ · · · arud · aŋgurŋurubinða

T.8.2. · · OPTIONAL · · · RETRO-ACTION II

S.D. · · · · · X · + · Class · + · Y · + · inði · + · Z

· · · · · · · · · 1 · · · · · 2 · · · · · · · · · · · · 3

S.C. · · · · · 1 · · · · · m · · · · · · · · · · · · · 3

T.8.2.1. This transformation only applies to verbs which have undergone the obligatory Retro-action Rule T.8.1. Thus the morpheme inđi must appear in the S.D. of T.8.2.

T.8.2.2. With such verbs, the Class marker, element 2, may be replaced by the Retro-action prefix m, which would then be affixed to the Verb Stem (the first constituent included under the symbol 'Y'). This option is chosen quite frequently, especially with shorter verb stems which commence with a vowel.

Ex.87 (See also the Retro-active verb in P.3)

a) iŋɔr-m-ɔnd-ɔnd-inđi-na
   They-Retro-Intens-*cover*-Retro-*did* (Dist Perf)
        Action   Action
   They covered themselves completely.

c) mi-ŋa-m-and-inđi-n-gal
   You-Intra-Retro-*scratch*-Retro-Durat-*did* (Near Perf)
        Action   Action
   You have been scratching yourself all morning.

c) i-ŋi-m-ilbiɾ-inđ-iđ
   It-Intra-Retro-*echo*-Retro-*did* (Mid Perf)
        Action   Action
   It echoed.

From this point on, the abbreviations EA (Extra-action), IA (Intra-action) and RA (Retro-action) will sometimes be used.

T.9. IRREALIS EXPRESSIONS

Irrealis expressions relevant to verb morphology are the Potential (T.9.1) and the Negative (T.9.2). The close interrelationship between these two types of expressions was discussed in B.3.2.

T.9.1.   OBLIG   POTENTIAL   REFERENCE: B.3.2
                                                                   R.2.3
                                                                   M.1.1

	W	POTENTIAL	X	+	$\{{}^n_{ŋ}\}$	+	Y	+	Aspect	+	Z
S.D.	1	2	3		4		5		6		7
S.C.	1	∅	3		1		5		∅		7

T.9.1.1. The Potential transformation is activated when the formative POTENTIAL occurs in the S.D.

T.9.1.2. The transformation replaces the Action Type morphemes n (EA) or ŋ (IA) by the Potential marker 1, suggesting an underlying relationship in Baṛdi between Realis activity and Action Type.

T.9.1.3. The second effect of the transformation is that Aspect is neutralised in Irrealis expressions. The Tense morphemes are modified also, as will be shown in Section R.2.3. As was discussed in B.3.1, these modifications to the Auxiliary demonstrate the basic division of Baṛdi tense into Perfect and Imperfect.

T.9.1.4. The suffixing of the Potential morpheme to the Pronominal Subject prefix (the final constituent of 'X' in the S.D. of T.9.1) causes modifications in the realisation of the prefix, as will be pointed out in Rule M.1.1.

Ex.88 Comparing the Potential and the Indicative of the Middle Perfect of the verb ŋurid *to paint*.

Indicative		Potential
ŋa-nu-ŋurid-id-∅		ŋa-lu-ŋuridi-na-∅
I-EA-paint-did-it		*I-Potential-paint-did-it*
I painted it.		*I should have painted it.*
mi-nu-ŋurid-id-∅	*You . . . .*	mi-lu-ŋuridi-na-∅
i-nu-ŋurid-id-∅	*He . . . .*	u-lu-ŋuridi-na-∅
a-nu-ŋurid-id-∅	*You and I .*	a-lu-ŋuridi-na-∅
aŋ-uru-ŋurid-id-∅	*We all . .*	a-lu-ru-ŋuridi-na-∅
guŋ-uru-ŋurid-id-∅	*You all . .*	gu-lu-ru-ŋuridi-na-∅
iŋ-uru-ŋurid-id-∅	*They . . .*	u-lu-ru-ŋuridi-na-∅

T.9.2. OBLIG   NEGATIVE   REFERENCE: B.3.1
                                                                   _____
                                                                   R.2.3
                                                                   M.1.1

S.D.   W   NEGATIVE   X + $\{^n_ŋ\}$ + Y + Aspect + Z

       1   2   3   4   5   6   7

S.C.   1   ara   3   1   5   ∅   7

Condition: 3 does not include EMPH.

T.9.2.1.   Apart from the terms 'NEGATIVE' and 'POTENTIAL', the Structural
Descriptions of T.9.1 and T.9.2 are identical. The Structural Changes
brought about by the two transformations are also the same except that,
with the Negative, the free morpheme ara is introduced preceding the
inflected verb. The resultant modifications to the Auxiliary and to the
Pronominal prefixes are the same as those introduced into the Potential
forms.

T.9.2.2.   The Condition excludes the possibility of a 'Negative Emphasis'
expression from the S.D. of T.9.2. This type of construction will be
handled by T.12.

    Ex.89

Indicative	Negative
a) guŋ-ur-ulugu-na-r	ara gu-l-ur-ulugu-nana-r
You-Plur-*clean-did-them*	Neg *you*-Pot-Plur-*clean-did-them*
You cleaned them.	*You did not clean them.*
b) i-n-aḷi-nə̄-ɸ	ara u-l-aḷ-a-ɸ
He-EA-*eat-is-it*	Neg *he*-Pot-*eat-is-it*
He is eating it.	*He is not eating it.*

Ex.90 The derivation of the verb:

ara ŋa-li-mili-na
Neg *I-Pot-wake-did*
I did not wake up.

Formatives:	Nom	NEG	VbNuc	Aspect	Tense

Lexicon:
$$\begin{bmatrix} -N \\ +I \\ +Sing \end{bmatrix}$$
mil+i   Mid
              Perf

Apply T.1:   [-N]   [+ProAf]
                 ↓
                 ∅

Apply T.2:   NEG [+ProAf] + mil+i +

Apply T.4 and T.6: NEG [+ProAf]+ŋ+Number +mil+i +Aspect+Mid
                                                        Perf

S.D. for T.9.2:	2	3	4	5	6	7

Apply T.9.2:	ara	3	1	5	∅	7

Later Rules ⟶   ara ŋa + l + ∅ + mil+i + na

             ⟶   ara ŋalimilina

T.10. INTENSIVE ACTION

T.10.1. OBLIG   VERB STEM REDUPLICATION

S.D.   X   INTENS   Y   +   Vbs   +   Z

        1   2   3   4   5

S.C.   1   ∅   3   4   4   5

Condition: 3 does not include Pre-Stem.

T.10.1.1. If the INTENSITY marker comes down into the terminal string, it causes a reduplication either of the Verb Stem (T.10.1) or the Pre-Stem, where one occurs (T.10.2). The Condition to T.10.1 determines which of the two sub-rules will apply.

T.10.1.2. With reference to the discussion under Rule L.4.3, it will be recalled that some verb stems are only partially reduplicated to express Intensity. If a verb is so marked, its Lexical Entry would supply the reduplicated form.

Ex.91

a) mi-n-ŋulma-ŋulma-gal-ɖarŋayu
   You-EA-Intens-*frighten-did* (Immed Perf)-*me*
   You just gave me a terrible fright!

b) u-ŋ-g-alg-alg-a
   He-IA-*will*-Intens-*fall-will*
   He will really fall heavily.

c) ŋanɖa   i-r-b-and-andama-nɖ (Note Partial Reduplication)
   Question *they*-Plur-Class-Intens-*stumble-are*
   Are they still staggering about?

<div style="text-align:right">

B.4.3
T.7.1
</div>

T.10.2.   OBLIG   PRE-STEM REDUPLICATION   REFERENCE: _____

S.D.	X	INTENS		Pre-Stem	Y
	1	2		3	4
S.C.	1	3	+	3	4

T.10.2.1. The Pre-Stem is always reduplicated fully.

T.10.2.2. Through the operation of the Pre-Stem Placement transformation (T.7.1), the Pre-Stem would have been located contiguous to the INTENSITY formative where one occurs.

Ex.92

a) yaḷ-yaṛ   in-ɖu-na-na
   Intens-*paddle he-ø*-Durat-*did* (Dist Perf)
   He kept on paddling hard.

b) baṛ-baṛ   iŋar-a-na-ri
   Intens-*knock about they-ø-did-you*
   They knocked you about badly.

c) ara ɗali-ɗali   gu-la-ra-ma-na-r
   Neg Intens-*store up you-Pot-Plur-put-did-them*
   You did not store them up carefully.

<div style="text-align:right">B.3.3</div>

T.11.   OBLIG   INTRA-ACTION EMPHATIC   <u>REFERENCE:</u>

S.D.   X   Tense   EMPHAT   Y

        1   2   3   4

S.C.   1   2   + $\left\{ {ir \atop aŋar} \right\}$#   4

Condition: 2 is not marked [+Proj]

T.11.1.   The Emphatic marker only occurs with intra-active verbs, as discussed under B.3.3.

T.11.2.   Through T.11, the EMPHATIC marker is realised as either ir or aŋar and is suffixed to the Tense formative. These two morphemes appear to be interchangeable.

T.11.3.   The Emphatic marker always occurs word-finally, as is indicated by the word boundary symbol #. This symbol prevents further suffixing to the Emphatic morpheme.

T.11.4.   The Condition excludes verbs in the Projected Imperfect Tense from the operation of this transformation. That is, the intra-active Emphatic can only apply to a completed action or an action in progress.

    Ex.93

a) bugun in-in-ir
   *Inside he-is-*Emphat
   He is REALLY inside.

b) giñiŋ gunɗi bulayi-b-ar-in-ir
   That   Guns   play-Relator-*we-are*-Emphat
   It is that (card game of) Guns which we are always playing.

Ex.94 The following three verbs are taken from a narrative describing
a murder and its aftermath. A young man had just murdered his uncle in
a brutal and drawn out manner:

in-ɟibi-n-aŋar . .   iŋir-mi-mili-n-aŋar   amburiñ . .
He-die-did-Emphat   *They*-Intens-*wake up-did*-Emphat *people*

iŋar-ɟar-ara-n-aŋar   banɟara . . .
They-Intens-*stand up-did*-Emphat *straight away*

(At last) he was really dead. . All the people woke up with a start. .
All (the men) stood up straight away. . .

Note the use of the Intensive in conjunction with the Emphatic in the
second and third verbs, demonstrating the versatility and expressiveness
of Baṛdi verbs.

                                                                      B.3
T.12.   OBLIG   NEGATIVE EMPHASIS   REFERENCE:
                                                                    T.17.2.

S.D.   NEG EMPH   X   [+ProAf] + Y + Verb Nucleus (+inɟi) + Z#

         1   2   3   4   5   6

S.C.   ara + ŋa 3   ma   +   5   +   n

T.12.1. The occurrence of the formatives NEGATIVE EMPHASIS in a terminal
string causes considerable modification to the associated inflected verb.

T.12.2. The prefix ma replaces all existing prefixes. These are the
Pronominal Subject affix (included in the S.D. to define the limits of
the fourth element), the Action Type marker and the Number prefix.

T.12.3. At most, two constituents remain unaffected by the transformation.
The Verb Nucleus always remains and, if it occurs, the obligatory Retro-
action morpheme inɟi is retained.

T.12.4. All other suffixes are replaced by the morpheme n, as indicated
by the closing of the sixth element by the word boundary symbol #. This
must include the Auxiliary and may include other suffixes, such as the
pronominal forms where they occur.

T.12.5. The morphemes for NEGATIVE, ara, and EMPHASIS, ŋa, are affixed
to form a free element occurring before the inflected verb.

T.12.6.   Although the pronominal affix forms are replaced in this construction, details of Subject, Object and Referential Nominals may still be supplied by the use of free forms outside the verb. This is the case with the expression in Ex.95(a), where the Subject is identified by the free pronoun giñiŋgi, and in (b), where both Subject and Object are given.

T.12.7.   The Relation between the Negative Emphasis construction and what has been termed the Baṛdi 'Infinitive' will be discussed under Rule T.17.2.   For consistency, and for reasons which will be given under this later discussion, the elements of the discontinuous morpheme ma+. . .+n will be labelled Inf I and Inf II respectively.

   Ex.95

a) Text Line 52:
   ara-ŋa   ma-lamang-a-n   giñiŋgi·
   Neg-Emph Inf I-*listen*-TransitV-Inf II *he*
   He did not listen at all.

b) ara-ŋa   m-a:l-a-n   ir ir
   Neg-Emph Inf I-*see*-TransitV-Inf II *they them*
   *They (a European punitive party) did not see a sign of them (the
   Baṛdi) (because the Baṛdi 'doctor-man' had "made their eyes bad").*

   Ex.96 The two Negative Emphasis verbs in this example are part of another murder narrative. A skilled hunter, who has just killed a woman, is being subjected to a fierce and protracted ordeal of retribution. However, in this scene, none of the men seem to be able to hit him.

iŋuru-munu-ŋu-ðin-ir·   aḷgudu ðuruŋ-gɔ·
They-threw-with-at him-them Left   right-from

ara-ŋa   ma-yi-n   ðini marga· irɔl a-ŋ
Neg-Emph Inf I-*hit*-Inf II *his shield Spears-with*

iŋuru-munu-ŋu-ðin-ir   ara-ŋa   m-ɔndi-n·
they-threw-with at him-them Neg-Emph Inf I-*spear*-Inf II
*They threw at-him with (boomerangs). To the left and to the right (they
went yet) not one hit his shield. They threw at him with their spears,
but they were not able to spear him at all.*

T.13.   OPTIONAL   YES-NO QUESTIONS   REFERENCE: _____

S.D.   X   ŋanda   <u>Y + Aux</u>   Z

        1   2   3   4

S.C.   1   ∅   3 + aḍa   4

T.13.1. ŋanda is the free, pre-verb form of the Question marker. As discussed in B.2.2, apart from intonation, it does not affect the form of the verb.

T.13.2. The particular relevance of 'Yes-No' questions to Baṛdi verb morphology is that, as an optional alternative, they may be expressed by replacing ŋanda with the suffix aḍa suffixed to the Auxiliary. Like other Baṛdi grammatical markers, such as amba, the Sequential Conjunction affix and ba, the Relator (see B.11.1 and T.18), this Question suffix can occur in almost any position and can be used to 'question' any part of speech.

    Ex.97

a) iga-nim-aḍa
    Sickness-Agent-Question
    Has the sickness been acting? = Do you feel ill?

b) durgal-giḍ-aḍa
    Truly-Intensifier-Question
    Is that really true?

c) ñira-gud-aḍa
    How-Qualitative-Question
    How is everything going?

d) diŋgi-ɔn-aḍa   ḍaḍa
    Dingey-in-Question *to us*
    Are we going in the dingey?

    The following example provides illustration of the alternative use of ŋanda and aḍa in conjunction with verbal expressions.

Ex.98

a) ŋanɖa   mi-laba-n   nuru   ⟹   mi laban-aḍa nuru
   Question *you-have-do fire*
   Do you have any matches?

b) ŋuriɖi   ŋanɖa   ar-alal-a-ŋayu   ⟹   ŋuriɖi aralal-aḍa-ŋayu
   Tomorrow Question *you-follow-will-me*
   Tomorrow, will you all follow me?

c) ŋanɖa   dar   ung-aṟ-a   ⟹   dar ungaṟ-aḍa
   Question *arrive he-∅-will*
   Will he arrive?

It is even possible for the aḍa to be suffixed to the Pre-Stem instead
of the Auxiliary. Thus, Ex.98(c) could also be expressed: dar-aḍa ungaṟa

T.14.	OBLIG	IMPERATIVE		REFERENCE:	B.2.3 L.7.2 M.1.2

S.D.	IMPERAT	X	+	Aux	Y
	1	2		3	4

S.C.	∅	2		3	4
				[+Proj]	

T.14.1. The sentence-type marker IMPERATIVE causes the verb Auxiliary
with which it is associated to be obligatorily marked as Projected
Imperfect Tense. This marking underlies the fact, as discussed in Section
B.2.3, that the forms of the Imperative and the Projected Imperfect are
identical morphologically.

T.14.2. In a full grammar both the Question and Imperative sentence-
types would be distinguished from the Indicative by an intonation feature.

T.14.3. There is also the fairly common use of a Personal Pronoun as an
emphatic with the Imperative. In most instances the pronoun will occur
in the Topicalised, pre-verb position. This is illustrated in the
following example:

Ex.99

ðu bunu   ŋ-a:lg-a   ar̥-ɔn   baḍag·
You over there you-hide-Imperat another-in tree

in-ðu-n-ini·   ðu bunu lul   ŋ-a:ḍ-a   gulb-un·
He-say-did-to him   You there behind you-go in-Imperat rock-at
"You hide over there in the other tree!" he said to him. "You go in
behind the rock over there!"

T.15. POSTPOSITIONAL PHRASE SUFFIXES

A number of postpositional phrases can be paralleled by verb suffixes.
There is a set of Associative pronominal suffixes corresponding to
Instrumental and Comitative postpositional phrases (T.15.1) and there is
a set of Referential pronominal suffixes corresponding to Purposive and
Ablative expressions (T.15.2).

							B.10.1
							B.10.2
T.15.1.	OPTIONAL	ASSOCIATIVE SUFFIX				REFERENCE:	
							R.3

S.D.	X Aux		Y	[±N]	[+ProAf]	{Instrum / Comitat}	Z
	1		2	3	4	5	6
S.C.	1 + ŋ + 4		2	3	+	5	6

T.15.1.1. Nominals standing as the head of a postpositional phrase would
have undergone the first transformation, the output of which is repre-
sented by elements 3 and 4 in the S.D. of these postpositional phrase
transformations T.15.1 and T.15.2. These Nominals are the only ones
which can fulfil the S.D. That is, the Subject and Object Nominals
cannot activate the first two sub-rules of T.15.

T.15.1.2. When a Nominal stands at the head of either an Instrumental
or a Comitative postpositional phrase, its corresponding Pronominal Affix
(element 4) can be suffixed within the verb. The Affix is later realised
by the same morpheme set as the Object pronominal suffix by Rule R.3.

T.15.1.3. The Associative Suffix ŋ is also introduced by this rule as an
affix to the Auxiliary and immediately preceding the Pronominal Affix
discussed in the last paragraph. The Associative Suffix morpheme is, in
fact, the same as one of the allomorphs of the Instrumental postposition.

T.15.1.4. T.15.1 suffixes the postposition, element 5, to the free
form of the Nominal, element 3. In many cases, these postpositional
phrases so formed are later deleted, particularly where the free form
of the Nominal is a pronoun.

T.15.1.5. Baṛdi, like English, makes this link between the Comitative
and Instrumental. In English, the same surface preposition *with*
expresses both. In Baṛdi, although the postpositions differ (the
Comitative postposition is ñar), both can be expressed by the same
Associative Suffix morpheme ŋ. Illustration of the Associative
construction in relation to Instrumental postpositional phrases will
be given first and then its relation to Comitative expressions will be
demonstrated.

    Ex.100

a) ŋang-idiŋ-a-ŋ-ir-∅
   I-touch-will-with-them-her
   I will touch her with them.

b) inu-mundu-na-na-ŋ-∅-ꝺarŋayu
   *He-wet-*Durat*-did-with-it-me*
   He kept on wetting me with it.

    Ex.101 The following sentence describes the covering over of a
pig with leaves after it had been shot. Note the repetition of the
postpositional phrase and verb reduplication to express the thoroughness
of the operation.

iŋɔr-ɔnd-ɔndi-na-ŋ-ir-∅   bilili-ŋ   bilili-ŋ
*They-*Intens*-cover-did-with-them-it leaves-with leaves-with*
They covered it thoroughly with many leaves.

```
Form-          Nom        INTENS VbNuc   Aux  Nom              Nom        Instrum
atives:

Lexicon:      ⎡ -N  ⎤     b+And+i      ⎡ -N  ⎤          ⎡ +N  ⎤
              ⎢ +III ⎥                  ⎢ +III ⎥          ⎢ +III ⎥
              ⎣ -Sing ⎦                 ⎣ +Sing ⎦         ⎣ -Sing ⎦


T.1:    [-N]   [+ProAf]              [-N] [+ProAf] [+N] [+ProAf]

T.2 to
T.5 and  ∅                                ∅
T.10

        [+ProAf]+n+Number+b+And+And+i+Aux+[+ProAf] [+N] [+ProAf] Instrum

S.D. for T.15.1:   1                            2      3    4      5

Apply T.15.1:      1            +ŋ+4 2      3      +        5

Later Rules ⟶ iŋ+n+ɔr+b+And+And+i+ɲa+ŋ+ir+∅    bilili+ŋ   bilili+ŋ

        ⟶    iŋɔrɔndɔndinaŋir  bililiŋ  bililiŋ
```
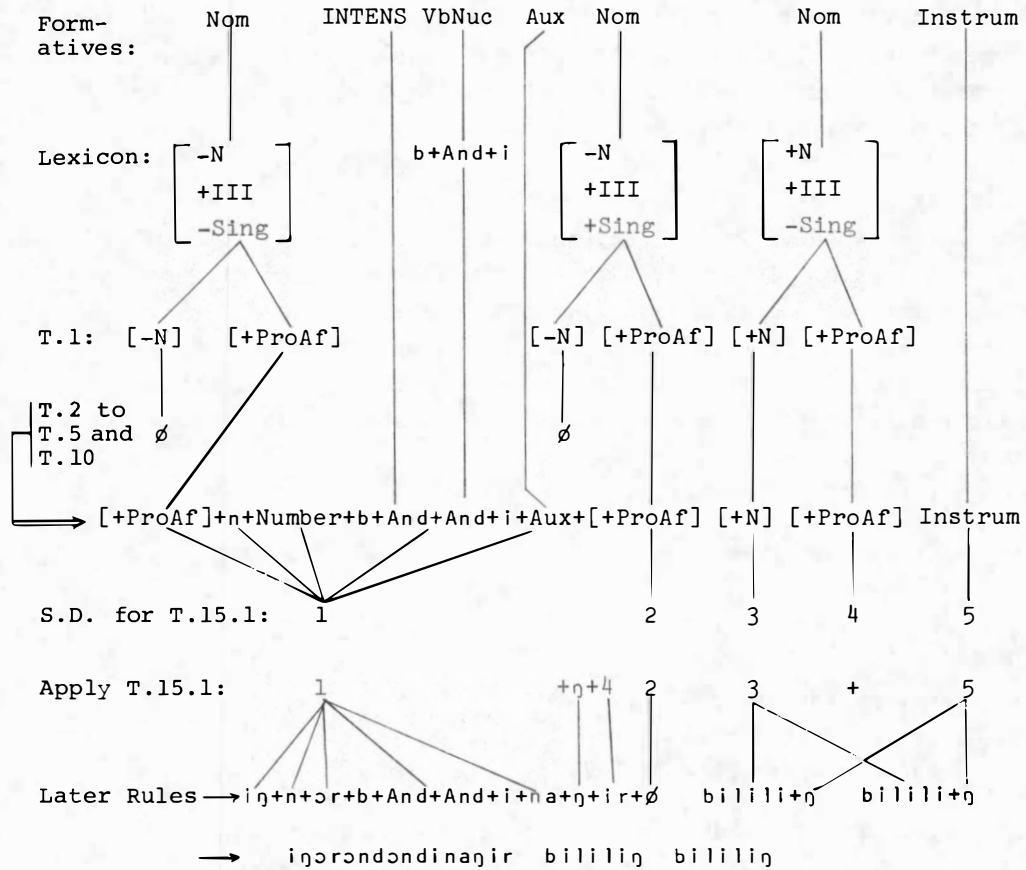
Ex.102   The Associative Suffix in relation to Comitative postpositional
phrases:

a) dar   iŋar-aṇa-ŋ-ir
   Come they-did-with-them
   They (the people) came with them (the children).

b) iŋara-ma-na-ŋ-ðarmudu-∅   i:la
   They-place-did-with-us-it dog
   They left the dog with us.

c) ir   biṛar   iŋir-i-ni-ŋ-ir-∅
   They leave behind they-∅-did-with-them-him
   They left him (the initiand) behind with them (the group of older men).

T.15.2.   OPTIONAL   REFERENTIAL SUFFIX

S.D. X̱‿Aux̱   Y   [±N]   [+ProAf] $\{$Purposive$\atop$Ablative$\}$ Z

       1   2   3   4   5   6

S.C. 1 + 4   2   3   +   5   6
      [+Refer]

Conditions: (i) 3 is marked [+Animate].
            (ii) 2 is not 1st. or 2nd. Person Pronominal Object.

T.15.2.1. This is the second optional transformation by which a
postpositional phrase may be incorporated in essence within the inflected
verb. It may apply when certain Purposive or Ablative postpositional
phrases occur in the Complement.

T.15.2.2. The first Condition is that the Nominal which stands as the
head of the postpostional phrase must be marked as [+Animate]. Thus,
for example, a Purposive phrase in which the Nominal is a place name
would not activate the transformation.

T.15.2.3. The second Condition blocks the transformation if a first
or second person Object pronominal suffix occurs between the Auxiliary
and the postpositional phrase. That is, Referential suffixes can only
occur with extra-active verbs if the Object pronominal suffix is in the
third person.

T.15.2.4. The Referential suffixes express action in reference to an
animate being, that is, *to, for* or *from* a person or an animal. Their
main function is to express Indirect Objects, but the term 'Referential'
has been chosen in view of the wider use of the suffixes.[1]

T.15.2.5. The Referential and the Object pronominal suffixes are to be
viewed in their interrelations within the wider pronominal system. The
former are derived from the free Possessive Pronouns, while the latter
are related to the Personal Pronouns. These relations will be made more
explicit in the discussion of Rule R.5, where the free and bound
pronominal forms will be compared.

_____

[1] C.f. the Wik-munkan 'Referent-benefactive Suffix' in Godfrey (1970:747) for a close
parallel.

T.15.2.6. The Referential suffixes are distinguished by the addition of the feature [+Refer] to the pronominal affix corresponding to the postpositional phrase Nominal (elements 4 and 3 in the S.D.).

T.15.2.7. The Purposive expresses *to* or *for* (C.f. B.10.3). With an animate head - that is, the postpositional phrases under consideration - the expressions would refer to actions *with reference to, on account of, for the benefit of* an animate being, usually human. The Purposive morpheme is ŋan.

Ex.103 (Text verbs 54, 86 and 87):

a) ðigiɽ in-ðu-na-ðin
Peep he-ø-did-at him
He peeped at him.

b) i-mañi-n-gal-ðaran   in-ðu-na-ðir
He-wave-Durat-just did-at me he-say-did-to them
"He kept on waving at me just now!" he said to them.

Ex.104 This illustration is taken from a story concerning a *Layudu* - a white spirit being which seeks to lure a group of children away:

ala-ŋan   wi:n in-ðu-na-ðiri   aḷ ina-mara-na-ðiri-ø
Children-for coax he-ø-did-for them Fish he-cook-did-for them-it
He (the Layudu) coaxed those children. He cooked a fish for them.

T.15.2.8. Examples of the Ablative postposition $\{^{ɔ}_{gɔ}\}$ were given in B.10.4. When associated with an animate head, the Ablative follows verbs such as *to hide (from), to be frightened (from), to be surprised (from), to be ignored (from)*. The last three verbs would in English be passives followed by *by*, expressing agent. In Baṛdi, without a surface passive construction, the Ablative is used.

Ex.105

a) in-ðalgi-na-ðaḍa   digi-nim
He-hide-did-from us Dickie-Agent
Dickie hid from us (after stealing the eggs).

b) ŋan-ðaɽgi-gal-ðirin
I-frightened-was just-from him
I was just now frightened by him.

c) iŋa-maŋgara-na-ðir
He-ignored-was-from them
They took no notice of him.

T.15.2.9. When a Referential suffix occurs before a third person Object suffix, a type of 'di-transitive' combination results, as illustrated in the following example.

Ex.106

a) in-ðuluŋa-na-ðin-ir   gaṛi
He-bring-did-for him-them alcohol
He brought those (bottles of) liquor for him.

b) in-ŋulu-n-ðan-ir
He throw-is-for me-them
He is throwing in those (bets) for me (in a card game).

c) ŋan-ðuguru-n-ðɔw-ir
I-make catamaran-am-for us two-them
I am making the two sections of a catamaran for us two.

T.16. ADVERBIAL TRANSFORMATIONS

In Section B.9, two adverbs were introduced because of their relevance to transformational processes which affect verb morphology. They were the Time and the Quantitative adverbs and their transformations will now be formulated under T.16.1 and T.16.2.

T.16.1.   OBLIG   TIME ADVERB/AUXILIARY AGREEMENT

B.9.1
L.5
LE.3.1
REFERENCE: _____

S.D.	X	+ Tense	Y	Time [δTense]	Z
	1	2		3	

S.C.	1	2 [δTense]		3	

T.16.1.1. This transformation safeguards the obligatory tense agreement between a temporal adverb marked for a particular tense in its Lexical Entry and the tense of the related verb Auxiliary. Agreement is indicated by the δ marker.

Ex.107   Take the ungrammatical sentence:

* ŋuriᵭ   in-ᵭidi-na

Tomorrow he-go-did

* *Tomorrow he went.*

During its derivation, the following stage would be reached:

[+ProAf] + ŋ + Number +d+id+i + Aspect + Tense   Time
                                        [+Dist] [+Proj]

At this point the transformation would block further derivation through lack of agreement between verb Tense and Time adverb.

If, however, the adverb ŋuriᵭ [+Proj] were to be replaced by the adverb milɔn [+Dist] then the derivation could procede. The line in the derivation above could then read:

[+ProAf] + ŋ + Number +ᵭ+id+i + Aspect + Tense   Time
                                     [+Dist] [+Dist]

Later Rules ⟶ i+ŋ+ø+ᵭ+id+i+ø+na   milɔn

    ⟶ milɔn inᵭidina

    Long ago, he went.

B.9.2
LE.3.2

T.16.2.   OBLIG   *THEM* DELETION   REFERENCE: _____

S.D.   W   Aux + X   +   ⎡ +ProAf ⎤   Y   nidi   Z
                                 ⎢ +III   ⎥
                                 ⎣ -Sing   ⎦

              1   2   3

S.C.   1   ø   3

T.16.2.1. *Them* Deletion was foreshadowed in B.9.2 in the discussion of the Quantitative adverb nidi. When nidi follows an Object pronominal suffix marked third person plural, the suffix is obligatorily deleted. The Quantitative adverb subsumes the meaning of the Plural suffix, making it unnecessary. In Ex.108 the plural Object suffix ᵭir is deleted.

Ex.108

maḻgaḻ   iru-luŋa-n-gal-ø   nidi·
*Wild grapes they-gather-*Durat*-did-'them'* deletion Quantit

agal guluŋguluwara   iru-luŋa-n-gal-ø
Conj 'Makabala' *fruit they-gather-*Durat*-did-'them'* deletion

nidi   gayaṛa-ðini-nim   bawa·
Quantit *'white'-group of-*Agent *children*
A group of 'white' children have just (Immed Perf) *been gathering large
quantities of wild grapes and 'Makabala' fruit.*

As is evident from these examples, when a free Object occurs in
conjunction with the Quantitative adverb, it is usually topicalised.

T.17. CONJUNCTION TRANSFORMATIONS

Two free conjunctions, Sequential and Purposive, which may introduce
modifications within the inflected verb will be discussed under T.17.
A third conjunction - Temporal - will be discussed under T.18.

<table>
<tr><td></td><td></td><td></td><td>B.11.1</td></tr>
<tr><td></td><td></td><td></td><td>LE.4.1</td></tr>
<tr><td>T.17.1.</td><td>OPTIONAL</td><td>SEQUENTIAL CONJUNCTION</td><td>REFERENCE:</td></tr>
<tr><td></td><td></td><td></td><td>M.11</td></tr>
<tr><td></td><td></td><td></td><td>M.13.2</td></tr>
</table>

S.D. S_1 $\{\begin{matrix} amba \\ ðamba \end{matrix}\}$ $S_2[\underline{\quad X + Aux \quad} \quad Y \quad]_{S_2}$

        1   2   3   4

S.C.   1   2   3 + amba 4

T.17.1.1. If the Sequential conjunction $\{\begin{smallmatrix} amba \\ ðamba \end{smallmatrix}\}$ connects two sentences,
it may also be introduced as a suffix to the Auxiliary of the verb of the
second sentence.

T.17.1.2. If the fourth element in the S.D. is a Pronominal Affix, the
Sequential conjunction causes modifications to its surface realisation
(M.13.2).

T.17.1.3. The form of the Sequential suffix is given as amba. As a
free conjunction there is free fluctuation between amba and ðamba.
However, this fluctuation is controlled by Rule M.13.2 in the case of
the suffix.

The following example illustrates the Sequential conjunction, firstly, suffixed to an intra-active verb and then preceding both Object and Referential suffixes.

Ex.109

a) Text Verbs 32 and 33:

$_{S_1}$[lagal ɖamba ŋ-a:ñ-a · · ·]$_{S_1}$ $_{S_2}$[ŋa-land-amba gaṇdi]$_{S_2}$

Climb Sequ *you-climb-must*   *You-sit*-Sequ *on top*
"*Then you climb up (into the tree by the tree-coffin) and then you
must sit (there) on top!*"

b) $_{S_1}$[ɖib an-aya-ɖir-ø   diŋgi baḍa bun-amba]$_{S_1}$

This you-take-for them-it dingey off over there-Sequ

$_{S_2}$[an-arg-amba-lir]$_{S_2}$

You-pick up-Sequ-*them*
"*You take this dingey off over there for them and then you pick
them up.*"

c) $_{S_1}$[ɖigiṟ ɖamb ar-i-ɖiri]$_{S_1}$$_{S_2}$[ŋang ar-ay-amba-ɖaḍa-ø]$_{S_2}$

Peep Sequ *you-ø-at them* *Word you-bring*-Sequ-*for us-it*
"*You (two) have a peep at them and then bring back word for us.*"

The ubiquity of the Sequential conjunction has been noted already. Apart from occurring as a suffix within the inflected verb, it can follow free pre-verb elements:

Ex.110

a) $_{S_1}$[bun-amba   did in-ɖu-na]$_{S_1}$ $_{S_2}$[ara ɖamba ular-ala-na-ø]$_{S_2}$

Further-Sequ *run he-ø-did*   *Neg* Sequ *they-see-did-him*
He ran on further and they did not see him (again).

b) $_{S_1}$[in-ɖaṟgi-n-amba   giñiŋg bawa]$_{S_1}$ $_{S_2}$[ɖagud ɖamb in-ɖu-na]$_{S_2}$

He-afraid-was-Sequ *that   boy*   *Return* Sequ *he-ø-did*
That boy was afraid and so he returned (to the camp).

Because these optional positions for the Sequential conjunction do not affect the morphology of the inflected verb there is no attempt in the present analysis to account for them transformationally.

T.17.2.   OPTIONAL   PURPOSIVE CONJUNCTION   REFERENCE: _____

S.D. S_1 aṛinɖi-ŋan $_{S_2}$[X [+ProAf]+Y + Verb Nucleus (+inɖi) + Z#]$_{S_2}$

        1   2   3   4   5   6

S.C.   1   ∅   3   ma   +   5   +   n

T.17.2.1.   Purposive conjunction may be expressed either by relating two
sentences through the use of aṛinɖi-ŋan (as in the S.D. above) or by
modifying the dependent inflected verb (as in the S.C. introduced by
T.17.2).   Examples of the former method were provided in B.11.2.

T.17.2.2.   The modifications to the dependent verb are considerable,
being identical to those introduced into the inflected verb through T.12
- the Negative Emphasis transformation.   That is, the prefix ma replaces
all prefixes to the Verb Nucleus, and the suffix n replaces all suffixes
apart from the Retro-active morpheme inɖi if it occurs.
    The Purposive conjunction (element 2) is deleted.

T.17.2.3.   This construction is similar to 'Infinitive of Purpose'
constructions in other languages such as English and Greek and it will
be termed the Baṛdi 'Infinitive'.[1]   As stated in T.12.7, the prefix ma
will be labelled Inf I, and the suffix n will be labelled Inf II.

T.17.2.4.   Although the postposition ŋan is shown to be deleted as part
of the Purposive conjunction in the S.C. of T.17.2, it is often re-
introduced as a suffix to a constituent of the dependent sentence.   This
is consistent with the fact, as pointed out in B.11.2, that the basic
function of ŋan is to express Purpose, as in the following example:

    Ex.111

    in-ɖidi-n ariana buru-ŋan
    He-go-did Ariana kangaroo-for
    Ariana (the Eagle-hawk) went off for kangaroo.

_____

[1]This is the term used by Nekes and Worms who, in fact, take this form as the basic one
for verbs and use it to identify verb stems.   However, because of the uncommon occurrence
of the form and because the Class marker is later modified in Infinitives, I have chosen
rather to identify verbs by their Class marker plus Verb Stem.

The following example illustrates the 'Infinitive of Purpose'
construction:

Ex.112 (Methods of divining the identity of a murderer):

a) S_1[ir-alala-n-ir   giñiŋgi mɔwan]S_1

   They-watch over-do-them those   hair relics

S_2[miṛurunu-nim-ŋan   m-a:l-a-n   balabu]S_2

   Shadow man-Agent-for Inf I-come-TransitV-Inf II up
   They keep watch over those hair relics (of the murdered man) for
   the 'shadow man' (of the killer) to come up.

b) S_1[ŋaḍaŋaḍa baḍaga ḍiṛbiṛ-b-ira-ma-n-ir]S_1

   Short   sticks stand up-Relat-they-put-do-them

S_2[ḍawal-ŋan   ma-yuḷŋ-a-n   giñiŋ ḍiwara-nim]S_2

   Message-for Inf I-tell-TransitV-Inf II that   corpse-Agent
   (They examine those) short sticks (divining pegs) which they set
   up for that dead man to send a message).

Where the dependent verb stands alone as the dependent sentence, the
Purposive postposition ŋan can be suffixed to it.

Ex.113

a) In this instance, the Infinitive of Purpose occurs with the Retro-
action morpheme inḍi.

S_1[baṇi-gara liyan min-ma-n ḍu-nim]$S_1$$S_2$[ma-ŋurub-inḍi-n-ŋan]

   What-time want   you-∅-do you-Agent   Inf I-chase-RA-Inf II-for
   At what time do you want for us to race against each other?

b) S_1[bili   iŋir-i-na-ḍir   manga-nim   amburiñ]S_1

   Make trouble they-∅-did-for them black-Agent people

S_2[m-ɔnḍ-a-n-ŋan]S_2

   Inf I-spear-TransitV-Inf II-for
   The Aboriginal people went to make trouble for them (two Europeans
   engaged in shelling) - to spear them.

T.18.   RELATOR CONSTRUCTIONS

The ubiquity of Bardi postpositions, clitics and particles has been mentioned from point to point. The Relator $\{^b_{ba}\}$ is the most versatile in this respect. It can be used to relate almost any two parts of speech, or words to larger constructions, or sentence to sentence. The following illustration gives a limited overview of its function.

Ex.114   Examples of relation:

a) Noun to noun

diwara-b-amba
Dead man-Relator-*man*
The man who was a corpse.

b) Noun to adverb

iwala-nimi giñiŋgi baw-ara-b
Uncle-Agent *that   child-time*-Relator
At the time of that uncle's childhood.

c) Noun to pronoun

gulu-ba-dir-ir
Fathers-Relator-*their-them*
Those (men) who were their fathers.

d) Adjective to pronoun

lugal-ba-lir
Bad-Relator-*them*
Those who were bad.

e) Postpositional phrase
   to pronoun

gara-yunu-ba-lir
Sea-belonging-Relator-*them*
Those who belong to the sea.

The Relator also functions in conjunction with the verb and it is upon this set of relations that the following transformations centre.

B.11.3
LE.4.3

T.18.1.   OPTIONAL   TEMPORAL RELATOR   REFERENCE: _____

S.D. $S_1 \{^{marab}_{maraba}\}$ $S_2[\underbrace{X + \underset{[-Mid]}{Tense} + Y}]_{S_2}$

              1   2

S.C.   1   2 + b#

T.18.1.1.   The Temporal conjunction {${}^{marab}_{maraba}$} was discussed in B.11.3.
By this optional transformation, temporal conjunction may be expressed
by the Relator b suffixed to the verb. In the S.C. of T.18.1, the free
conjunction is retained. However, in most cases, it is later deleted.

T.18.1.2.   When it occurs as a verbal suffix, it is word-final and no
more suffixing can take place, as indicated by the symbol #.

T.18.1.3.   This optional construction is limited to verbs in the Distant
Perfect Tense and thus it is a literary device particularly utilised in
narrative.

Ex.115

a) S_1[ir-nim   amburiñ gala   iŋar-ala-n-ir]S_1

    Those-Agent *people* Affirmative *they-see-did-them*

S_2[giñiŋ la:ga iŋa-landa-na-b   ñunu]S_2

    That   lugger it-anchor-did-Relator *there*
    Yes, those (Baṛdi) people saw them when that lugger anchored there.

b) S_1[ḏarada ḏi   aḷi iŋir-i-n-in]S_1

    Here   your meat they-say-did-to him

S_2[in-ḏala-na-b   ir-maḷa]S_2

    He-see-did-Relator *their-hands*

S_3[ḏi:n   iŋar-a-na-ø-b   balili]S_3

    Point at they-ø-did-him-Relator *initiand*
    *"Here is your meat!" they said to him (a malevolent spirit) when
    he saw their hands as they pointed to the initiand.*

T.18.2.   OPTIONAL   EMBEDDED NOMINAL RELATOR   REFERENCE: B.7.2

S.D. S_1[W Nom S_2[X (Pre-Stem) [+ProAf] + Y [±N] Z]S_2]S_1

                1 2   3   4   5 6

S.C.   1 2   3   ba + 4   ø 6

Condition: 2 is co-referential with 5.

T.18.2.1. The Embedded Nominal Relator transformation produces the Baṛdi
equivalent of the relative clause in other languages.

T.18.2.2. The S.D. for T.18.2 is a development out of Rule B.7, which
introduced the recursive sentence [NP ——→ Nom (S)]. The Nominal of the
primary sentence is element 2 in the S.D. It context is unspecified and,
thus, it can be a Subject, Object or Postpositional phrase Nominal. It
is followed by the embedded sentence, S_2, which is comprised of elements
3 and 6 in the rule.

T.18.2.3. The fifth element can represent any free form of a Nominal in
the embedded sentence. Where this embedded Nominal is co-referential
with a Nominal in the primary sentence (the Condition), T.18.2 may
operate.

T.18.2.4. The transformation prefixes the Relator ba to the Subject
pronominal prefix or to the Pre-Stem if one occurs. The free Nominal in
the embedded sentence, element 5, is deleted.

Ex.116

a) Relating two Subject Nominals:

S_1[in-ɖu-n-in   aṛa-nim]S_1 S_2[gulb-un b-iŋ-a-na-na]S_2

He-say-did-to him other-Agent   *Rock-at* Relat-*he-be*-Durat-Dist
The other (hermit-crab), who was waiting at the rock, spoke to him.

b) Relating an Object and a Subject Nominal:

S_1[amba-nim ara ular-ala-na-r   gayaṛa-ɖini]S_1

Men-Agent Neg *they-see-did-them 'whites'-group of*

S_2[ɖiba b-arar   iŋir-i-na]S_2

There Relat-*standing they-ø-were*
*The (two Aboriginal) men did not see that group of 'white' men who
were standing there.*

c) Two relative clauses are involved in this illustration. The primary
sentence is: *He gave it right past to the MAN*; the first embedded sentence
is: *The MAN was behind*; and the second dependent sentence is: *The MAN was
holding the initiand.* The three occurrences of the word *man* are referring
to the same person.

S_1[ñun   in-a-n-ø   angumundu   amba]S_1

  There he-give-did-it right past to man

S_2[bayibirɔñ b-iŋ-a-na-na]S_2

  Behind   Relat-*he-be*-Durat-Dist

S_3[balili   b-in-uŋgundunduma-na-na-ø]S_3

  Initiand Relat-*he-hold tight*-Durat-Dist-*him*
  He gave it (sacred blood) there right past to the man who was behind
  and who was holding the initiand tightly.

T.18.3.   OPTIONAL   PRONOMINAL SUFFIX RELATOR   REFERENCE:

T.3
T.15.2

M.11

S.D.   X + [+ProAf]   Y

        1   2

S.C.   1 + ba + 2

Condition: 1 does not include either the Sequential conjunction suffix
amba or the Associative suffix ŋ.

T.18.3.1. The Relator may also be introduced as an affix within the verb
without changing the meaning of the verb. It may precede either Object
or Referential pronominal suffixes and when it does, it modifies their
realisation (see Rule M.11).

T.18.3.2. The Transformation cannot apply if either the Sequential
conjunction suffix or the Associative suffix precedes the Pronominal
suffix.

    Ex.117

a) Relator in conjunction with an Object suffix:
    iŋɔr-ɔñi-na-na-ba-lir
    They-kill-Durat-Dist-Relat-*them*
    They used to kill them.

b) Relator with a Referential suffix:
    iŋa-lamanga-na-ba-ðin
    He-listen-did-Relat-*for him*
    He listened for him.

3.2. *REALISATION RULES*

The Realisation sub-component provides sets of morphemes corresponding
to the unrealised categories present in the output of the Transforma-
tional rules. No other morphemes are introduced after this sub-component.
The output of these rules - strings of concatenated morphemes - is
operated upon by the Phonological Component to produce the surface forms
of Baṛdi verbs.

3.2.1. Categories Involved

The output of the Transformational rules contains certain syntactic
categories which have not been in any way phonologically realised either
through the Lexicon or the transformations.

The categories involved have the following four characteristics:

(i) They are transformationally dependent.

That is, these categories are dependent upon the Transformational
Component either for their occurrence, as in the case of the pronominal
affix sets and the Number marker, within the inflected verb, or for
their specification, as in the case of some aspects of the Auxiliary
(Auxiliary/Adverb agreement, for instance).

(ii) They are complex in realisation.

Some transformationally dependent categories will have been realised
within the transformational rules. These are the 'simple' categories,
as defined in Section 3.1.4, which, because they are single morphemes
or a set of freely fluctuating allomorphs, are realised directly into
the Structural Change of the transformation by which they are introduced.

The 'simple' categories are Action Type, Potential, Negative and
Emphasis, Question, Associative Suffix, Sequential Conjunction, the
'Infinitive', the Relator and Intra-action Emphasis. All these categories
are realised immediately by a single morpheme within their transformation
except Intra-action Emphasis, which is realised either by ir or aŋar
interchangeably.

The Realisation rules are concerned with the balance of transforma-
tionally dependent categories which are complex in their realisation and
depend for their realisation upon their specifying features and syntactic
context. The 'complex' categories, with the relevant realisation rule
in brackets, are: the Subject Pronominal Prefix (R.1), the Auxiliary
(R.2), and Object/Associative Pronominal Suffix (R.3), the Number Prefix
(R.4) and the Referential Pronominal Suffix (R.5).

(iii) They are fully specified by their attendant features.

Thus, any Auxiliary at this point is specified as to Tense and Aspect and any Pronominal Affix is marked as to Person and Number. So defined, the categories are operated upon by the Realisation rules to provide the corresponding morpheme.

(iv) They are defined in function according to their syntactic context.

Pronominal Affixes must not only be specified but their syntactic relations - Subject-of, Object-of - must be considered for correct realisation. For instance, as a Subject prefix, the Dual would be realised as a; as an Object suffix or following the Associative Suffix it would be wayi; if it is marked [+Refer], it would be ꭤɔwu.

Ex.118 takes up the output of Ex.86, after the application of the T-rules to illustrate the discussion of the Realisation sub-component: (verb derivation only)

$$
\begin{array}{ll}
\text{arud} & \text{aŋgur-ŋurub-inꭤ-a} \\
\text{Exclusive} & \textit{we-chase}\text{-Retro-}\textit{will} \\
& \qquad\qquad\qquad\text{Action} \\
\multicolumn{2}{l}{\textit{We will race each other.}}
\end{array}
$$

$$
\begin{bmatrix} +\text{ProAf} \\ +\text{Exc} \end{bmatrix} + \text{ŋ} + \text{Number} + \text{ŋurub} + \text{u} + \text{inꭤi} + \begin{array}{c} \text{Aux} \\ [+\text{Proj}] \end{array}
$$

At this point in the derivation, there are lexical items, as with the Verb Stem and Transitional Vowel; there are 'simple' morphemes which have been inserted directly as realisations of categories introduced through the transformational rules, such as the ŋ (Intra-action) and the inꭤi (Retro-action); and there are the unrealised complex categories, Pronominal Affix, Number and Auxiliary. The morphemes which realise these categories are provided by the Realisation rules: the Exclusive prefix is realised as aŋ (R.1); Number is realised as r (R.4); and Auxiliary, as the prefix g and the suffix a (R.2). This gives the sequence of fully realised morphemes: aŋ+ŋ+g+r+ŋurub+u+inꭤi+a which, after the operation of the Morphophonemic rules, becomes aŋgurŋurubinꭤa.

3.2.2. The Extended Lexicon

The problem caused by the non-realisation of complex syntactic categories has long been recognised - especially in the description of agglutinative languages.[1]

---

[1] Dutton, for instance, in his study of the Papuan language 'Koiari', found it necessary to introduce 'Morpheme Realisation Rules' after the transformational rules (1969:401-412). The 'Realisation' component of the present study is patterned on this section in Dutton.

Chomsky, in the defence of the 'lexicalist' position that "all lexical insertion rules precede any nonlexical transformations" (1960:50), is forced to allow for some device which will permit a limited insertion of affixes after the application of the lexical insertion rules. Thus, he gives guarded consent to the 'Extended Lexical Hypothesis' proposed by Jackendoff.[1] Jackendoff (1969:30) suggests that, "the only changes transformations can make to lexical items is to add inflectional affixes such as number, gender, case, person, and tense." These include precisely the types of affixes which are introduced through the Realisation Rules in the present study.

The Realisation Rules are unordered.

R.1.   SUBJECT PRONOMINAL PREFIX   REFERENCE: B.1
                                                              T.2
                                                              M.1
                                                              M.3

$$
\begin{bmatrix} +ProAf \\[2pt]
\begin{array}{l} +I \\ +Sing \end{array} \rightarrow \quad \eta a \\[4pt]
\begin{array}{l} +II \\ +Sing \end{array} \rightarrow \quad mi \\[4pt]
\begin{array}{l} +III \\ +Sing \end{array} \rightarrow \quad i \\[4pt]
+Dual \rightarrow \quad a \\[4pt]
+\{\begin{array}{l} Inc \\ Exc \end{array}\} \rightarrow \quad a\eta \\[4pt]
\begin{array}{l} +II \\ -Sing \end{array} \rightarrow \quad gu\eta \\[4pt]
\begin{array}{l} +III \\ -Sing \end{array} \rightarrow \quad i\eta
\end{bmatrix} \quad \underline{\qquad} +X+VbNuc
$$

R.1.1.   These realisations can only be of the Subject prefix because of the syntactic context given to the right of the rule, that is, preceding the Verb Nucleus.

_____
[1] Chomsky says, (1969:32): "My own guess is that the extended lexical hypothesis is probably correct, in essence." His arguments for the 'lexicalist' hypothesis in his (1969) and (1968) papers are directed to the safeguarding of his concept of 'deep structure' against the attacks, particularly, of the 'generative semanticists'. Chomsky's and Jackendoff's arguments must be set against this background.

R.1.2. Some of these prefix morphemes are later modified by Rule M.1
and Rule M.3.

Ex.119 The conjugation of the Middle Perfect of the verb ib, *to
drink* is presented as it would appear after the operation of the trans-
formational rules, followed by its surface realisation with the Subject
prefix forms hyphenated:

$$
\begin{bmatrix} +ProAf \\ +I \\ +Sing \\ +II \\ +Sing \\ +III \\ +Sing \\ +Dual \\ +\{ \begin{smallmatrix} Inc \\ Exc \end{smallmatrix} \} \\ +II \\ -Sing \\ +III \\ -Sing \end{bmatrix}
+n+Number+ib+i+ \begin{matrix} Aux \\ [+Mid] \end{matrix} + \begin{bmatrix} +ProAf \\ +III \\ +Sing \end{bmatrix}
$$

→	ŋa-nibiᵭ
→	mi-nibiᵭ
→	i-nibiᵭ
→	a-nibiᵭ
→	aŋ-iribiᵭ
→	guŋ-iribiᵭ
→	iŋ-iribiᵭ

For identification of morphemes, the first verb, ŋanibiᵭ will be set
out in detail:

$$
\begin{bmatrix} +ProAf \\ +I \\ +Sing \end{bmatrix} + n + Number + ib+i + \begin{matrix} Aux \\ [+Mid] \end{matrix} + \begin{bmatrix} +ProAf \\ +III \\ +Sing \end{bmatrix}
$$

ŋa + n + ∅ + ib + i + iᵭ + ∅

Later Rules ——→ ŋanibiᵭ

I drank it (yesterday).

R.2.   AUXILIARY

R.2.1.

$$
X + \begin{bmatrix} [\text{-Perf}] \\ [\text{+Durat, -Perf}] \\ [\text{-Definite}] \\ [\text{+Contemp}] \\ [\text{+Durat, +Contemp}] \\ [\text{+Middle}] \\ [\text{+Durat, +Middle}] \\ [\text{-Middle}] \\ [\text{+Durat, -Middle}] \end{bmatrix} \longrightarrow \begin{bmatrix} a \\ n(ð) \\ a \\ gal(ð) \\ ngal(ð) \\ ið \\ inð \\ na \\ nana \end{bmatrix}
$$

Condition: X does not include the Potential morpheme ꞁ.

R.2.2.   X + Number + Y $\longrightarrow$ X + g + Number + Y $\Big/ \underline{\quad\quad}$ +Tense
                                                                    [+Proj]

Condition: X does not include the Potential morpheme ꞁ.

R.2.3.

$$
X + ꞁ + Y + \begin{bmatrix} [\text{-Perf}] \\ \left[\begin{cases} \text{+Contemp} \\ \text{+Middle} \\ \text{-Definite} \end{cases}\right] \\ [\text{-Middle}] \end{bmatrix} \longrightarrow \begin{bmatrix} a \\ na \\ nana \end{bmatrix}
$$

R.2.1.1. The Auxiliary has been treated as a single unit in its morpheme realisation although the Durative morpheme n is easily identifiable. There are a number of reasons for treating the Auxiliary as a 'fused' unit rather than separating it into Aspect and Tense:

   (1) It is the simplest method of presentation and, therefore, conforms to the practical emphasis of the analysis. It simplifies the presentation in obviating the need for a number of rules of minimum 'productivity'. For instance, the Durative morpheme becomes an infix in the Middle Perfect

(iɗ ⟶ i-n-ɗ), and it attracts the vowel a in the Distant [-Middle]
Perfect Tense (n+na ⟶ na-na).

(ii) It underlines the relationship between Aspect and Tense in Baṛdi.
The Durative aspect, for instance, at times is extended to express greater
time depth, as in the case of the 'Remote Perfect' which is an extension
of the Durative Distant and has the same realisation nana (see Ex.65).

R.2.1.2. The Imperfect Tenses [-Perf] - Present and Projected - have
the same suffix markers although the non-Durative Present is most rare
and the Projected non-Durative is far more common than the Durative.
The two Imperfect tenses are distinguished in surface forms by their
prefix structure.

R.2.1.3. The Contemporary Tenses - Immediate and Near [-Immed] Perfects
- share the same suffixes and, as with the Imperfects, are distinguished
by their prefixes.

Ex.120

ir-unduru-galɗ-∅   iŋur-unduru-galɗ-∅
*They-cross-*Immed-*it*   *They-cross-*Near-*it*
They have just crossed it.   *They crossed it earlier.*

R.2.1.4. The Condition excludes Irrealis verbs from Rule R.2.1, and the
Auxiliaries of such verbs are realised by R.2.3.

R.2.2.1. The second Auxiliary sub-rule, R.2.2, is also subject to this
Condition. The Condition is stated twice because the Realisation rules
are unordered. R.2.2 introduces the morpheme g as a prefix occurring
immediately before Number in the Projected Tense. This prefix distin-
guishes Present from Projected forms in conjunction with other morpho-
phonemic changes to the prefix structure.

Ex.121

a) ŋan-unduru-nɗ-∅   ŋan-g-unduru-nɗ-∅
   *I-cross-*ᴅurat Pres-*it*   *I-*Proj-*cross-*Durat Proj-*it*
   I am crossing it.   *I shall be crossing it.*

b) a-r-unduru-nɗ-∅   aŋ-g-ur-unduru-nɗ-∅
   *We-*Plur-*cross-*Durat Pres-*it* *We-*Proj-*Plur-*cross-*Durat Proj-*it*
   We are crossing it.   *We shall be crossing it.*

Before discussing the third sub-rule, R.2.3, the first two sub-rules will be illustrated together:

Ex.122

a) uŋ-g-ir-mil-a
   they-Proj-Plur-wake-Proj   *They will wake up.*

b) ir-mili-nɗ
   They-wake-Durat Pres   *They are waking up.*

c) iŋir-mil-a
   They-wake-Indefinite Perf   *They woke up (sometime in the past).*

d) ir-mili-n-galɗ
   They-wake-Durat-Immed   *They have just been waking up.*

e) iŋir-mili-n-galɗ
   They-wake-Durat-Near   *They kept waking up (this morning).*

f) iŋir-mil-iɗ
   They-wake-Mid   *They woke up (yesterday).*

g) iŋir-mili-na-na
   They-wake-Durat-Dist   *They kept on waking up (long ago).*

R.2.3.1. The third Auxiliary sub-rule applies to Irrealis verbs - that is, Negative or Potential. The Auxiliary for these verbs is considerably simplified. Aspect has been deleted through Rule T.9 and there are fewer Tense morphemes.

R.2.3.2. The morpheme for both Imperfects is a. The Near, Immediate, Middle and Indefinite Perfects are marked by na. The Distant Perfect is marked by nana.

R.2.3.3. The function which the prefixes performed in distinguishing tense with the realis verbs (R.2.1 and R.2.2) is neutralised because the prefixing of the Projected Tense g does not apply to Irrealis verbs, and because of the operation of the Rules M.1 and M.3.

Ex.123 (Negating the verbs given in Ex.122):

a) ara i-l-ir-mil-a   *They will not wake up.*
   Neg *they*-Pot-Plur-*wake*-[-Perf] { *They are not waking up.* }

b) ara i-l-ir-mili-na ⌈+Contemp⌉ ⌈*They did not wake up (earlier today).*⌉
   Neg *they*-Pot-Plur-*wake*- |+Mid | ⎨ *They did not wake up (yesterday).* ⎬
                                ⌊-Definite⌋ ⌊*They did not wake up* (indefinite past).⌋

c) ara i-l-ir-mili-nana   *They did not wake up (long ago).*
   Neg *they*-Pot-Plur-*wake*-[-Mid]
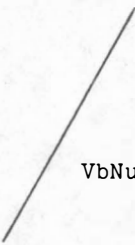
B.3
T.3

R.3.   OBJECT/ASSOCIATIVE PRONOMINAL SUFFIX   REFERENCE: _____

M.11

⌈+ProAf⌉
+I +Sing	→	ŋayu
+II +Sing	→	ri
+III +Sing	→	ø
+Dual	→	wayi
+{Inc Exc}	→	mudu
+II -Sing	→	gur
+III -Sing	→	r

VbNuc+X+_____

R.3.1.   The syntactic context, that is, following the Verb Nucleus,
defines these Pronominal Affixes as either Object suffixes or suffixes
following the Associative Suffix ŋ.

R.3.2.   As previously stated, the Object suffixes are related to the
Personal free pronouns, repeated here for comparison:

[+I,+Sing]   ŋayu

[+II,+Sing]   ɖu

[+III,+Sing]   giñiŋgi

[+Dual]   ayu

[+Exc]   arudu

[+II,-Sing]   gur

[+III,-Sing]   ir

R.3.3. These suffix morphemes are later modified by Rule M.11. As these modifications affect the realisation of pronominal suffixes which follow the Associative Suffix, illustration of Associative forms will not be given until the discussion of M.11.

Ex.124 The conjugation of the Distant Perfect of the verb b+i *to hit*, using a third person singular Subject in conjunction with all of the pronominal suffix Objects. The derivation is taken up from after the operation of all the rules up to this point. The surface realisations appear on the right with the Object morphemes hyphenated:

$$
i+n+Number+b+i+na+ \left\{ \begin{matrix} +ProAf \\ \begin{matrix} +I \\ +Sing \end{matrix} & \rightarrow & inimbina\text{-}ŋayu \\ \begin{matrix} +II \\ +Sing \end{matrix} & \rightarrow & inimbina\text{-}ri \\ \begin{matrix} +III \\ +Sing \end{matrix} & \rightarrow & inimbina\text{-}ø \\ +Dual & \rightarrow & inimbina\text{-}wayi \\ +\{^{Inc}_{Exc}\} & \rightarrow & inimbina\text{-}mudu \\ \begin{matrix} +II \\ -Sing \end{matrix} & \rightarrow & inimbina\text{-}gur \\ \begin{matrix} +III \\ -Sing \end{matrix} & \rightarrow & inimbina\text{-}r \end{matrix} \right.
$$
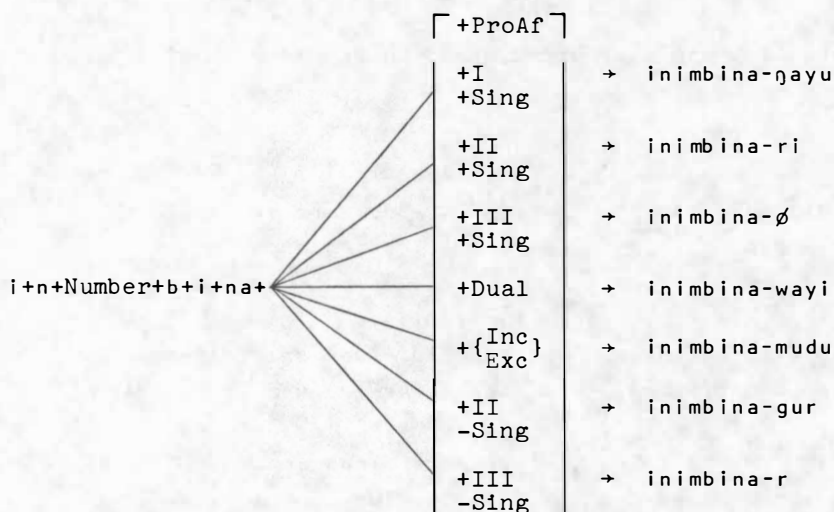
For identification of morphemes, the first verb, inimbinaŋayu will be set out in detail:

```
i+n+Number+b+i+na+⎡+ProAf⎤
                  ⎢+I    ⎥
                  ⎣+Sing ⎦
```

```
i+n+∅+b+i+na+ŋayu          Later Rules ⟶ inimbinaŋayu
```
He-EA-Sing-Class-*hit-did-me*
He hit me (some time ago).
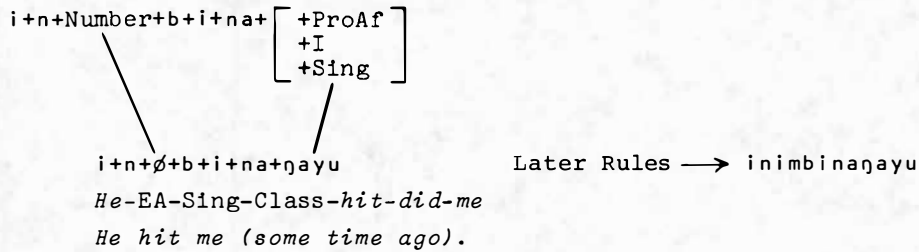
R.4.   NUMBER PREFIX

<div align="right">

T.4
REFERENCE: ____
M.4

</div>

$$\text{Number} \longrightarrow \begin{bmatrix} \emptyset \\ r \end{bmatrix} \bigg/ \begin{bmatrix} +\text{ProAf} \\ +\text{Sing} \\ -\text{Sing} \end{bmatrix} + X + \underline{\quad\quad}$$

R.4.1.   R.4 realises Number as a zero morpheme in relation to any Subject pronominal prefix marker with the feature [+Sing], and r in relation to any Subject prefix marked [-Sing].

R.4.2.   The variable 'X' is necessary to accomodate either the Action Type morpheme or the Potential morpheme.

Ex.125   Contrasting singular and plural, using the verb mi *to look around.*

Singular	Plural
a) ŋa-∅-mi-nḏ	a-r-mi-nḏ
I-Sing-*look around*-Pres	*We*-Plur-*look around*-Pres
I am looking around.	*We are looking around.*
b) i-ŋi-∅-mi-gal	iŋ-ir-mi-gal
He-IA-Sing-*look around*-Near	*They*-Plur-*look around*-Near
He looked around (earlier).	*They looked around (earlier).*
c) mi-li-∅-mi-na	gu-li-ri-mi-na
You-Pot-Sing-*look around*-did	*You*-Pot-Plur-*look around*-did
You (sing) *should have looked around.*	*You all should have looked around*

R.5.   REFERENTIAL SUFFIX

$$
\begin{bmatrix} +\text{ProAf} \\ +\text{Refer} \end{bmatrix}
$$

$\begin{matrix} +\text{I} \\ +\text{Sing} \end{matrix}$	→	$\{{}^{ðan}_{an}\}$
$\begin{matrix} +\text{II} \\ +\text{Sing} \end{matrix}$	→	$\{{}^{ði}_{i}\}$
$\begin{matrix} +\text{III} \\ +\text{Sing} \end{matrix}$	→	$\{{}^{ðin}_{in}\}$
$+\text{Dual}$	→	ðɔwu
$+\{{}^{Inc}_{Exc}\}$	→	ðaḍa
$\begin{matrix} +\text{II} \\ -\text{Sing} \end{matrix}$	→	ðugara
$\begin{matrix} +\text{III} \\ -\text{Sing} \end{matrix}$	→	ðir

R.5.1. The relationship between the Referential (+Refer] Pronominal
suffixes and the Possessive pronouns has been mentioned. The free
Possessives are given below for comparison:

[+I,+Sing]   ðana

[+II,+Sing]   ðiya

[+III,+Sing]   ðina

[+Dual]   ðɔwa

[+{$^{Inc}_{Exc}$}]   ðaḍa

[+II,-Sing]   ðugara

[+III,-Sing]   ðira

R.5.2. The Referential suffixes may later be modified through Rule M.11.

   Ex.126 The Projected Imperfect of the verb ð+aḷg, *to hide*, using a
third person singular Subject in conjunction with the Referential
pronominal suffixes:

$$i+\eta+g+\emptyset+\eth+a\underset{.}{l}g+i+a+ \Bigg\langle \begin{bmatrix} +ProAf \\ +Refer \end{bmatrix}$$

$\begin{matrix}+I\\+Sing\end{matrix}$	→ uŋgaḷga-ðan
$\begin{matrix}+II\\+Sing\end{matrix}$	→ uŋgaḷga-ði
$\begin{matrix}+III\\+Sing\end{matrix}$	→ uŋgaḷga-ðin
+Dual	→ uŋgaḷga-ðɔwu
$+\{\begin{matrix}Inc\\Exc\end{matrix}\}$	→ uŋgaḷga-ðaḍa
$\begin{matrix}+II\\-Sing\end{matrix}$	→ uŋgaḷga-ðugara
$\begin{matrix}+III\\-Sing\end{matrix}$	→ uŋgaḷga-ðir
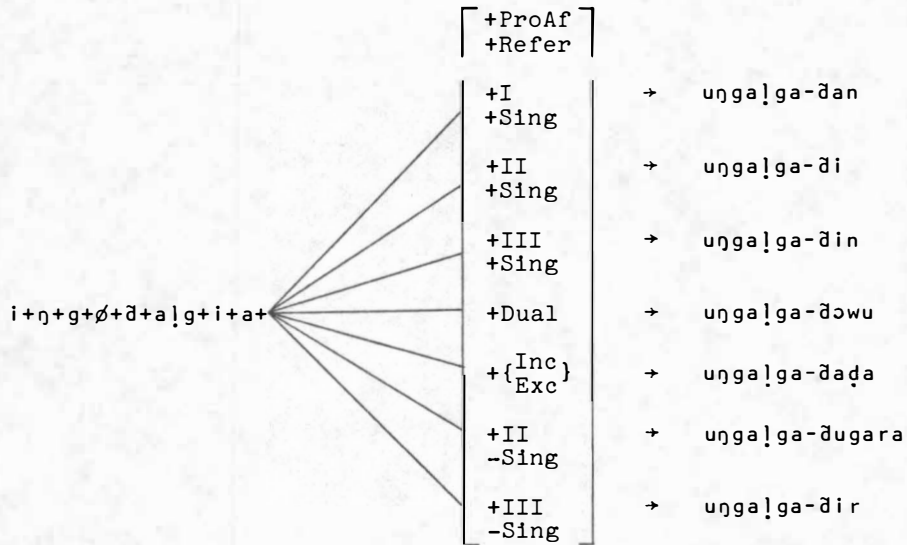
For identification of morphemes, the first verb, uŋgaḷgaðan will be set out in detail:

$$i+\eta+g+\emptyset+\eth+a\underset{.}{l}g+i+a + \begin{bmatrix} +ProAf \\ +Refer \\ +I \\ +Sing \end{bmatrix}$$

$i+\eta+g+\emptyset+\eth+a\underset{.}{l}g+i+a + \eth an$

He-IA-Proj-Sing-Class-*hide*-TransitV-Proj-*from me*

He will hide from me.

The Morphophonemic rules act upon this string of concatenated morphemes, modifying the Subject prefix and deleting the Class marker and the Transitional Vowel, giving the surface from of the verb as: uŋgaḷgaðan.

The rules of the Phonological Component will now be presented and discussed.

4.0. THE PHONOLOGICAL COMPONENT

The Phonological Component deals with morphophonemic processes and rules which operate upon the output of the Base and Transformational Components to produce the surface phonemic representations of Baṛdi verbs. The presentation will be based upon the phonemic orthography set out in 1.5.6. A generative phonology of Baṛdi will not be formulated here, although there are general processes which could perhaps be better captured by a feature description in a fuller study.

4.1. *PHONOLOGICAL PROCESSES*

The rules up to this point will have generated sequences of concat-
enated morphemes, many of which will modify or be modified by their
environment. Five phonological processes underlie almost all the mor-
phophonemic rules which have been formulated to account for these
modifications within Baṛdi verbs.

4.1.1. Assimilation

Morphophonemic Rule 8.2 demonstrates the process of Assimilation to
the point of articulation. By M.8.2, the ŋ is modified through assimi-
lation to a contiguous Class marker. It becomes n before a ḍ, and m
before a b. Thus ŋaŋ+ḍalgugalḍ is rewritten as ŋanḍalgugalḍ and
iŋ+bilginḍ is rewritten as imbilginḍ. That is, assimilation to the
alveolar and bilabial points of articulation respectively.

4.1.2. Cluster Reduction[1]

Clusters of either vowels or incompatible consonants are often reduced
by the deletion of one of their members. 'Incompatible' consonant
clusters are those sequences of consonants which have not been found to
occur within any Baṛdi word.[2] Cluster reduction is the basis of M.2
and M.12.3 for instance. M.2.2 lists four consonants before which an n
has never been found to occur. That is, the consonant clusters nṛ, nñ,
nl and nḷ do not occur in any Baṛdi word. With these sequences, the n
is simply deleted. Thus, ŋan+ñanḍ becomes ŋañanḍ, and min+lumagalḍir
becomes milumagalḍir.

By M.12.3, certain initial members of vowel clusters are deleted.
Thus, minḍayayana+aḍa+ir is rewritten as minḍayayanaḍir.

4.1.3. Transition

'Cluster reduction' and Transition are complementary in their
operation. They appear to be alternative solutions to the problem which

---

[1]This is the term used by Capell and Hinch (1970:35,39).

[2]Such sequence restrictions could well be termed 'phonologically-defined surface
structure constraints' as an extension of Permutter's (1970) contention for 'surface
structure constraints in syntax' (c.f. reference to his argument on page 9 footnote 2).

This is particularly relevant to the view of the present study of the Baṛdi verb as
a 'sentence-in-miniature'. Just as the transformational component output may contain
certain sequences, such as the Spanish clitics in Perlmutter's paper, which are subject
to syntactic constraints, so the rules also produce sequences of morphemes which may
be subject to phonological constraints.

arises when either vowel or incompatible consonant clusters are generated through previous rules. If cluster reduction does not operate, then some transitional phoneme is introduced.

For instance, when verb stem-final vowels occur contiguously with Auxiliary vowels, both are retained by the introduction of one of the semi-consonants w or y through Rules B.12.1 and B.12.2. Thus, ɔnɔ+ar becomes ɔnɔwar and inirịla+ind becomes inirịlayind.

In the case of contiguous consonants, 'epenthetic' vowels are introduced through M.7. By it, al+r+mananar is written as alaramananar.

4.1.4. Vowel Harmony[1]

Associated with the transitional 'epenthetic' vowels is the process of Vowel Harmony. The epenthetic vowels are the same as the first vowel of the verb stem or, in some cases, the Transitional Vowel (see M.7). But, in the case of a stem which has an ɔ phoneme, the influence of vowel harmony extends to the pronominal prefix where the vowel of the prefix is an a. Thus, by M.9, ŋaŋg+ɔnɔrinda is rewritten as ŋɔŋgɔnɔrinda.

4.1.5. Metathesis

Metathesis - a reversal in morpheme order - occurs twice in Baṛdi verb morphology. It underlies a modification to the second person singular in the Projected Tense of intra-active verbs and it affects the realisation of 'di-transitive' pronominal suffix combinations when they follow a consonant. The first modification is introduced through M.1.2.2 which would cause, for instance, a+ŋ+mulga to be written as ŋamulga. The second modification is introduced by M.11.3.1 by which the combination din+r would be written as dirin.

4.2. *OTHER FACTORS*

In addition to these five processes which underlie most of the Baṛdi phonological rules, the following two important factors also influence the phonology.

4.2.1. Abbreviation

Rule M.1.2.1.deals with modifications to the second person Projected Tense forms. These are the Imperatives and the fact that they are modified to a greater extent than are any other forms is consistent with

---

[1]In rapid speech, vowel harmony has an even wider influence. In Text Verbs 8 and 9 it extends to the Auxiliary. Thus, iŋurululuruna is iŋurululurunu and iŋirina is iŋirini.

the tendency found in many languages to shorten the most common expressions of command. For instance, the Baṟdi for *they will sleep* is
uŋgurmulga. If the second person plural were to be realised without
the intervention of Rule M.1.2.1, its form would be aŋgurmulga. However,
the present form has been abbreviated to a-rmulga.

Another area in which forms have an abbreviated form is that of the
'Irregular Verbs'. As mentioned in Section 6.1, where these verbs have
been presented in paradigm form, it is the most used tense of the most
common verbs which differs most. For instance, the Present Tense (and,
with this verb the Projected Tense) of the verb g+al *to walk* has 'lost'
its Auxiliary. The 'regular' derivation of the third person singular
forms would be ungala (Projected) and ingaland (Present). These forms
have been abbreviated to ungal and ingal respectively.

4.2.2. Distinction

Some morphophonemic modifications appear to have been introduced to
avoid ambiguity caused by the production of homomorphous forms. A
similar distinguishing function was noted for the Projected Tense Prefix
g without which, a number of the Present and Projected forms would be
identical (see Section R.2.2.1).

The second part of Rule M.3, because it is limited to the Present and
Immediate Tenses only, leads to a distinction between the Immediate and
the Near Perfect Tenses. For instance, this rule distinguishes between
the Immediate form ir-mulgungald *They were sleeping just a moment ago*
and iŋur-mulgungald *They were sleeping earlier* - the Near Perfect form.

4.3. *MORPHOPHONEMIC RULES*

4.3.1. Nature of Rules

The morphophonemic rules are ordered and all are obligatory. Some
of the commonn optional forms are noted in the discussion.

4.3.2. Conventions

The three-period convention ... indicates an incomplete morpheme. Its
function is purely that of the identification and definition of morphemes
in the formulation of the rules. ...a would express any morpheme which
ends in a but which is longer than a; a... would indicate any a-initial
morpheme longer than a. If this convention is parenthesised, it becomes
optional. Thus, (...)a(...) would indicate a morpheme which consists of
a alone, or a in morpheme initial, medial or final position.

Where homomorphous morphemes could lead to confusion of reference, a

further morpheme identifier is used. Ambiguous contexts are specified
by a sub-script label. M.9 illustrates these conventions:

$$(\ldots)a(\ldots) \longrightarrow (\ldots)ɔ(\ldots) \qquad \underline{\qquad}+X+ɔ(\ldots) \atop [VbS]$$

The vowel a, whenever it occurs before a Verb Stem which is ɔ-initial,
is written as ɔ.

Agreement is indicated by a sub-script numeral. For instance, to
express the agreement of 'epenthetic' vowels with the first vowel of the
Verb Nucleus, Rule M.7 reads:

$$C + C \longrightarrow C + V_1 + C \qquad \underline{\qquad}+X+(\ldots)V_1 \atop [VbNuc]$$

M.1. SUBJECT PREFIX MODIFICATION

<div align="right">

B.1
T.2
T.14
R.1
REFERENCE:
M.3

</div>

M.1.1. THIRD PERSON

$$i(\ldots) \longrightarrow u(\ldots) \Big/ \left\{ {\underline{\qquad}+l \atop {\underline{\qquad}+X+Aux \atop [-Pres]}} \right\}$$

The i(...) is either the third person singular pronominal prefix i,
or the third person plural prefix iŋ (in which case the 'three-period'
convention stands for the ŋ).

Whenever i occurs before the Potential morpheme l or in a verb in the
Projected [-Pres] Imperfect Tense, it is rewritten as u.

Ex.127 (Using the verb m+a *to put*):

a) The third person Projected Indicative forms would be the following
strings of morphemes up to this point in the rules:

i+n+g+∅+m+a+a+∅   iŋ+n+g+r+m+a+a+∅
He-EA-Proj-Sing-*put*-TV[1]-Proj-*it*   *They*-EA-Proj-Plur-*put*-TV-Proj-*it*
He will put it (there).   *They will put it (there).*

Apply M.1.1:   u+n+g+∅+m+a+a+∅   uŋ+n+g+r+m+a+a+∅

Later Rules ⟶ ungama   uŋgarama

---

[1]The Transitional Vowel (TransitV up to this point) will be further abbreviated in the
Morphophonemic Component to TV.

b) The third person Distant Perfect Potential forms would appear at this point as:

i+l+Ø+m+a+nana+Ø   iŋ+l+r+m+a+nana+Ø
He-Pot-Sing-*put*-TV-Dist-*it*   *They*-Pot-Plur-*put*-TV-Dist-*it*
He should have put it (there).   *They should have put it (there).*

Apply M.1.1:   u+l+Ø+m+a+nana+Ø   uŋ+l+r+m+a+nana+Ø

Later Rules   ulamanana   ularamanana

M.1.2. SECOND PERSON PROJECTED

The morphophonemic rules relating to second person Projected Tense forms have become necessary in view of the abbreviation of Imperatives in Baṛdi. Two sub-rules account for these modifications.

M.1.2.1.
$$\begin{bmatrix} mi \\ \\ aŋ \end{bmatrix} + \begin{matrix} \text{Action} \\ \text{Type} \end{matrix} + \begin{matrix} g \\ \\ \text{Tense} \\ [-Pres] \end{matrix} \longrightarrow \begin{bmatrix} a + \text{Action} \\ \text{Type} \\ \\ a \end{bmatrix}$$

Action Type would be either the Extra-active morpheme n or the Intra-active morpheme ŋ. The g morpheme is the Projected Tense prefix. It is necessary to include this identification as the g in this position could also be a Class marker.

Whenever the second person singular prefix mi, or the second person plural prefix aŋ occurs before an Action Type marker and the Projected Tense prefix, the mi is rewritten as a and the tense prefix deleted, and the aŋ is rewritten as a and both the tense prefix and the Action Type marker are deleted.

Ex.128 (using the verb and+i, *to pick up an object*):

a) The second person Projected Indicative forms (with the plural Object pronominal suffix r) would appear at this point as:

mi+n+g+Ø+and+i+a+r   aŋ+n+g+r+and+i+a+r
You-EA-Proj-Sing-*pick*-TV-Proj-*them*   *You*-EA-Proj-Plur-*pick*-TV-Proj-*them*
                  up   up
Pick them up!   *Pick them up (all of you)!*

Apply M.1.2.1:   a+n+Ø+Ø+and+i+a+r   a+Ø+Ø+r+and+i+a+r

Later Rules ⟶   anandar   arandar

b) To illustrate further, the plural verb above is presented in a simplified tree diagram:

$$\begin{bmatrix} -N \\ +II \\ -Sing \end{bmatrix} \quad \begin{array}{c} \text{VbNuc} \ \ \text{Aux} \\ [+Proj] \end{array} \begin{bmatrix} -N \\ +III \\ -Sing \end{bmatrix}$$

After T- and R-Rules: aŋ + n ◆ g + r + and+i + a + r

Apply M.1.2.1:   a + ∅ ◆ ∅ + r + and+i + a + r

Later Rules ——————▶   arandar

Pick them up (all of you)!
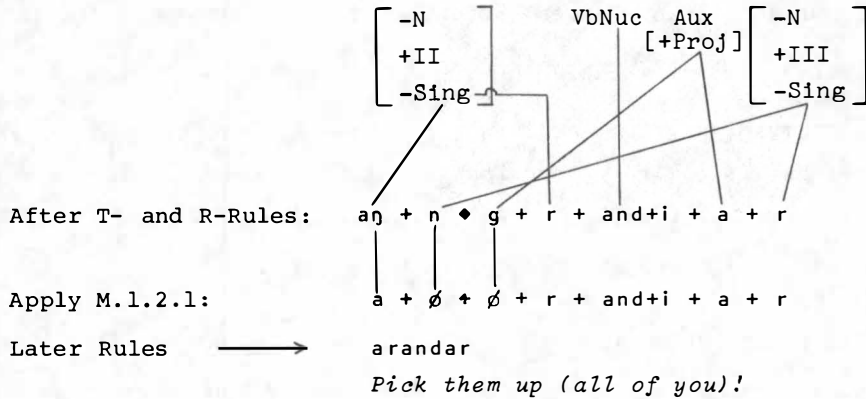
Every Morphophonemic rule thus far has involved the Projected Tense, emphasising the fact that the Subject prefixes of this tense undergo considerably more modification than is true of other tenses. The following example sets out the Projected Tense paradigm of the verb aṛalgam+a *to dry* to illustrate the rules formulated to this point. The third person plural Ojbect suffix r is used in each case.

Ex.129

ŋa-n-g-aṛalgam-a-r	*I shall dry them.*
a-n-∅-aṛalgam-a-r	*You will dry them./ Dry them!*
u-n-g-aṛalgam-a-r	*He will dry them.*
a-n-g-aṛalgam-a-r	*You and I will dry them.*
aŋ-g-ar-aṛalgam-a-r	*We all shall dry them.*
a-∅- r-aṛalgam-a-r	*You all will dry them./ Dry them!*
uŋ-g-ar-aṛalgam-a-r	*They will dry them.*

Note that the Extra-action morpheme n does not appear in any of the plural forms. In the second person, it has been deleted by Rule M.1.2.1. In the first and third persons it is later assimilated by contiguity with a preceding velar nasal (Rule M.2.1).

M.1.2.2.   a   +   ŋ ——————▶ ŋ + a

$$\begin{bmatrix} +ProAf \\ +II \\ +Sing \end{bmatrix}$$

This sequence of a + ŋ can only be the output of the previous sub-rule. That is, a must be the second person singular Projected Subject prefix as, in all other tenses, it is mi, and the ŋ must be the Intra-action marker in this context.

When these two morphemes occur in sequence, their order is reversed by the process of metathesis.

Ex.130

a) ŋa-mulg-a
   You-sleep-Proj
   Go to sleep!

b) ŋa-lag-a
   You-find out-Proj
   You will find out.

c) ŋa-miduḍ-a
   You-look around-Proj
   Look around.

d) (a), above, represented as a tree diagram:

$$\begin{bmatrix} +\text{ProAf} \\ +\text{II} \\ +\text{Sing} \end{bmatrix} \quad \text{VbNuc} \quad \text{Aux} \atop [-\text{Pres}]$$

After T- and R-Rules: mi+ŋ+g+∅+mulg+u+a

Apply M.1.2.1: a+ŋ+∅+∅+mulg+u+a

Apply M.1.2.2: ŋ+a+∅+∅+mulg+u+a

Later Rules ⟶ ŋamulga

M.2. EXTRA-ACTION MARKER DELETION

M.2.1.   n ⟶ ∅ / ...ŋ + ___
                    [+ProAf]

The Extra-action morpheme n is written as a zero morpheme when it is affixed to a Subject pronominal prefix ending in ŋ.

This rule involves every sequence of a plural pronominal prefix with n, as all three plural prefixes end in ŋ. They are, aŋ for first person, guŋ for second person and iŋ for third person.

This process has already been noted in Ex.129 with respect to Projected plural forms. The following example takes the same verb and applies this rule to other tenses. From this point on in the Examples the first string of concatenated morphemes presented will be the output of all the rules up to that particular point. This does not apply to the 'tree' diagrams which trace the derivation back in more detail.

Ex.131

a) aŋ+n+r+aṛalgam+a+galḍ+r   M.2.1. → aŋ+∅+r+aṛalgam+a+galḍ+r
   We-EA-Plur-*dry*-TV-Near-*them*   Later Rules → aŋaraṛalgamagalḍir
   We dried them (earlier).

b) guŋ+n+r+aṛalgam+a+iḏ+r   M.2.1.   →   guŋ+ø̸+r+aṛalgam+a+iḏ+r
   You-EA.....dry...Mid-them   Later Rules   →   guŋaraṛalgamiḏir
   You dried them (yesterday).

c) iŋ+n+r+aṛalgam+a+na+r   M.2.1.   →   iŋ+ø̸+r+aṛalgam+a+na+r
   They-EA...dry...Dist-them   Later Rules   →   iŋaraṛalgamanar
   They dried them (long ago).

$$\text{M.2.2.} \qquad n \longrightarrow \emptyset \;\Big/\; \underline{\qquad} + \begin{Bmatrix} r \\ \tilde{n} \\ l \\ \text{!} \end{Bmatrix} (\ldots) + X + \text{Aux} \\ [+\{{}^{\text{Pres}}_{\text{Immed}}\}]$$

The Extra-action marker n is written as a zero morpheme when it occurs
immediately before the consonants ṛ, ñ, l and ḷ, and when the verb is in
either the Present or the Immediate Perfect Tense. These consonants may
be complete morphemes or the initial consonants of a longer morpheme, as
denoted by the (...) convention, and they are all a part of, or the
complete Verb Stem. In fact, the stem ñ, *to pick up*, is the only rec-
orded instance of a single consonant stem relevant to this context, but
it is used with considerable frequency both as an autonomous verb and as
an ancillary. The list of context consonants consists only of those which
produce this modification and which have been recorded. In Section L.4.2
it was pointed out that consonant-initial stems commence with only a very
limited number of consonants. However, one would expect, for example,
that if verb stems were found which commence with ꞇ or n, then these con-
sonants would also cause the deletion of the Extra-action morpheme.

This alteration is an example of 'cluster reduction'. Quite apart
from the context of this rule, n is never followed by any of the conso-
nants listed in the rule in Baṛdi consonant clusters. Because of
sequential incompatibility, the Extra-action morpheme is deleted.

The fact that this rule is limited to the Present and Immediate Tenses
demonstrates, on the one hand, the relationship between the two tenses
(see L.7.5) and, on the other, the distinction between the Immediate and
the Near Perfects.

    Ex.132

a) ŋa+n+ø̸+ñ+a+nḏ+ø̸   M.2.2.   →   ŋa+ø̸+ø̸+ñ+a+nḏ+ø̸
   I-EA-Sing-pick up-TV-Pres-it   Later Rules   →   ŋañanḏ
   I am picking it up.

b) i+n+∅+ṛiñ aṛiñ+a+nd+∅   M.2.2. → i+∅+∅+ṛiñaṛiñ+a+nd+∅
    He-EA..explain..Pres-it   Later Rules → iṛiñaṛiñand
    He is explaining it.

c) mi+n+∅+lum+a+gald+r   M.2.2. → mi+∅+∅+lum+a+gald+r
    You-EA.approach.Immed-them   Later Rules → milumagaldir
    You approached them just now.

d) ŋa+n+∅+ḷab+a+gald+r   M.2.2. → ŋa+∅+∅+ḷab+a+gald+r
    I-EA...have..Immed-them   Later Rules → ŋaḷabagaldir
    I just had them.

M.3. ŋ PREFIX DELETION

REFERENCE: _____

$$(\ldots)\eta \longrightarrow \emptyset \quad / \quad \left\{ \begin{array}{l} \underline{\hspace{2cm}} + l \\ \underline{\hspace{2cm}} + X + \text{VbNuc} + \text{Aux} \\ \qquad\qquad [+\{^{\text{Pres}}_{\text{Immed}}\}] \end{array} \right\}$$

ŋ is written as a zero morpheme whenever it occurs before either the Potential l, or the Verb Nucleus of a verb in the Present Imperfect or the Immediate Perfect Tense.

The (...) allows for the two possible occurrences of the ŋ before a verb nucleus. It may occur as the Intra-action marker or as the final consonant of a plural Subject prefix. Thus, the rule will apply twice in the case of plural, Intra-active verbs. Firstly, it will delete the Intra-action morpheme and then it will delete the final ŋ of the prefixes aŋ, guŋ and iŋ.

As with Rule M.2.2, the Auxiliary restriction underlies the Present/ Immediate relationship and the Immediate/Near distinction, as the following illustration shows:

    Ex.133

a) Using mulg+u *to sleep:*

ir-mulgu-nd	ir-mulgu-n-gald	iŋur-mulgu-n-gald
They-sleep-Pres	*They-sleep-Durat-Immed*	*They-sleep-Durat-Near*
They are sleeping.	*They were sleeping just a moment ago.*	*They were sleeping earlier.*
i-mulgu-nd	i-mulgu-n-gald	i-ŋu-mulgu-n-gald
He-sleep-Pres	*He-sleep-Durat-Immed*	*He-IA-sleep-Durat-Near*
He is sleeping.	*He was just asleep.*	*He was sleeping earlier.*

b) Using ŋalg+a *to cry*:

gu-r-ŋalga-nḏ	gu-r-ŋalga-galḏ	guŋ-ar-ŋalga-galḏ
You-Plur-*cry*-Pres	*You*-Plur-*cry*-Immed	*You*-Plur-*cry*-Near
You all are crying.	*You have just cried.*	*You cried earlier.*

c) The derivation of the Immediate verb in (b):

$$
\begin{bmatrix} +\text{ProAf} \\ +\text{II} \\ -\text{Sing} \end{bmatrix} \qquad \text{VbNuc} \qquad \begin{matrix} \text{Aux} \\ [+\text{Immed}] \end{matrix}
$$

After T- and R-Rules:	guŋ + ŋ + r + ŋalg+a + galḏ
Apply M.3:	guŋ + ∅ + r + ŋalg+a + galḏ
Re-apply M.3:	gu∅ + ∅ + r + ŋalg+a + galḏ
Later Rules ⟶	gurŋalgagalḏ
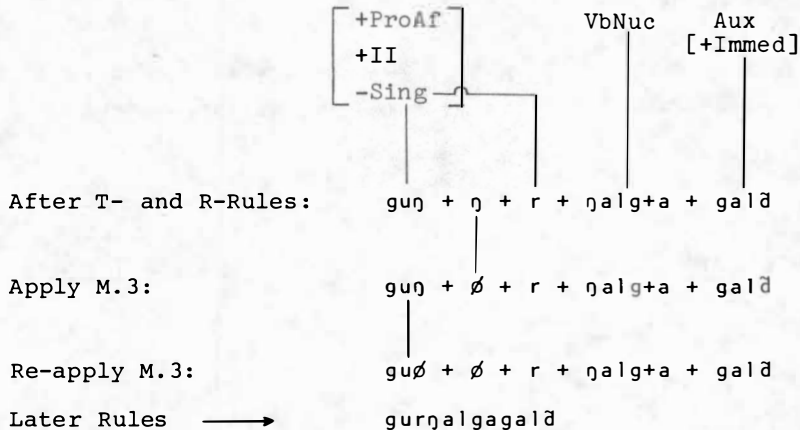
   Ex.134 Illustrating deletion before the Potential l.

   The only ŋ occurring before l is the final ŋ of Subject prefix forms.
The Action Type morphemes would have been replaced by l through Rule T.9.
The third person plural prefix would have been altered from iŋ to uŋ by
Rule M.1.1.

a) uŋ+l+r+ib+i+a+∅   M.3. → u∅+l+r+ib+i+a+∅
   They-Pot-Plur-*drink*-TV-Imperf-*it* Later Rules → uliriba
   They should drink it.

b) ara aŋ+l+r+ib+i+nana+∅   M.3. → ara a∅+l+r+ib+i+nana+∅
   Neg *we*-Pot-Plur-*drink*-TV-Dist-*it* Later Rules → ara aliribinana
   We did not drink it.

M.4. PLURAL MARKER DELETION   T.4
                                                      R.4
                                          REFERENCE: _____

   r ⟶ ∅ / ____ + l... + X

Condition: X does not include an Object pronominal suffix.

   The plural prefix r is written as a zero morpheme immediately preceding
an Intra-active verb stem which commences with the consonant l.

From this point on in the formulation of morphophonemic rules the Action Type of verb stems will at times be defined by the presence or absence of an Object pronominal suffix. This is necessary because the rules apply also to Irrealis verb forms. With such forms, the Action Type markers have been deleted through the operation of Rule T.9, and cannot, therefore, be used to define the context of the rules.

The Condition to M.4 defines the verbs involved as Intra-active.

The modifications introduced by M.4 lead to homomorphous surface forms between the Dual and the Inclusive/Exclusive, and between the third person singular and third person plural in all tenses and in both realis and irrealis verbs.

Ex.135

a) Using lamaŋ+a *to listen*:

i-lamaŋa-nð

III-*listen*-Pres

$\{^{He\ is}_{They\ are}\}$ *listening*.

aŋa-lamaŋ-ið

$\{^{Dual}_{Inc/Exc}\}$-*listen*-Middle

$\{^{We\ two}_{We\ all}\}$ *listened*.

b) Using land+a *to sit*:

ara u-landa-na

Neg III-*sit*-Middle

$\{^{He}_{They}\}$ *did not sit down*.

ara a-land-a

Neg$\{^{Dual}_{Inc/Exc}\}$-*sit*-Imperf

$\{^{We\ two}_{We\ all}\}$ *will not sit down*.

M.5. CLASS MARKER DELETION	L.4.2 REFERENCE:
	M.6
	M.8

Four rules are necessary to account for modifications to the Class markers. The first three illustrate the process of cluster reduction, while the fourth provides an example of intervocalic assimilation.

M.5.1.   Class $\longrightarrow$ ø / $\{^{l}_{g}\}$___

Class markers are written as zero morphemes when they immediately follow either l or g.

The l in this context is the Potential morpheme and the g is the Projected Tense prefix.

Ex.136 Using ð+anb+u *to tread upon*:

a) ara ŋa+l+ð+anb+u+a+ri   M.5.1. → ara ŋa+l+∅+anb+u+a+ri
   Neg *I*-Pot-Class-*tread*-TV-Imperf-*you*   Later Rules → ara ŋalanbari
   I will not tread on you.

b) mi+l+ð+anb+u+nana+r   M.5.1. → mi+l+∅+anb+u+nana+r
   You-Pot-Class-*tread*-TV-Dist-*them*   Later Rules → milanbunanar
   You should have trodden on them.

Ex.137 Using b+Ul+u *to come out*:

a) u+ŋ+g+b+Ul+u+nð   M.5.1. → u+ŋ+g+∅+Ul+u+nð
   He-IA-Proj-Class-*come out*-TV-   Later Rules → uŋgɔlunð
                          Durat Proj
   He will keep on coming out.

b) ŋa+ŋ+g+b+Ul+u+a   M.5.1. → ŋa+ŋ+g+∅+Ul+u+a
   I-IA-Proj-Class-*come out*-TV-Proj   Later Rules → ŋɔŋgɔla
   I shall come out.

M.5.2.   Class ⟶ ∅ / r+___+X

Condition: X includes an Object pronominal suffix.

   The Class marker is written as a zero morpheme immediately following
the plural marker r in an Extra-active verb.
   Extra-action is defined as the presence of an Object suffix.

Ex.138 Using g+aṇb+u *to growl at*:

a) i+r+g+aṇb+u+nð+ŋayu   M.5.2. → i+r+∅+aṇb+u+nð+ŋayu
   III-Plur-Class-*growl*-TV-Pres-*me*   Later Rules → iraṇbunðarŋayu
   They are growling at me.

b) ara gu+l+r+g+aṇb+u+na+r   M.5.2. → ara gu+l+r+∅+aṇb+u+na+r
   Neg II-Pot-Plur-Class-*growl*-TV-   Later Rules → ara gularaṇbunar
                          Mid-*them*
   You all did not growl at them.

c) The derivation of the verb: iŋar-aṇbu-na-mudu
                                 They-growl at-Dist-us
                                 They growled at us.

<pre>
      ⎡+ProAf⎤   VbNuc Aux   ⎡+ProAf   ⎤
      ⎢+III ⎥   [-Mid] ⎢   ⎧Inc⎫ ⎥
      ⎣-Sing ⎦   ⎣   +⎩Exc⎭ ⎦
</pre>

After T- and R-Rules: iŋ + n + r + g+aṇb+u + na + mudu

Apply M.2.1:   iŋ + ∅ + r + g+aṇb+u + na + mudu

Apply M.5.2:   iŋ + ∅ + r + ∅+aṇb+u + na + mudu

Later Rules ⟶   iŋaraṇbunamudu

M.5.3.   {b/g} ⟶ ∅ / n+____ + X + Aux
                                [-Pres]
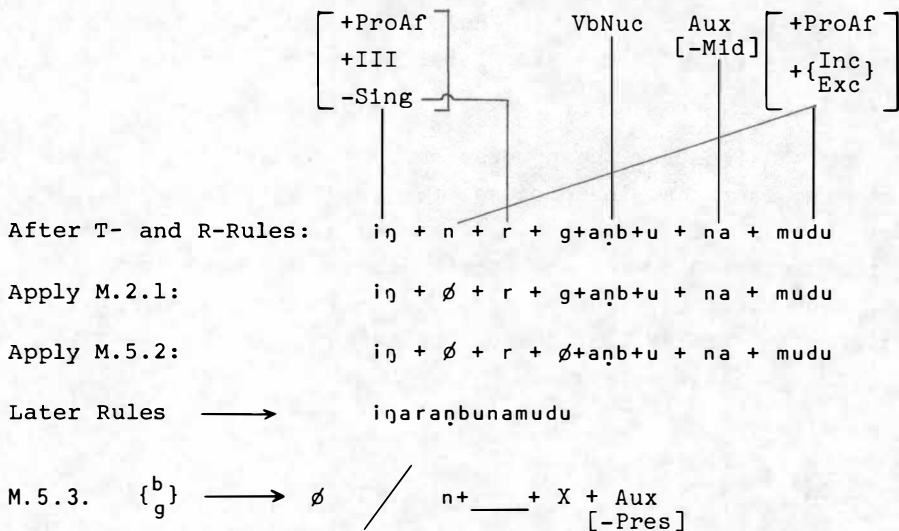
    The class markers b and g are written as zero morphemes immediately following the Extra-action marker n where the verb is in the Projected Imperfect Tense.

    The only context in which this rule applies is the second person singular, as the Class markers would have already been deleted elsewhere in the Projected by contiguity with either the Projected prefix g or the plural prefix r. The Class markers have not been deleted in the second person singular because the g prefix itself would have been deleted by Rule M.1.2.1.

    This rule deletes the remaining b and g Class markers in the Projected Tense of Extra-active verbs. However, the Class marker ḍ is retained in all probability because of the common alveolar point of articulation following n.

    Ex.139 This example takes phonologically similar verbs from the three Classes and compares their derivation. The three verbs in order are: b+Al+i *to make (a small object)*; g+al+i *to go to*; ḍ+al+i *to see*.

a) a+n+∅+b+Al+i+a+r   M.5.3. → a+n+∅+∅+Al+i+a+r
   II-EA-Sing-Class-*make*-TV-Proj-*them* Later Rules → ɔnɔlar
   Make them!

b) a+n+∅+g+al+i+a+r   M.5.3. → a+n+∅+∅+al+i+a+r
   II-EA-Sing-Class-*go to*-TV-Proj-*them* Later Rules → analar
   Go to them!

c) a+n+ø+d̶+al+i+a+r   Rule M.5.3 does not apply.
   II-EA-Sing-Class-*see*-TV-Proj-*them*   Later Rules → and̶alar
   Look at them!

The free translations for these verbs have been given in the Imperative
to illustrate the fact that the process of abbreviation of these forms
is continued by this rule in the case of b- and g-Class verbs. As was
mentioned, the Projected forms, and particularly the Imperatives, are
the most modified forms of Bardi verbs. The following example presents
the derivation of (b) in Ex.139 to show the extent of morphophonemic
processes upon it to this point:

Ex.140   an-al-a-r
         You-go to-Proj-them
         Go to them.

$$\begin{bmatrix} +\text{ProAf} \\ +\text{II} \\ +\text{Sing} \end{bmatrix} \quad \begin{array}{c}\text{VbNuc} \;\; \text{Aux} \\ [-\text{Pres}]\end{array} \quad \begin{bmatrix} +\text{ProAf} \\ +\text{III} \\ -\text{Sing} \end{bmatrix}$$

After T- and R-Rules: mi + n + g + ø + g+al+i + a + r

Apply M.1.2.1:   a + n + ø + ø + g+al+i + a + r

Apply M.5.3:   a + n + ø + ø + ø+al+i + a + r

Later Rules ⟶   analar
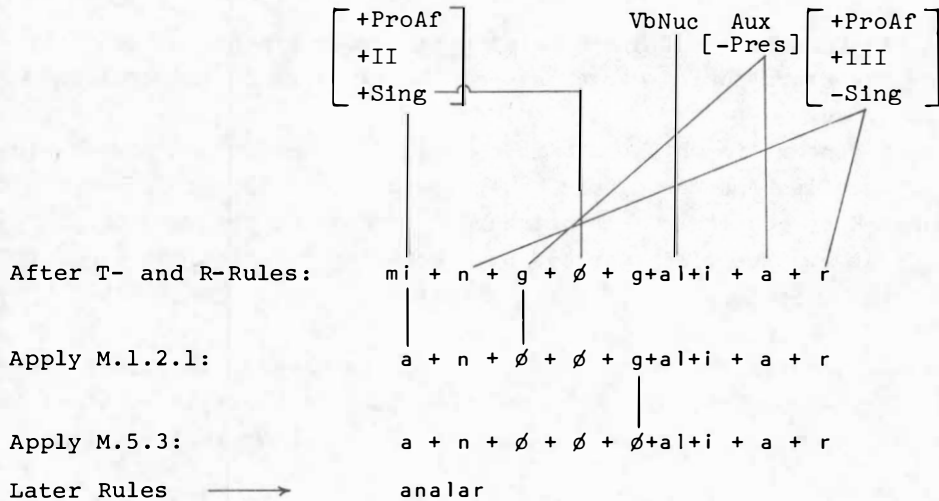
M.5.4. $\begin{bmatrix} \{ \begin{smallmatrix} d̶ \\ g \end{smallmatrix} \} \\ b \end{bmatrix} \longrightarrow \begin{bmatrix} y \\ w \end{bmatrix} \Big/ \;\; V + \underline{\quad} + V$

When the Class markers d̶ and g occur between any two vowels, they are
written as y. When the Class marker b occurs intervocalically, it is
written w.

With reference to the phoneme charts on page 17, it can be seen that
this rule reflects a process of alternation from stopped phonemes to
continuents in intervocalic environments. The bilabial stop b is replaced
by the bilabial semi-consonant w. The lamino-alveolar stop d̶ is replaced
by the lamino-palatal semi-consonant y. The dorso-velar stop g is replaced
by y.

The main contexts in which this rule applies are the singular forms of Intra- and Retro-active verbs in the Present Imperfect and Immediate Perfect Tenses, and the second person singular Projected Tense of the same Action Types. In these contexts, the Intra-action morpheme ŋ has been deleted by a previous rule leaving the Class markers between the final vowel of the singular Subject prefix and the initial vowel of the verb stem.

The only other context relevant to the rule is with the occurrence of the Infinitive prefix ma, which stands immediately before the Verb Nucleus.

For identification, w and y will be referred to as Class markers along with ∅, b, ɖ and g.

The following example lists all the occurrences of second person singular forms of the verb g+am+a *to laugh* relevant to Rule M.5.4. The Infinitive is also given.

Ex.141

a) ŋ+a+y+am+a
   IA-*you*-Class-*laugh*-Proj
   You will laugh.

b) ŋ+a+y+am+inɖ+a
   IA-*you*-Class-*laugh*-RA-Proj
   You will laugh at yourself.

c) mi+y+am+a+nɖ
   You-Class-*laugh*-TV-Pres
   You are laughing.

d) mi+y+am+inɖi+nɖ
   You-Class-*laugh*-RA-Pres
   You are laughing at yourself.

e) mi+y+am+a+galɖ
   You-Class-*laugh*-TV-Immed
   You just laughed.

f) mi+y+am+inɖi+galɖ
   You-Class-*laugh*-RA-Immed
   You just laughed at yourself.

g) ma+y+am+a+n
   Inf I-Class-*laugh*-TV-Inf II
   To laugh.

An optional form is frequently used when the vowels flanking the Class marker are both a , as in Ex.141. The a+Class+a can be written simply as a:. This abbreviation is particularly used with the Imperative. Thus, (a) in Ex.141 could be written as ŋa:ma *Laugh!*

Ex.142 Using b+umar+a *to shiver* to illustrate b- Class modifications:

a) ma+w+umar+a+n
   Inf I-Class-*shiver*-TV-Inf II
   To shiver.

b) ŋa+w+umar+a+nɖ
   I-Class-*shiver*-TV-Pres
   I am shivering.

c) i+w+umar+a+n+galð

He-Class-*shiver*-TV-Durat-Immed

He was shivering just now.

M.6.   VERB STEM VOWEL MORPHOPHONEMES   REFERENCE: _____

In Section L.4.1 three verb stem morphophonemes were introduced. Some b- and g-Class stems exhibit the morphophonemes A and U, while some ð-Class stems commence with I. The three sub-rules of M.6 are concerned with these morphophonemes.

M.6.1.   I... $\longrightarrow$ $\begin{bmatrix} u... \\ \\ i... \end{bmatrix}$ $\Big/$ $\begin{bmatrix} \{{}^{ð}_{y}\}+\underline{\quad} \\ \\ \text{Elsewhere} \end{bmatrix}$

The morphophoneme I is rewritten as u when immediately preceded by either ð or y, or as i in all other environments.

Ex.143

a) Using ð+I!ŋ+a *to tell (particularly a story)*:

a-n-ð-u!ŋ-a-ðan-ø   a-r-i!ŋ-a-ðan-ø

II-EA-Class-*tell*-Proj-*for me-it*   II-Plur-*tell*-Proj-*for me-it*

You (sing), *tell it for him!*   *You all, tell it for me!*

b) Using ð+Ibar+a *to singe*:

ma-y-ubar-a-n   ŋa-ŋ-ibar-inð-ið

Inf I-Class-*singe*-TV-Inf II   I-IA-*singe*-RA-Middle

To singe.   *I singed myself.*

The full paradigm of the verb *to singe* is presented in P.3.

M.6.2.   (...) $\begin{bmatrix} U \\ \\ A \end{bmatrix}$ (...) $\longrightarrow$ $\begin{bmatrix} u \\ \\ a \end{bmatrix}$ $\Big/$ Class+____

The morphophoneme U is written as u, and A is written as a, immediately following a Class marker.

The Class markers involved in this context are b, g, w and y.

The double (...) convention includes every occurrence of these morphophonemes within the verb stem. Thus they may occur alone as the stem, as with the verb b+U *to spear*; stem-initially as in g+Unb *to push*; stem-medially, as in g+ɔlAl *to put to sleep*; and initially and medially within

the one stem, as in b+UdUg+ *to stamp off*, b+AndArm *to stop*, and g+UdAl
to lose.

M.6.2 and M.6.3 are complementary in operation and will be illustrated
together after the formulation of the latter.

M.6.3. $\{ {}^{U}_{A} \} \longrightarrow $ ɔ

After the operation of M.6.2, any remaining U morphophoneme or A
morphophoneme is written as ɔ.

Ex.144

a) Using g+UlUrb *to answer a challenge*:

M.6.2.	M.6.3.
mi-n-g-ulurbu-nḏ-∅	gu-r-ɔlɔrbu-nḏ-∅
II-EA-Class-*answer*-Pres-*it*	II-Plur-*answer*-Pres-*it*
You are answering the challenge.	*You all are answering it.*

b) Using b+ArgAnd *to roll up*:

M.6.2.	M.6.3.
ŋa-n-b-argandi-nḏ-ir	ŋɔ-l-ɔrgɔnd-a-r
I-EA-Class-*roll up*-Pres-*them*	I-Pot-*roll up*-Imperf-*them*
I am rolling them up.	*I should roll them up.*

c) Using b+Ul *to come out*:

M.6.2.	M.6.3.
i-w-ulu-galḏ	u-ŋ-g-ɔl-a
III-Class-*come out*-Immed	III-IA-Proj-*come out*-Proj
He came out just then.	*He will come out.*

The paradigm of the verb b+Al *to make* is given on pages 173ff.

M.7. EPENTHETIC VOWEL

Up to this point in the output of the Rules, a number of prefixed
consonants have been generated contiguously. There are the consonant-
final Subject prefixes; there is the Plural marker r, the Class markers
and the optional Retro-action marker m; and there are the consonant-
initial verb stems.

As has been demonstrated, one of the processes which operates in Baṛdi
morphophonemics upon incompatible consonant sequences is that of 'cluster
reduction', involving the deletion of one of the phonemes. However, such

sequences may be retained by the use of another process - that of the
inclusion between the consonants of epenthetic vowels (EpV). Coupled
with epenthesis is the process of vowel harmony, in that the epenthetic
vowel is identical with the first vowel of the Verb Stem, or the Trans-
itional Vowel with Vowel-less Stems.

The rule introducing epenthesis will be stated simply and then a set
of Conditions laid upon it. The Conditions are necessary in that some
consonant clusters remain among prefixed phonemes.

M.7. $C + C \longrightarrow C + V_1 + C \;/\; \underline{\qquad} + X + (...) V_1$
$[VbNuc]$

Conditions: C + C is not the sequence of:

(i) $\eta + \begin{Bmatrix} b \\ \eth \\ g \end{Bmatrix}$

(ii) $n + \{\begin{smallmatrix} \eth \\ g \end{smallmatrix}\}$
$[-Pres]$

(iii) $n + C(...) + X + \begin{array}{l} Aux \\ [\{\begin{smallmatrix} +Pres \\ +Immed \end{smallmatrix}\}] \end{array}$

(iv) r + C(...) + X, where X does not include an Object
pronominal suffix.

There are two apparent explanations for the retention of the consonant
clusters through the control of this complex set of Conditions. Firstly,
there is a phonological basis for some of the sequences, and particularly
for those covered by Conditions (i) and (ii). The alveolar cluster n+ð,
the dorso-velar cluster ŋ+g and the sequence n+g are common in Bardi
phonological patterns. The sequence ŋ+b and ŋ+ð, however, cannot be
explained on this basis, although the sequences are modified by assimi-
lation later to m+b and n+ð respectively (Rule M.8). Secondly, the
Conditions (iii) and (iv) allow for critical distinctions in certain
surface forms. For instance, the third Condition allows for a surface
distinction between some of the Immediate and the Near Perfect forms.
The fourth Condition leads to differences between certain Extra-active
and Intra-active forms.

Ex.145 Illustrating M.7 without Conditions:

a) Using ŋurid+i *to paint*:

i+ŋ+m+ŋurid+i+indi+na   M.7. → i+ŋ+u+m+u+ŋurid+i+indi+na
III-IA-RA-*paint*-TV-RA-Dist   Later Rules → iŋumuŋuridindina
He painted himself.

b) Using m+a *to put*:

a+l+r+m+a+nana+r   M.7.   →   a+l+a+r+a+m+a+nana+r
I-Pot-Plur-*put*-TV-Dist-*them*   Later Rules →   alaramananar
We should have put them (there).

c) Using miñd+i *to receive*:

guŋ+r+miñd+i+id+∅   M.7.   →   guŋ+i+r+i+miñd+i+id+∅
II-Plur-*receive*-TV-Mid-*it*   Later Rules →   guŋirimiñdid
You received it.

    Ex.146   Illustrating Condition (i):

a) Using b+UdUg+u *to stamp off*:

mi+ŋ+b+udug+u+gald   M.7. does not apply.
II-IA-Class-*stamp off*-TV-Near   Later Rules →   mimbudugugald
You stamped off.

b) Using d+id+i *to go, walk*:

a+ŋ+d+id+i+na   M.7. does not apply.
Dual-IA-Class-*go*-TV-Dist   Later Rules →   andidina
You and I went.

    Ex.147   Illustrating Condition (ii):

a) Using d+anb+u *to tread on*:

mi+n+d+anb+u+nd+mudu   M.7. does not apply.
II-EA-Class-*tread on*-TV-Pres-*us*   Later Rules →   mindanbundarmudu
You are treading on us.

b) Using the same verb:

ŋa+n+g+anb+u+nd+ri   M.7. does not apply.
I-EA-Proj-*tread on*-TV-Durat Proj-*you* Later Rules →   ŋanganbundiri
I will keep on treading on you.

    Note that this Condition only applies to the n+g sequence when the g is the Projected Tense prefix. The Condition does not affect the operation of M.7 if the g is a Class marker, as the following verb illustrates:

c) Using g+ɔnb+u *to send word*:

i+n+g+ɔnb+u+na+na+daḍa+∅   M.7.   →   i+n+ɔ+g+ɔnb+u+na+na+daḍa
III-EA-Class-*send word*-TV-Durat-   Later Rules →   inɔŋgɔnbunanaḍaḍa
              Dist-*to us-it*
He kept on sending word to us.

Ex.148 Showing the surface distinctions between the Immediate and Near Perfect Tenses introduced by Condition (iii):

Using maḍ+a *to build*:

ŋa+n+maḍ+a+galḏ+∅   M.7. does not apply.
I-EA-*build*-TV-Immed-*it*   Later Rules → ŋanmaḍagalḏ
I have just built it.

ŋa+n+maḍ+a+galḏ+∅   M.7. → ŋa+n+a+maḍ+a+galḏ+∅
I-EA-*build*-TV-Near-*it*   Later Rules → ŋanamaḍagalḏ
I built it earlier.

Ex.149 Illustrating Condition (iv), by comparing the verb mulg+u *to sleep* with mulb+u *to lend*:

guŋ+r+mulg+u+na   M.7. → guŋ+u+r+mulg+u+na
II-Plur-*sleep*-TV-Dist   Later Rules → guŋurmulguna
You slept.

guŋ+r+mulb+u+na+∅   M.7. → guŋ+u+r+u+mulb+u+na+∅
II-Plur-*lend*-TV-Dist-*it*   Later Rules → guŋurumulbuna
You lent it.

M.8. CLASS MARKER ASSIMILATION

REFERENCE: L.4.2 M.5 M.6

In certain contexts, Class markers modify their environments by assimilation to their point of articulation.

M.8.1.
$$\begin{bmatrix} b \\ g \end{bmatrix} \longrightarrow \begin{bmatrix} mb \\ \eta g \end{bmatrix} \Big/ \ V+\underline{\hspace{1cm}}$$

The introduction of the nasals m and ŋ, which form homorganic clusters with the Class markers b and g respectively, provides transitional sequences which are paralleled in other areas of Baṛdi morphology. The vowel of the context would be an 'epenthetic vowel' introduced through Rule M.7. Owing to Class marker deletion (M.5) and the Conditions to Rule M.7, which block the addition of epenthetic vowels, Rule M.8.1 only applies to singular forms in the Near, Middle and Distant Perfect Tenses.

Ex.150

a) Using b+UɳAr+a *to drag*:

a+n+u+b+ulɳar+a+na+na+r   M.8.1. → a+n+u+m+b+ulɳar+a+na+na+r
Dual-EA-EpV-Class-*drag*-TV-Durat-   Later Rules → anumbulɳarananar
                 Dist-*them*
You and I used to drag them along.

b) Using g+aḷb+u *to dig*:

i+n+a+g+aḷb+u+iɗ+ɗan+r   M.8.1. → i+n+a+ɳ+g+aḷb+u+iɗ+ɗan+r
III-EA-EpV-Class-*dig*-TV-Mid-*for me-*   Later Rules → inaɳgaḷbiɗanir
                    them
He dug them for me.

$$\text{M.8.2.} \quad \eta \longrightarrow \begin{bmatrix} n \\ m \end{bmatrix} \Big/ \underline{\quad} + \begin{bmatrix} ɗ \\ b \end{bmatrix}$$

The Intra-active marker ɳ is written as n immediately preceding the Class marker ɗ, and as m preceding the Class marker b. This is an example of assimilation to the alveolar and bilabial points of articulation respectively.

Ex.151

a) Using ɗ+alg+u *to fall*:

ɳa+ɳ+ɗ+alg+u+galɗ   M.8.2. → ɳa+n+ɗ+alg+u+galɗ
I-IA-Class-*fall*-TV-Near   Later Rules → ɳanɗalgugalɗ
I fell.

b) Using b+ilg+i *to blow, of wind*:

i+ɳ+b+ilg+i+inɗ   M.8.2. → i+m+b+ilg+i+inɗ
III-IA-Class-*blow*-Durat-Mid   Later Rules → imbilginɗ
It was blowing.

                                         M.6.3
M.9. ɔ PRECEDENCE   REFERENCE: _____

The vowel ɔ exhibits the least allophonic variation of the vowels.[1] It also exerts the strongest influence upon its environment. Its modifying effect through vowel harmony upon any preceding a vowels in the prefixes is expressed by this rule.

_____
[1] See Metcalfe (1971:91).

M.9.   (...)a(...) ⟶ (...)ɔ(...)   /____+X+ɔ(...)
                                              [VbS]

The vowel a, whenever it occurs before a Verb Stem which is ɔ-initial, is written as ɔ.

The (...)a(...) covers any occurrence of a. This could be a single phoneme, as with the Dual prefix; morpheme-initial, as with aŋ; or morpheme final, as with ma.

The 'X' before the Verb Stem in the rule context allows for intervening morphemes.

Ex.152

a) Using b+AŋAṛ+a *to show oneself off*:

ŋa+ŋ+g+ɔŋɔṛ+a+inḏi+a   M.9. → ŋɔ+ŋ+g+ɔŋɔṛ+a+inḏi+a
I-IA-Proj-*show off*-TV-RA-Proj   Later Rules → ŋɔŋgɔŋɔrinḏa
I will show myself off.

b) Using b+UlŋUr+a *to pull along*:

aŋ+ɔr+ɔlŋɔr+a+galḏ+ø   M.9. → ɔŋ+ɔr+ɔlŋɔr+a+galḏ+ø
I-Plur-*pull along*-TV-Near-*it* Later Rules → ɔŋɔrɔlŋɔragalḏ
We pulled it along.

M.10.   ṛ-FINAL VERB STEMS   LE.6
                                          REFERENCE: _____

       ṛ + n(...) ⟶ ŋ(...)

A Stem-final ṛ and an n in sequence are written as an ŋ.

As pointed out in L.4.3, the ṛ-final verb stems do not have a Transitional Vowel.

This is again a type of cluster reduction or collapsing Process, with the apico-domal nasal ŋ replacing the apico-domal ṛ and the apico-alveolar n. ṛ is the only apico-domal which activates the rule as verbs such as miduḍ *to look around*, ḏ+iḷiḷ *to lick* and g+alaḍ *to be bogged* do not produce this modification.

The n(...) can either be a single phoneme as in the case of the Infinitive suffix, or the initial phoneme of a longer morpheme, as with the Durative Distant morpheme na.

Ex.153

a) Using muraṛ *to smell*:

ŋa+n+muraṛ+n+galḏ+r   M.10. → ŋa+n+mura+ŋ+galḏ+r
I-EA-*smell*-Durat-Immed-*them*   Later Rules → ŋanmuraŋgalḏir
I was smelling them just now.

b) Using ɗ+Irgaṛ *to make sore*:

ma+y+urgaṛ+n   M.10.   →   ma+y+urga+ŋ

Inf I-Class-*make sore*-Inf II   Later Rules → mayurgaṇ

To make sore.

M.11. PRONOMINAL SUFFIX MODIFICATION   REFERENCE: ____

In Sections R.3 and R.5, the Object/Associative and the Referential
pronominal suffixes were set out. Considerable modification takes place
when these basic forms follow a consonant or certain other suffix mor-
phemes. The modifications will be charted in paradigm form, and commonly
used optional forms will be given. M.11 has three sections related to
the Object/Associative suffixes, the Referential suffixes and the 'Di-
transitive' suffix combinations.

M.11.1. OBJECT/ASSOCIATIVE SUFFIX

M.11.1.1.

$$\begin{bmatrix} \text{ŋayu} \\ \text{ri} \\ \text{wayi} \\ \text{mudu} \\ \text{gur} \\ \text{r} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{ɗarŋayu} \\ \text{ɗiri} \\ \text{ɗarwayi} \\ \text{ɗarmudu} \\ \text{ɗargur} \\ \text{ɗir} \end{bmatrix} \Big/ \quad (\ldots)\text{C+}\underline{\quad\quad}$$

All the forms of the pronominal Objects as set out in R.3 and repeated
here in the left-hand column (apart from the zero morpheme for third
person singular) commence with a consonant. When they occur immediately
after another consonant the above modifications take place. The morpheme
ɗi is prefixed to the basic form in the second person singular and the
third person plural, while the morpheme ɗar is prefixed to all other forms.

M.11.1.2. $\begin{bmatrix} \text{ri} \\ \text{r} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{li} \\ \text{lir} \end{bmatrix} \Big/ \quad \{^{\text{ba}}_{\text{amba}}\}+\underline{\quad\quad}$

The second person singular Object suffix ri is written as li, and the
third person plural suffix r as lir, following either the Relator ba or
the Sequential Conjunction suffix amba.

As an optional alternative, the l can also be inserted between ba or
amba and the Object suffixes wayi, mudu and gur. (C.f. Ex.154 d)).

Ex.154   Using ŋulm+u *to frighten*:

a) uŋ-gu-ru-ŋulm-a-ri
   III-Proj-Plur-*frighten*-Proj-*you*
   They will frighten you.

b) iŋu-ru-ŋulm-iđ-điri
   III-Plur-*frighten*-Middle-*you*
   They frightened you (yesterday).

c) iŋu-ru-ŋulmu-na-ba-lir
   III-Plur-*frighten*-Distant-Relator-*you*
   They frightened you (some time ago).

d) iŋu-ru-ŋulmu-n-amba-lgur
   III-Plur-*frighten*-Distant-Sequential-*you* (Plur)
   They frightened you all (after that).

One special consonant context of Rule M.11.1.1 requires attention.
The consonant may be the Associative suffix ŋ, which is always followed
by an Object suffix. They need not be contiguous, as a Referential
suffix can intervene. When they are contiguous, M.11.1.1 applies. The
third person singular Object affix is a zero morpheme. However, a common
optional form following the Associative suffix is inđ.

Ex.155   Using dar aṛ *to arrive*:

a) daɾ   uŋ-g-ar-aṛ-a-ŋ-đarmudu
   Arrive III-Proj-Plur-∅-Proj-Assoc-*us*
   They will arrive with us.

b) əra dar   gu-l-ar-a-ṇana-ŋ-inđ
   Neg arrive II-Pot-Plur-∅-Dist-Assoc-*him*
   They did not arrive with him.

M.11.2.   REFERENTIAL SUFFIX

$$
\begin{bmatrix} đan \\ đi \\ đin \end{bmatrix} \longrightarrow \begin{bmatrix} đaran \\ điri \\ đirin \end{bmatrix} \quad / \quad (\ldots)C+\underline{\quad}
$$

Only the first, second and third persons singular of the Referential
suffixes are modified when they immediately follow a consonant. The Dual

and the Plural forms are invariable in any context apart from one optional form. The optional forms can be used with some of the suffixes following the Relator ba and the Sequential Conjunction amba, as with the Object suffixes in this context. Thus, the first, second and third persons singular ꝺan, ꝺi and ꝺin may be written as lan, li and lin respectively and the third person plural ꝺir may be written lir. (C.f. Ex.156 c)).

Ex.156   Using ꝺ+a̧g+i *to hide*:

a) u-ŋ-g-a̧g-a-ꝺan
   III-IA-Proj-*hide*-Proj-*from me*
   He will hide from me.

b) u-ŋ-g-a̧gi-nꝺ-ꝺaran
   III-IA-Proj-*hide*-Durat Proj-*from me*
   He will keep on hiding from me.

c) u-ŋ-g-a̧gi-nꝺ-ꝺamba-lan
   III-IA-Proj-*hide*- Durat Proj-Sequential-*from me*
   Then he will keep on hiding from me.

M.11.3.   DI-TRANSITIVE SUFFIXES

M.11.3.1.
$$\begin{bmatrix} ꝺan+r \\ ꝺi+r \\ ꝺin+r \end{bmatrix} \longrightarrow \begin{bmatrix} ꝺaran \\ ꝺiri \\ ꝺirin \end{bmatrix} \Bigg/ \quad (...)C+\underline{\quad\quad}$$

As discussed in Section T.15.2.9, Referential suffixes may occur with Object suffixes in the same inflected verb. This does not affect the realisation of the Referential forms when the Object suffix is singular, as the latter is a zero morpheme. However, when the third person plural Object suffix r follows a Referential suffix, as in the left-hand column of these rules, certain modifications take place.

When the suffix combination follows a consonant, a type of metathesis occurs, leaving the r infixed within the Referential suffix. The resulting forms, in fact, are identical with the simple Referential forms in this context. (C.f. M.11.2).

M.11.3.2.

$$
\begin{bmatrix}
\text{ðan+r} \\
\text{ði+r} \\
\text{ðin+r} \\
\text{ðɔwu+r} \\
\text{ðaḍa+r} \\
\text{ðugara+r} \\
\text{ðir+r}
\end{bmatrix}
\longrightarrow
\begin{bmatrix}
\text{ðan+ir} \\
\text{ð+ir} \\
\text{ðin+ir} \\
\text{ðɔw+ir} \\
\text{ðaḍ+ir} \\
\text{ðugar+ir} \\
\text{ðir+ir}
\end{bmatrix}
$$

With all these forms, the plural morpheme r is expanded to ir, causing the deletion of the final vowel of the Referential suffix where one occurs.

Ex.157   Using ñ+a *to pick up*:

a) a-ñ-a-ðin-ir
   II-*pick up*-Proj-*for him-them*
   Pick them up for him!

b) a-ñ-a-nð-ðir-in
   II-*pick up*-TV-Durat Proj-*them-for him*
   Keep on picking them up for him!

c) a-ñ-a-ðaḍa-ø
   II-*pick up*-Proj-*for us-it*
   Pick it up for us!

d) a-ñ-a-ðaḍ-ir
   II-*pick up*-Proj-*for us-them*
   Pick them up for us!

e) a-ñ-a-nð-ðaḍ-ir
   II-*pick up*-TV-Durat Proj-*for us-them*
   Keep on picking them up for us!

M.12.   SUFFIX VOWEL ADJUSTMENT

At this stage in the output of the rules, a number of vowels may have been generated contiguously. The pressure of Baṛdi syllable structure against vowel clusters[1] leads to one of two processes. A vowel-final

---

[1]See Metcalfe (1971:92).

Verb Stem contiguous to a vowel-initial Auxiliary or the Retro-action
morpheme inđi causes the process of transition to operate. On the other
hand, a vowel-final Auxiliary which immediately precedes another vowel-
initial suffix causes the process of cluster reduction to operate. As
there are two possible vowels which commence Auxiliaries - the i of the
Middle Perfect marker and the Projected Imperfect a - two sub-rules,
M.12.1 and M.12.2, are necessary to account for transitional processes.
A third sub-rule, M.12.3, will deal with cluster reduction.

$$\text{M.12.1.} \quad a \longrightarrow \begin{bmatrix} w + a \\ y + a \end{bmatrix} \bigg/ \begin{bmatrix} (\ldots)\{\begin{smallmatrix} u \\ \mathfrak{o} \end{smallmatrix}\} \\ (\ldots)\{\begin{smallmatrix} i \\ a \end{smallmatrix}\} \end{bmatrix} + \underline{\quad}$$
$$[\text{VbS}]$$

The Projected morpheme a is written as w+a following a Verb Stem ending
in either u or ɔ, and as y+a following a Verb Stem ending in i or a.
It is important to note that this rule deals with the small set of
vowel-final Verb Stems which do not have a Transitional Vowel (see L.4.3).
When a Transitional Vowel does occur before a vowel-initial Auxiliary,
it is deleted (M.12.3).

Ex.158 Illustrating the four possible vowel-final Verb Stems in the
order set out in M.12.1:

a) Using ŋuŋu *to rub*:

ŋa+n+gu+ŋuŋu+a+ri	M.12.1. → ŋa+n+gu+ŋuŋu+w+a+ri
I-ꜝA-Proj-*rub*-Proj-*you*	Later Rules → ŋanguŋuŋuwari
I will rub you.	

b) Using b+U *to spear*:

ɔ+n+ɔ+a+r	M.12.1. → ɔ+n+ɔ+w+a+r
II-EA-*spear*-Proj-*them*	Later Rules → ɔnɔwar
Spear them!	

c) Using mi *to look around*:

ara mi+li+mi+a+đaḍa	M.12.1. → ara mi+li+mi+y+a+đaḍa
Neg II-Pot-*look around*-Imperf-*for us*	Later Rules → ara milimiyađaḍa
You are not looking around for us.	

d) Using ꝺ+irira *to tease*:

a+r+irira+a+ŋayu   M.12.1. → a+r+irira+y+a+ŋayu
II-Plur-*tease*-Proj-*me*   Later Rules → aririrayaŋayu
You will all tease me.

M.12.2. i... ⟶ $\begin{bmatrix} w + i... \\ y + i... \\ \emptyset \end{bmatrix} \Big/ \begin{bmatrix} (...)u \\ (...)a \\ (...)ɔ \end{bmatrix} +\underline{\quad}$
                   [VbS]

   The initial i of the Middle Perfect morpheme or the Retro-action
morpheme is written as w+i before an u-final Verb Stem, as y+i before an
a-final Verb Stem and as a zero morpheme before an ɔ-final Verb Stem.

   Ex.159

a) Using ꝺ+Idu *to turn over*:

a+n+ꝺ+udu+i ꝺ+ꝺir   M.12.2. → a+n+ꝺ+udu+w+i ꝺ+ꝺir
Dual-EA-Class-*turn over*-Middle-*them* Later Rules → anꝺuduwiꝺir
You and I turned them over.

b) Using iriḷa *to wave*:

i+n+iriḷa+inꝺ+∅   M.12.2. → i+n+iriḷa+y+inꝺ+∅
III-EA-*wave*-Durat Mid-*it*   Later Rules → iniriḷayinꝺ
He kept waving it.

c) Using b+U *to spear*:

ara u+l+ɔr+m+ɔ+inꝺi+nana   M.12.2. → ara u+l+ɔr+m+ɔ+∅nꝺi+nana
Neg III-Pot-Plur-RA-*spear*-RA-Dist Later Rules → ara ulɔrmɔnꝺinana
They did not spear each other.

   As mentioned in the discussion of the 'ɔ-Precedence' Rule, M.9, the
vowel ɔ exerts considerable influence upon its environment. The third
section of Rule M.12.2, as illustrated by Ex.159 (c), also provides an
instance of the dominance of ɔ.

M.12.3.   (...)V + V(...) ⟶ V(...)

   When any two vowels occur contiguously, the first is deleted.
   There are two areas in which this sub-rule applies. The first is in
the deletion of the Transitional Vowels when they occur before a vowel-
initial Auxiliary or the Retro-action morpheme. The second is the

deletion of the final vowel of an Auxiliary morpheme or the Question
marker suffix aḍa or the Retro-action morpheme before another vowel.

The first area will be illustrated by Ex.160 and the second by Ex.161.

Ex.160

a) Using undur+u *to cut across*:

u+n+g+undur+u+a+ø	M.12.3. →	u+n+g+undur+ø+a+ø
III-EA-Proj-*cut across*-TV-Proj-*it*	Later Rules →	ungundura

He will cut across it (the passage).

b) Using g+and+i *to scratch*:

i+ŋ+a+m+and+i+inḍi+na	M.12.3. →	i+ŋ+a+m+and+ø+inḍi+na
III-IA-RA-*scratch*-TV-RA-Dist	Later Rules →	iŋamandinḍina

He scratched himself.

Ex.161

a) Using liñḍ+i *to wait*:

ŋa+ŋi+liñḍ+i+na+i	M.12.3. →	ŋa+ŋi+liñḍ+i+nø+i
I-IA-*wait*-TV-Dist-*for you*	Later Rules →	ŋaŋiliñḍini

I waited for you.

b) Using aṛ *to look for lice*:

aŋ+ga+ra+m+aṛ+inḍi+a	M.12.3. →	aŋ+ga+ra+m+aṛ+inḍø+a
I-Proj-Plur-RA-*look for lice*-RA-Proj	Later Rules →	aŋgaramaṛinḍa

We shall look for each other's lice.

c) Using ḍ+ayay+a *to limp*:

mi+n+ḍ+ayay+a+na+aḍa+ir	M.12.3. →	mi+n+ḍ+ayay+a+nø+aḍø+ir
ll-IA-Class-*limp*-TV-Dist-Question- Emphat	Later Rules →	minḍayayanaḍir

Were you limping badly?

Note that in the final example, Rule M.12.3 applies twice.

M.13. SUFFIX CONSONANT ADJUSTMENT

The two rules necessary to cover modifications involving suffix con-
sonants again illustrate the complementary processes of cluster reduction
and transition. However, reduction is limited to contiguous identical
consonants, thus allowing for the retention of consonant clusters within
the inflected verb.

M.13.1. $\qquad (...)C_1 + C_1(...) \longrightarrow C_1(...)$

When identical consonants occur contiguously, the first is deleted.

Ex.162   Using ŋul+u *to throw*:

aŋu+ru+ŋul+id+dugara+∅ $\qquad$ M.13.1. → aŋu+ru+ŋul+i∅+dugara
I-Plur-*throw*-Mid-*for you-it* $\qquad$ Later Rules → aŋuruŋulidugara
I threw if for you.

M.13.2. $\qquad \begin{bmatrix} \text{amba} \\ \text{aḍa} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{damba} \\ \text{baḍa} \end{bmatrix} \bigg/ \;...\{^{\text{l}}_{\text{n}}\}+\underline{\quad}$

The Sequential Conjunction suffix amba is written as damba, and the
Question marker aḍa as baḍa immediately following the consonants l and n.
The possible consonant contexts are l, and final phoneme of the Con-
temporary morpheme gal, and n, the Present or Durative Projected auxiliary.

Ex.163

a) Using ŋul+u *to throw*:

a+n+gu+ŋul+u+n+amba+lir $\qquad$ M.13.2. → a+n+gu+ŋul+u+n+damba+lir
Dual-EA-Proj-*throw*-Durat Proj-Sequ- Later Rule → anguŋulundambalir
$\qquad\qquad\qquad\qquad\qquad$ them
Then you and I will keep on throwing them.

b) Using g+aṛarbal+a *to drop*:

iŋ+ar+aṛarbal+a+gal+aḍa+∅ $\qquad$ M.13.2. → iŋ+ar+aṛarbal+a+gal+baḍa+∅
III-Plur-*drop*-Near-Question-*it* $\qquad$ Later Rule → iŋaraṛarbalagalbaḍa
Did they drop it?

M.14.   +-REMOVAL

$$+ \longrightarrow \emptyset$$

This is the final rule which would apply to all verbs. Before M.14,
verbs would appear as strings of morphemes concatenated by plus signs.
This rule removes the signs and leaves the final surface forms. In
Ex.163, the 'Later Rule' referred to is M.14.

5.0. RULE OUTPUT

5.1. *COMPLETE VERB DERIVATIONS*

In this Section, the six verbs presented on page 5 are derived right through from Base Rules to surface forms.

5.1.1. (Ex.1): ŋan-ma-nɖ-ø
  I-*put*-Pres-*it*
  I am putting it (the story down).

Base Rules:


```
                                    S
                                  [B.1]
                          _____|_____
                         NP                    PredP
                        [B.7]                  [B.3]
                          |              _____|_____
                          |             VP              NP
                          |           [B.4]           [B.7]
                          |        _____|_____           |
                          |     VbNuc      Aux           |
                          |              [B.8]           |
                          |           ____|____          |
Lexicon:                 Nom    VbNuc  Aspect Tense      Nom
                        [L.1] [LE.6.1] [L.6]  [L.7]     [L.1]
                          |      |      |      |          |
Transformations:        ⎡ -N  ⎤                        ⎡ -N  ⎤
                        ⎢ +I  ⎥                        ⎢ +III⎥
                        ⎣ +Sing⎦                       ⎣ +Sing⎦

           [T.1]
                      [-N]  [+ProAf]                 [-N]  [+ProAf]
           [T.2]       |                               |
           [T.3]       ø                               ø

                         [+ProAf]+                       +[+ProAf]
           [T.4]
                   [+ProAf]+Number+

           [T.5]

Realisation:     [+ProAf]+n+Number+m+a +Durat+Pres+[+ProAf]
                   [R.1]     [R.4]        [R.2]   [R.3]

                  ŋa  +  n  +  ø  +  m+a  +  nɖ  +  ø

M.14    ⟶        ŋanmanɖ
```

164
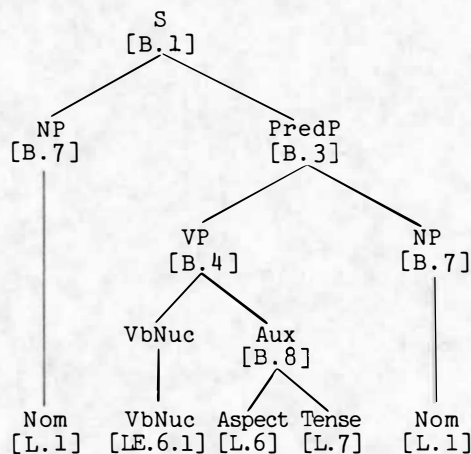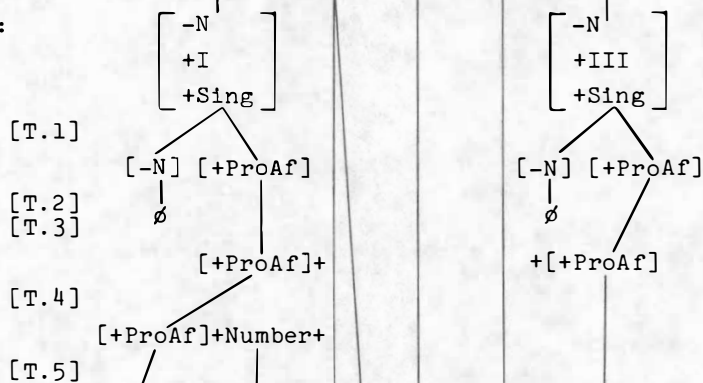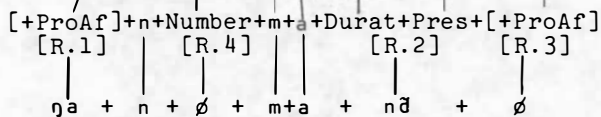
5.1.2. (Ex.2): min-ɗarala-n
                You-run-Pres
                You are running.
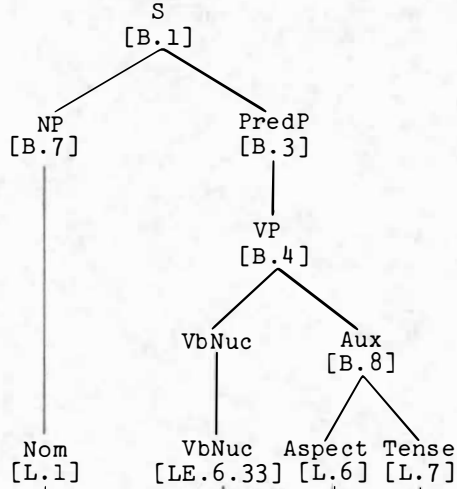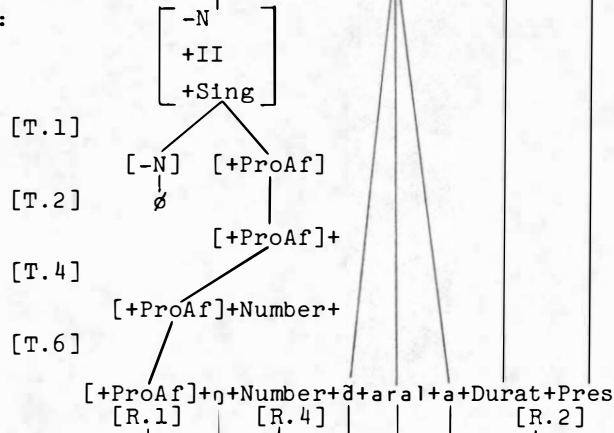
Base Rules:
```
                                        S
                                       [B.1]
                          _____/      _____
                         NP                             PredP
                        [B.7]                           [B.3]
                          |                               |
                          |                              VP
                          |                             [B.4]
                          |                          __/    \__
                          |                      VbNuc         Aux
                          |                                    [B.8]
                          |                                  _/    \_
Lexicon:                 Nom            VbNuc      Aspect         Tense
                        [L.1]         [LE.6.33]    [L.6]          [L.7]

Transformations:       ┌  -N  ┐
                       │ +II  │
                       └ +Sing┘
          [T.1]         __/  \__
                    [-N]      [+ProAf]
          [T.2]      |           |
                     ø           |
                            [+ProAf]+
          [T.4]                 |
               [+ProAf]+Number+
          [T.6]                 |

Realisation:  [+ProAf]+ŋ+Number+ɗ+aral+a+Durat+Pres
                [R.1]        [R.4]                [R.2]

Morphophonemics:   mi  +  ŋ  +  ø  +  ɗ+aral+a  +  n
            [M.8.2]          |
                            n

            [M.14]
                    minɗaralan
```

5.1.3. (Ex.3): im-bañi-n-aŋar
It-finish-Pres-Emphatic
It (the story) is absolutely finished.

Base Rules:

```
                                    S
                                  [B.1]

                    NP                        PredP
                  [B.7]                       [B.3]

                                      VP                EMPHAT
                                    [B.4]

                              VbNuc        Aux
                                          [B.8]
```

Lexicon:

```
                    Nom        VbNuc    Aspect  Tense  EMPHAT
                   [L.1]      [LE.6.3]  [L.6]   [L.7]
```

Transformations:

```
                 ⎡ -N   ⎤
                 ⎢ +III ⎥
                 ⎣ +Sing⎦
        [T.1]
                 [-N]   [+ProAf]
        [T.2]
                        [+ProAf]
        [T.4]
                 [+ProAf]+Number+
        [T.6]
                 [+ProAf]+ŋ+Number+                      +EMPHAT
        [T.11]
```

Realisation:

```
                 [+ProAf]+ŋ+Number+b+Añ+i+Durat+Pres+aŋar
                   [R.1]        [R.4]              [R.2]
```

Morphophonemics:

```
                   i  +  ŋ  +  ∅ +  b+Añ+i   +   n   +   aŋar
        [M.6.2]
                                    b+añ
        [M.8.2]
                   i  +  m  +       b+añ+i    +   n   +   aŋar
        [M.14]
                        imbañinaŋar
```
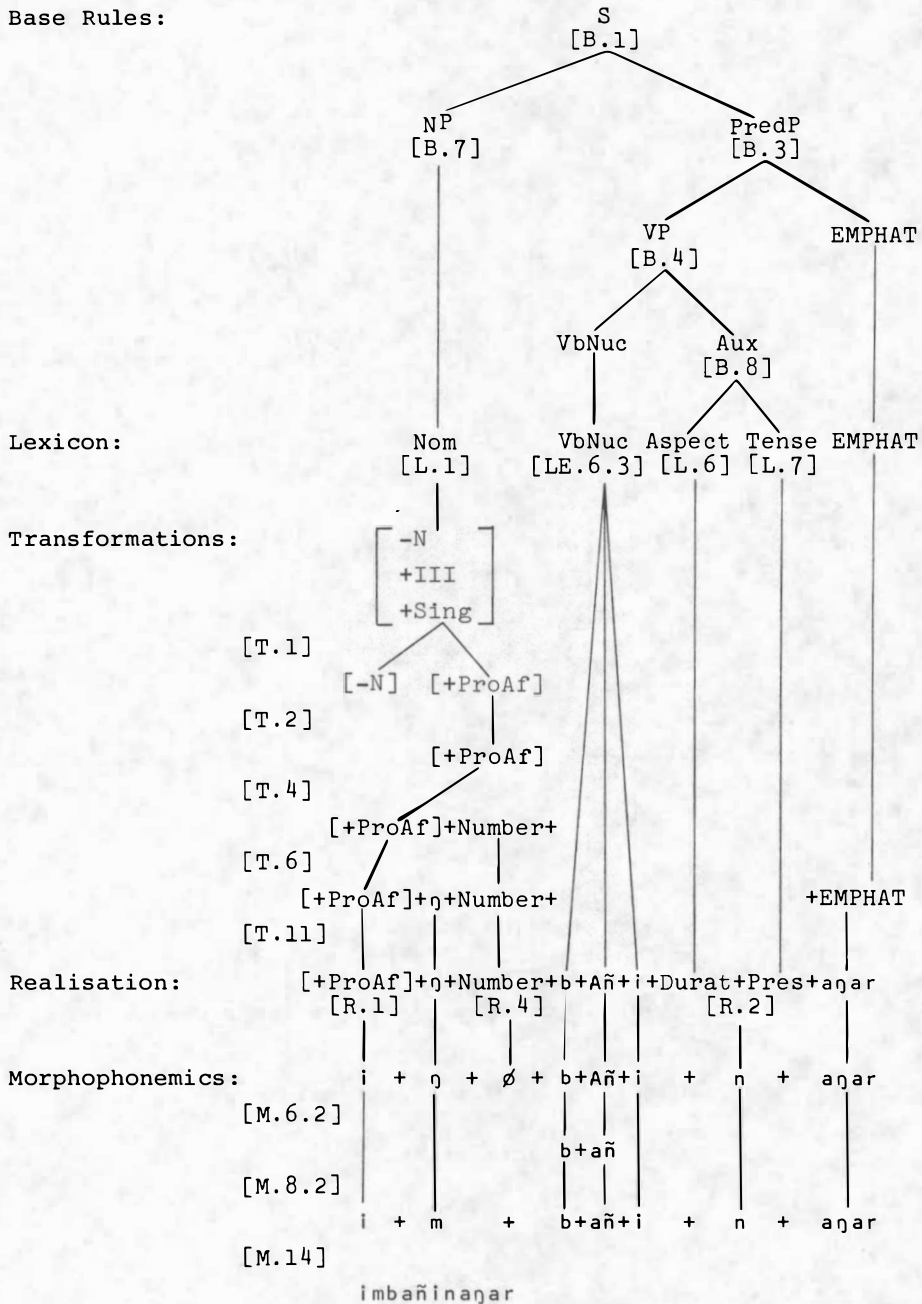
5.1.4. (Ex.4): iŋ-g-alg-algama-na-na
                 It-Class-Intens-*move*-Durat-Dist
                 It kept on moving about vigorously.

Base Rules:
```
                                          S
                                        [B.1]
                           NP                      PredP
                          [B.7]                    [B.3]
                                                     VP
                                                   [B.4]
                                  INTENS  VbNuc              Aux
                                                            [B.8]
```

Lexicon:
```
                           Nom              VbNuc      Aspect  Tense
                          [L.1]           [LE.6.29]    [L.6]   [L.7]
```

Transformations:
```
                          ⎡ -N   ⎤
                          ⎢ +III ⎥
                          ⎣ +Sing⎦

              [T.1]
                          [-N]    [+ProAf]

              [T.2]        ↓
                           ∅
                          INTENS    [+ProAf]+

              [T.4]
                               [+ProAf]+Number+

              [T.6]
                          INTENS [+ProAf]+ŋ+Number+

              [T.10.1]
```

Realisation:
```
                          [+ProAf]+ŋ+Number+g+alg+algam+a+Durat+Dist
                          [R.1]  |  [R.4]  |   |    |     |       [R.2]
                             |   |    |    |   |    |     |
                             i + ŋ +  ∅ + g+alg+algam+a + na + na
```
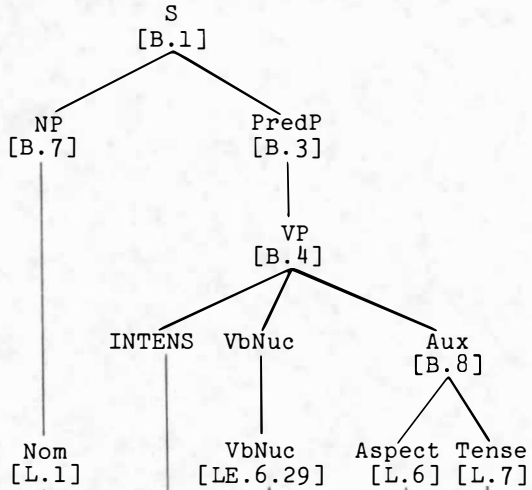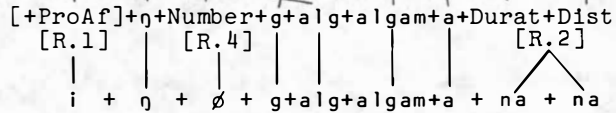
M.14 ⟶   iŋgalgalgamanana

5.1.5. (Ex.5):   ara gu-l-uru-m-ugul-indi-na-ɗan
                 Neg *you*-Pot-Plur-RA-*break*-RA-Mid-*for me* (Refer)
                 You were not breaking yourselves (in concern) for me.

B-Rules:

Lexicon:

T-Rules:

R-Rules:

M-Rules:

168
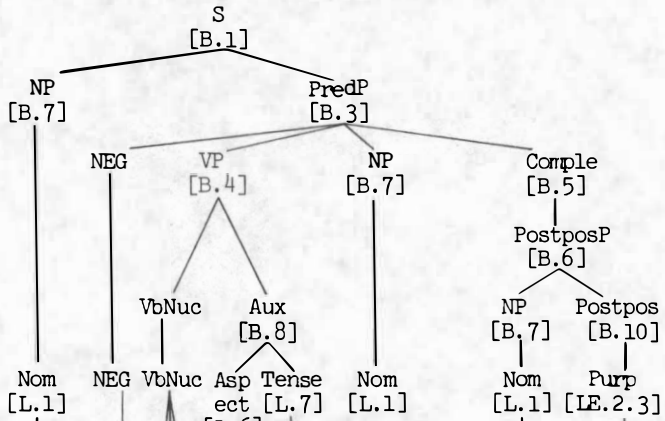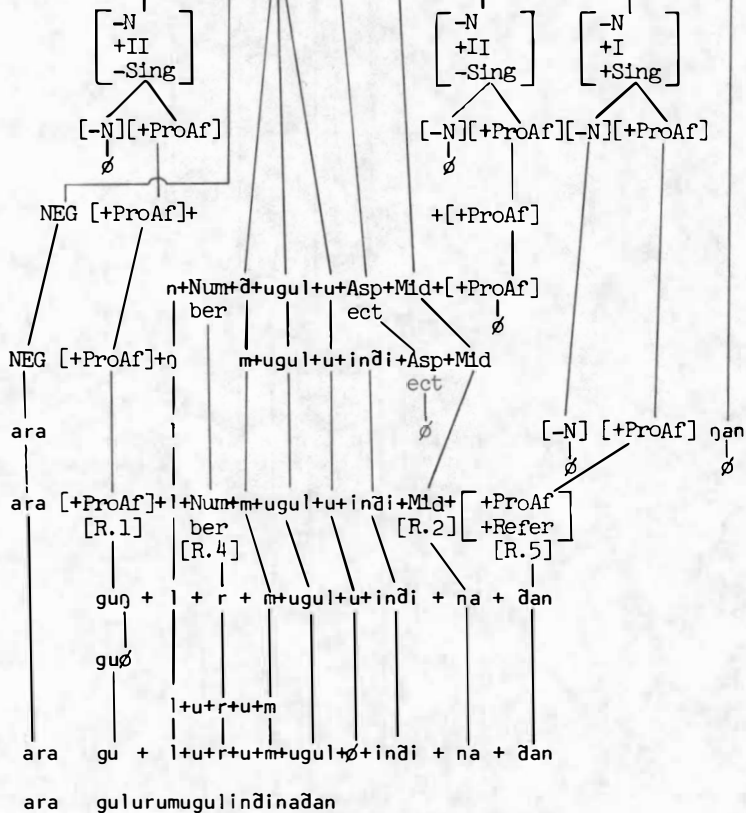
5.1.6. (Ex.6): uŋ-g-ir-igu-gur-a-ðan-ir

They-Proj-Plur-Intens-make catamaran-Proj-for me-them
They will surely make them (the two sections of a
catamaran) for me.

B-Rules:

S
[B.1]

NP
[B.7]

PredP
[B.3]

VP
[B.4]

NP
[B.7]

Comple
[B.5]

PostposP
[B.6]

INTENS VbNuc

Aux
[B.8]

NP   Postpos
[B.7]   [B.10]

Lexicon:

Nom   INTENS VbNuc Aspect Tense Nom
[L.1]   [L.6] [L.7][L.1]

Nom   Dative
[L.1] [IE.2.3]

T-Rules:

$\begin{bmatrix} -N \\ +III \\ -Sing \end{bmatrix}$

$\begin{bmatrix} -N \\ +III \\ -Sing \end{bmatrix}$

$\begin{bmatrix} -N \\ +I \\ +Sing \end{bmatrix}$

[T.1]

[-N][+ProAf]

[-N][+ProAf]   [-N][+ProAf]

[T.2]
[T.3]

∅

∅

INTENS [+ProAf]+

+[+ProAf]

[T.4]
[T.5]

INTENS [+ProAf]+n+Num+ð+Igur+u
                 ber

[T.10.1]

+ð+I+gu+gur+u

+[+ProAf][-N][+ProAf] ŋan

[T.15.2]

∅   ∅

R-Rules:

[+ProAf]+n+Num+ð+I+gu+gur+u+Non+Proj+
[R.1]   ber   Durat
           [R.4]   [R.2]

$\begin{bmatrix} +ProAf \\ +Refer \end{bmatrix}$ +[+ProAf]
[R.5]   [R.3]

M-Rules:

iŋ + n+g+r+ð+I+gu+gur+u + a + ðan + r

[M.1.1]   uŋ

[M.2]   ∅

[M.5.2]   ∅

[M.6.1]   i

[M.7]   gir

[M.11.3.2]   ðan + ir

[M.12.3]   uŋ + gir + i+gu+gur+∅ + a + ðan + ir

[M.14]   uŋgiriguguraðanir

5.2. *VERB PARADIGMS*

The paradigms present the Indicative forms of a representative set of
verbs. Extra-, Intra- and Retro-active verbal forms from the four classes
are given in all tenses. The Extra-active verbs all have the third person
singular Object suffix ∅.

Paradigm 1 (P.1), ∅-Class verbs, presents a vowel-initial, a vowel-
final and a vowel-medial Verb Stem. The b-Class verbs of P.2 illustrate
the realisations of the morphophonemes U and A. The d̶-Class verbs of
P.3 give examples of the I morphophoneme and the optional Retro-active
morpheme m. Class g verbs, P.4, are represented by the one verb *to laugh
(at)*, which can express all three Action Types.

P.1. ø-Class Verbs

	TENSE	NUMBER	PERSON	ACTION TYPE		
				EXTRA-ACTIVE and+i *pick up*	INTRA-ACTIVE mi *look about*	RETRO-ACTIVE mar+a *burn, cook*
P.1.1.	**I M P E R F E C T**	**Projected** Sing	I	ŋa-n-g-and-a-ø	ŋa-ŋ-gi-mi-y-a	ŋa-ŋ-ga-mar-ind-a
			II	a-n -	ŋ -a-.......	ŋ - a-.........
			III	u-n-g-.......	u-ŋ-gi-......	u-ŋ-ga-.........
			Dual	a-n-g-.......	a-ŋ-gi-......	a-ŋ-ga-.........
		Plur	{Inc Exc}	aŋ-g-ar-and-a-ø	aŋ-g-ir-mi-y-a	aŋ-g-ar-mar-ind-a
			II	a -ar-.......	a - r-......	a -r-.........
			III	uŋ-g-ar-.......	uŋ-g-ir-......	uŋ-g-ar-.........
		Present Sing	I	ŋa-n-and-i-nd-ø	a-mi-nd	ŋa-mar-ind-i-nd
			II	mi-n-..........	mi-.....	mi-...........
			III	i-n-..........	i-.....	i-...........
			Dual	a-n-..........	a-.....	a-...........
		Plur	{Inc Exc}	a-r-and-i-nd-ø	a-r-mi-nd	a-r-mar-ind-i-nd
			II	gu-r-..........	gu-r-.....	gu-r-...........
			III	i-r-..........	i-r-.....	i-r-...........

P.1.   ∅-Class Verbs

P.1.2.

TENSE	NUMBER	PERSON	ACTION TYPE		
			EXTRA-ACTIVE and+i *pick up*	INTRA-ACTIVE mi *look about*	RETRO-ACTIVE mar+a *burn, cook*
PERFECT — Immediate	Sing	I	ŋa-n-and-i-galđ-∅	ŋa-mi-galđ	ŋa-mar-inđ-i-galđ
		II	mi-n-.............	mi-.......	mi-.............
		III	i-n-.............	i-.......	i-.............
		Dual	a-n-.............	a-.......	a-.............
	Plur	{Inc / Exc}	a-r-and-i-galđ-∅	a-r-mi-galđ	a-r-mar-inđ-i-galđ
		II	gu-r-.............	gu-r-.......	gu-r-.............
		III	i-r-.............	i-r-.......	i-r-.............
PERFECT — Near	Sing	I	ŋa-n-and-i-galđ-∅	ŋa-ŋi-mi-galđ	ŋa-ŋa-mar-inđ-i-galđ
		II	mi-n-.............	mi-ŋi-.......	mi-ŋa-.............
		III	i-n-.............	i-ŋi-.......	i-ŋa-.............
		Dual	a-n-.............	a-ŋi-.......	a-ŋa-.............
	Plur	{Inc / Exc}	aŋ-ar-and-i-galđ-∅	aŋ-ir-mi-galđ	aŋ-ar-mar-inđ-i-galđ
		II	guŋ-ar-.............	guŋ-ir-.......	guŋ-ar-.............
		III	iŋ-ar-.............	iŋ-ir-.......	iŋ-ar-.............

P.1. ∅-Class Verbs

P.1.2.
(Cont.)

TENSE	NUMBER		PERSON	ACTION TYPE		
				EXTRA-ACTIVE and+i *pick up*	INTRA-ACTIVE mi *look about*	RETRO-ACTIVE mar+a *burn, cook*
P E R F E C T	Middle	Sing	I	ŋa-n-and-ið-∅	ŋa-ŋi-mi-ð	ŋa-ŋa-mar-inð-ið
			II	mi-n-........	mi-ŋi-....	mi-ŋa-..........
			III	i-n-........	i-ŋi-....	i-ŋa-..........
			Dual	a-n-.......	a-ŋi-....	a-ŋa-..........
		Plur	{Inc Exc}	aŋ-ar-and-ið-∅	aŋ-ir-mi-ð	aŋ-ar-mar-inð-ið
			II	guŋ-ar-........	guŋ-ir-....	guŋ-ar-..........
			III	iŋ-ar-.......	iŋ-ir-....	iŋ-ar-..........
	Distant	Sing	I	ŋa-n-and-i-na-∅	ŋa-ŋi-mi-na	ŋa-ŋa-mar-inð-i-na
			II	mi-n-..........	mi-ŋi-.....	mi-ŋa-............
			III	i-n-..........	i-ŋi-.....	i-ŋa-............
			Dual	a-n-..........	a-ŋi-.....	a-ŋa-............
		Plur	{Inc Exc}	aŋ-ar-and-i-na-∅	aŋ-ir-mi-na	aŋ-ar-mar-inð-i-na
			II	guŋ-ar-..........	guŋ-ir-.....	guŋ-ar-.............
			III	iŋ-ar-..........	iŋ-ir-.....	iŋ-ar-.............

P.2. b-Class Verbs

P.2.1.

TENSE		NUMBER	PERSON	ACTION TYPE		
				EXTRA-ACTIVE b+Al+i *make*	INTRA-ACTIVE b+UdUg+u *stamp off*	RETRO-ACTIVE b+ind+i *put forward*
IMPERFECT	Projected	Sing	I	ŋɔ-n-g-ɔl-a-ø	ŋɔ-ŋ-g-ɔdɔg-a	ŋa-ŋ-ga-w-ind-ind̄-a
			II	ɔ-n -	ŋ-a-w-udug-a	ŋ - a-w-.........
			III	u-n-g-......	u-ŋ-g-ɔdɔg-a	u-ŋ-ga-w-.........
			Dual	ɔ-n-g-......	ɔ-ŋ-g-ɔdɔg-a	a-ŋ-ga-w-.........
		Plur	{Inc Exc}	ɔŋ-g-ɔr-ɔl-a-ø	aŋ-g-ur-b-udug-a	aŋ-g-ir-b-ind-ind̄-a
			II	ɔ - r-......	a - r-b-......	a - r-b-.........
			III	uŋ-g-ɔr-......	uŋ-g-ur-b-......	uŋ-g-ir-b-......
	Present	Sing	I	ŋa-n-b-al-i-nd̄-ø	ŋa-w-udug-u-nd̄	ŋa-w-ind-ind̄-i-nd̄
			II	mi-n-b-.........	mi-w-.........	mi-w-.........
			III	i-n-b-.........	i-w-.........	i-w-.........
			Dual	a-n-b-.........	a-w-.........	a-w-.........
		Plur	{Inc Exc}	ɔ-r-ɔl-i-nd̄-ø	a-r-b-udug-u-nd̄	a-r-b-ind-ind̄-i-nd̄
			II	gu-r-.........	gu-r-b-.........	gu-r-b-............
			III	i-r-.........	i-r-b-.........	i-r-b-............

P.2. b-Class Verbs

TENSE		NUMBER	PERSON	ACTION TYPE		
				EXTRA-ACTIVE b+Al+i *make*	INTRA-ACTIVE b+UdUg+u *stamp off*	RETRO-ACTIVE b+ind+i *put forward*
P.2.2. PERFECT	Immediate	Sing	I	ŋa-n-b-al-i-galᵭ-ø	ŋa-w-udug-u-galᵭ	ŋa-w-ind-inᵭ-i-galᵭ
			II	mi-n-b-...........	mi-w-...........	mi-w-.............
			III	i-n-b-...........	i-w-...........	i-w-.............
			Dual	a-n-b-...........	a-w-...........	a-w-.............
		Plur	{Inc Exc}	ɔ-r-ɔl-i-galᵭ-ø	a-r-b-udug-u-galᵭ	a-r-b-ind-inᵭ-i-galᵭ
			II	gu-r-...........	gu-r-b-...........	gu-r-b-.............
			III	i-r-...........	i-r-b-...........	i-r-b-.............
	Near	Sing	I	ŋa-n-am-b-al-i-galᵭ-ø	ŋa-m-b-udug-u-galᵭ	ŋa-m-b-ind-inᵭ-i-galᵭ
			II	mi-n-am-b-...........	mi-m-b-...........	mi-m-b-.............
			III	i-n-am-b-...........	i-m-b-...........	i-m-b-.............
			Dual	a-n-am-b-...........	a-m-b-...........	a-m-b-.............
		Plur	{Inc Exc}	ɔŋ- ɔr -ɔl-i-galᵭ-ø	aŋ-ur-b-udug-u-galᵭ	aŋ-ir-b-ind-inᵭ-i-galᵭ
			II	guŋ- ɔr -...........	guŋ-ur-b-...........	guŋ-ir-b-.............
			III	iŋ- ɔr -...........	iŋ-ur-b-...........	iŋ-ir-b-.............

P.2. b-Class Verbs

TENSE		NUMBER	PERSON	ACTION TYPE		
				EXTRA-ACTIVE b+Al+i *make*	INTRA-ACTIVE b+UdUg+u *stamp off*	RETRO-ACTIVE b+ind+i *put forward*
P E R F E C T	Middle	Sing	I	ŋa-n-am-b-al-iđ-∅	ŋa-m-b-udug-iđ	ŋa-m-b-ind-inđ-iđ
			II	mi-n-am-b-.......	mi-m-b-.......	mi-m-b-.........
			III	i-n-am-b-.......	i-m-b-.....	i-m-b-.........
			Dual	a-n-am-b-.......	a-m-b-.....	a-m-b-.........
		Plur	{Inc Exc}	ɔŋ- ɔr -ɔl-iđ-∅	aŋ-ur-b-udug-iđ	aŋ-ir-b-ind-inđ-iđ
			II	guŋ- ɔr -.......	guŋ-ur-b-.......	guŋ-ir-b-.........
			III	iŋ- ɔr -.......	iŋ-ur-b-.......	iŋ-ir-b-.........
	Distant	Sing	I	ŋa-n-am-b-al-i-na-∅	ŋa-m-b-udug-i-na	ŋa-m-b-ind-inđ-i-na
			II	mi-n-am-b-.........	mi-m-b-.........	mi-m-b-...........
			III	i-n-am-b-.........	i-m-b-.........	i-m-b-...........
			Dual	a-n-am-b-.........	a-m-b-.........	a-m-b-...........
		Plur	{Inc Exc}	ɔŋ- ɔr -ɔl-i-na-∅	aŋ-ur-b-udug-i-na	aŋ-ir-b-ind-inđ-i-na
			II	guŋ- ɔr -.........	guŋ-ur-b-.........	guŋ-ir-b-...........
			III	iŋ- ɔr -.........	iŋ-ur-b-.........	iŋ-ir-b-...........

P.2.2.
(Cont.)

P.3. ꝺ-Class Verbs

	TENSE	NUMBER	PERSON	ACTION TYPE		
				EXTRA-ACTIVE ꝺ+Ibar+a *singe*	INTRA-ACTIVE ꝺ+id+i *go, walk*	RETRO-ACTIVE ꝺ+ulug+u *wash*
P.3.1.	I M P E R F E C T	Projected — Sing	I	ŋa-n-g-i-bar-a-ø	ŋa-ŋ-g-id-a	ŋa-ŋ-g-um-ulug-inꝺ-a
			II	a-n-ꝺ-u-.......	ŋ-a-y-....	ŋ-a — m-.........
			III	u-n-g-i-.......	u-ŋ-g-....	u-ŋ-g-um-.........
			Dual	a-n-g-i-.......	a-ŋ-g-....	a-ŋ-g-um-.........
		Projected — Plur	{Inc Exc}	aŋ-g-ir-i-bar-a-ø	aŋ-g-ir-ꝺ-id-a	aŋ-g-ur-m-ulug-inꝺ-a
			II	a — r-i-.......	a — r-ꝺ-....	a — r-m-.........
			III	uŋ-g-ir-i-.......	uŋ-g-ir-ꝺ-....	uŋ-g-ur-m-.........
		Present — Sing	I	ŋa-n-ꝺ-u-bar-a-nꝺ-ø	ŋa-y-id-i-nꝺ	ŋa-m-ulug-inꝺ-i-nꝺ
			II	mi-n-ꝺ-u-.........	mi-y-.......	mi-m-............
			III	i-n-ꝺ-u-.........	i-y-.......	i-m-............
			Dual	a-n-ꝺ-u-.........	a-y-.......	a-m-............
		Present — Plur	{Inc Exc}	a- r -i-ŋar-a-nꝺ-ø	a-r-ꝺ-id-i-nꝺ	a-r-m-ulug-inꝺ-i-nꝺ
			II	gu- r -i-.........	gu-r-ꝺ-.......	gu-r-m-............
			III	i- r -i-.........	i-r-ꝺ-.......	i-r-m-............

P.3. ð-Class Verbs

	TENSE	NUMBER	PERSON	ACTION TYPE		
				EXTRA-ACTIVE ð+Ibar+a *singe*	INTRA-ACTIVE ð+id+i *go, walk*	RETRO-ACTIVE ð+ulug+u *wash*
P.3.2.	Immediate	Sing	I	ŋa-n-ð-u-bar-a-galð-ø	ŋa-y-id-i-galð	ŋa-m-ulug-inð-i-galð
			II	mi-n-ð-u-............	mi-y-.........	mi-m-..............
			III	i-n-ð-u-............	i-y-.........	i-m-..............
			Dual	a-n-ð-u-............	a-y-.........	a-m-..............
		Plur	{Inc}{Exc}	a- r -i-bar-a-galð-ø	a-r-ð-id-i-galð	a-r-m-ulug-inð-i-galð
			II	gu- r -i-............	gu-r-ð-.........	gu-r-m-..............
			III	i- r -i-............	i-r-ð-.........	i-r-m-..............
	Near	Sing	I	ŋa-n-ð-u-bar-a-galð-ø	ŋa-n-ð-id-i-galð	ŋa-ŋ-um-ulug-inð-i-galð
			II	mi-n-ð-u-............	mi-n-ð-.........	mi-ŋ-um-..............
			III	i-n-ð-u-............	i-n-ð-.........	i-ŋ-um-..............
			Dual	a-n-ð-u-............	a-n-ð-.........	a-ŋ-um-.............
		Plur	{Inc}{Exc}	aŋ-ir -i-bar-a-galð-ø	aŋ-ir-ð-id-i-galð	aŋ-ur-m-ulug-inð-i-galð
			II	guŋ-ir -i-............	guŋ-ir-ð-.........	guŋ-ur-m-..............
			III	iŋ-ir -i-............	iŋ-ir-ð-.........	iŋ-ur-m-..............

(TENSE column spanning: PERFECT)

P.3.   ð-Class Verbs

TENSE	NUMBER		PERSON	ACTION TYPE		
				EXTRA-ACTIVE ð+Ibar+a *singe*	INTRA-ACTIVE ð+id+i *go, walk*	RETRO-ACTIVE ð+ulug+u *wash*
P E R F E C T	Middle	Sing	I	ŋa-n-ð-u-bar-ið-ø	ŋa-n-ð-id-ið	ŋa-ŋ-um-ulug-inð-ið
			II	mi-n-ð-u-........	mi-n-ð-.....	mi-ŋ-um-...........
			III	i-n-ð-u-........	i-n-ð-.....	i-ŋ-um-...........
			Dual	a-n-ð-u-........	a-n-ð-.....	a-ŋ-um-...........
		Plur	{Inc Exc}	aŋ-ir -i-bar-ið-ø	aŋ-ir-ð-id-ið	aŋ-ur-m-ulug-inð-ið
			II	guŋ-ir -i-........	guŋ-ir-ð-.....	guŋ-ur-m-...........
			III	iŋ-ir -i-........	iŋ-ir-ð-.....	iŋ-ur-m-...........
	Distant	Sing	I	ŋa-n-ð-u-bar-a-na-ø	ŋa-n-ð-id-i-na	ŋa-ŋ-um-ulug-inð-i-na
			II	mi-n-ð-u-..........	mi-n-ð-.......	mi-ŋ-um-...........
			III	i-n-ð-u-..........	i-n-ð-.......	i-ŋ-um-...........
			Dual	a-n-ð-u-..........	a-n-ð-.......	a-ŋ-um-...........
		Plur	{Inc Exc}	aŋ-ir -i-bar-a-na-ø	aŋ-ir-ð-id-i-na	aŋ-ur-m-ulug-inð-i-na
			II	guŋ-ir -i-........	guŋ-ir-ð-.......	guŋ-ur-m-...........
			III	iŋ-ir -i-........	iŋ-ir-ð-.......	iŋ-ur-m-...........

P.4. g-Class Verbs

P.4.1.

TENSE	NUMBER	PERSON	ACTION TYPE		
			EXTRA-ACTIVE g+am+a *laugh at*	INTRA-ACTIVE g+am+a *laugh*	RETRO-ACTIVE g+am+a *laugh at*
IMPERFECT — Projected	Sing	I	ŋa-n-g-am-a-ø	ŋa-ŋ-g-am-a	ŋa-ŋ-g-am-inð-a
		II	a-n -	ŋ-a-y-....	ŋ-a-y-........
		III	u-n-g-......	u-ŋ-g-....	u-ŋ-g-........
		Dual	a-n-g-......	a-ŋ-g-....	a-ŋ-g-........
	Plur	{Inc}{Exc}	aŋ-g-ar-am-a-ø	aŋ-g-ar-g-am-a	aŋ-g-ar-g-am-inð-a
		II	a - r-......	a - r-g-....	a - r-g-........
		III	uŋ-g-ar-......	uŋ-g-ar-g-....	uŋ-g-ar-g-........
IMPERFECT — Present	Sing	I	ŋa-n-g-am-a-nð-ø	ŋa-y-am-a-nð	ŋa-y-am-inð-i-nð
		II	mi-n-g-.........	mi-y-........	mi-y-...........
		III	i-n-g-.........	i-y-.......	i-y-...........
		Dual	a-n-g-.........	a-y-.......	a-y-...........
	Plur	{Inc}{Exc}	a- r -am-a-nð-ø	a-r-g-am-a-nð	a-r-g-am-inð-i-nð
		II	gu- r -.........	gu-r-g-.......	gu-r-g-...........
		III	i- r -.........	i-r-g-.......	i-r-g-...........

P.4.   g-Class Verbs

P.4.2.

TENSE	NUMBER	PERSON	ACTION TYPE		
			EXTRA-ACTIVE g+am+a *laugh at*	INTRA-ACTIVE g+am+a *laugh*	RETRO-ACTIVE g+am+a *laugh at*
PERFECT — Immediate — Sing		I	ŋa-n-g-am-a-galɖ-∅	ŋa-y-am-a-galɖ	ŋa-y-am-inɖ-i-galɖ
		II	mi-n-g-...........	mi-y-...........	mi-y-............
		III	i-n-g-...........	i-y-.........	i-y-............
		Dual	a-n-g-...........	a-y-.........	a-y-............
Plur		{Inc Exc}	a- r -am-a-galɖ-∅	a-r-g-am-a-galɖ	a-r-g-am-inɖ-i-galɖ
		II	gu- r -...........	gu-r-g-.........	gu-r-g-............
		III	i- r -...........	i-r-g-.........	i-r-g-............
Near — Sing		I	ŋa-n-aŋ-g-am-a-galɖ-∅	ŋa-ŋ-g-am-a-galɖ	ŋa-ŋ-g-am-inɖ-i-galɖ
		II	mi-n-aŋ-g-...........	mi-ŋ-g-.........	mi-ŋ-g-............
		III	i-n-aŋ-g-.........	i-ŋ-g-.........	i-ŋ-g-............
		Dual	a-n-aŋ-g-...........	a-ŋ-g-.........	a-ŋ-g-............
Plur		{Inc Exc}	aŋ- ar -am-a-galɖ-∅	aŋ-ar-g-am-a-galɖ	aŋ-ar-g-am-inɖ-i-galɖ
		II	guŋ- ar -...........	guŋ-ar-g-.........	guŋ-ar-g-............
		III	iŋ- ar -...........	iŋ-ar-g-.........	iŋ-ar-g-............

P.4. g-Class Verbs

P.4.2.
(Cont.)

TENSE	NUMBER	PERSON	ACTION TYPE		
			EXTRA-ACTIVE g+am+a *laugh at*	INTRA-ACTIVE g+am+a *laugh*	RETRO-ACTIVE g+am+a *laugh at*
PERFECT — Middle	Sing	I	ŋa-n-aŋ-g-am-iđ-ø	ŋa-ŋ-g-am-iđ	ŋa-ŋ-g-am-inđ-iđ
		II	mi-n-aŋ-g-.......	mi-ŋ-g-.....	mi-ŋ-g-.........
		III	i-n-aŋ-g-.......	i-ŋ-g-.....	i-ŋ-g-.........
		Dual	a-n-aŋ-g-.......	a-ŋ-g-.....	a-ŋ-g-.........
	Plur	{Inc / Exc}	aŋ- ar -am-iđ-ø	aŋ-ar-g-am-iđ	aŋ-ar-g-am-inđ-iđ
		II	guŋ- ar -.......	guŋ-ar-g-.....	guŋ-ar-g-.........
		III	iŋ- ar -.......	iŋ-ar-g-.....	iŋ-ar-g-.........
PERFECT — Distant	Sing	I	ŋa-n-aŋ-g-am-a-na-ø	ŋa-ŋ-g-am-a-na	ŋa-ŋ-g-am-inđ-i-na
		II	mi-n-aŋ-g-.........	mi-ŋ-g-.....	mi-ŋ-g-.........
		III	i-n-aŋ-g-.........	i-ŋ-g-.....	i-ŋ-g-...........
		Dual	a-n-aŋ-g-.........	a-ŋ-g-.....	a-ŋ-g-...........
	Plur	{Inc / Exc}	aŋ- ar -am-a-na-ø	aŋ-ar-g-am-a-na	aŋ-ar-g-am-inđ-i-na
		II	guŋ ar -.........	guŋ-ar-g-.......	guŋ-ar-g-...........
		III	iŋ ar -.........	iŋ-ar-g-.......	iŋ-ar-g-...........

6.0. APPENDICES

6.1. *IRREGULAR VERBS*

Irregularities in Baṛdi verb structure are limited to a small number of the most commonly used verbs and, in almost every case, to the Present and Immediate Perfect Tenses.

Irreg:1 g+∅+a, *to carry, take away*   LE.6.4

The Present Imperfect and the Immediate Perfect singular forms have the consonant đ as the Verb Stem.

		PRESENT	IMMEDIATE
S	I	ŋa-n-ga-đ-a-nd-∅	ŋa-n-ga-đ-a-galđ-∅
i	II	mi-.....đ.......	mi-.....đ.........
n	III	i-.....đ......	i-....đ.........
g	Dual	a-.....đ.......	a-.....đ.........

Irreg:2 b+U, *to spear, kill, give needles*   LE.6.8

The same modification takes place with b+U as with the previous verb.

		PRESENT	IMMEDIATE
S	I	ŋa-n-b-u-đ-a-nđ-∅	ŋa-n-b-u-đ-a-galđ-∅
i	II	mi-......đ.......	mi.......đ.........
n	III	i-......đ.......	i.......đ.........
g	Dual	a-......đ.......	a.......đ.........

Irreg:3 đ+I, *to address, say to*   LE.6.8

In the Present and Immediate singular of this verb, the Verb Necleus is da. The second person singular Projected (the Imperative) form is shortened to anđa.

		PRESENT	IMMEDIATE
S	I	ŋa-n-da-nđ-∅	ŋa-n-da-galđ-∅
i	II	mi...da.....	mi...da.......
n	III	i...da.....	i...da.......
g	Dual	a...da.....	a...da.......

Irreg:4 ø+a, *to be, exist*   LE.6.30

With this Intra-active verb, the same tenses are affected in both singular and plural forms. The Transitional Vowel changes to i, and there is an n added to the Nucleus in the singular forms.

		PRESENT	IMMEDIATE
S	I	ŋa-n-i-nđ	ŋa-n-i-galđ
i	II	mi-n-i...	mi-n-i.....
n	III	i-n-i...	i-n-i.....
g	Dual	a-n-i...	a-n-i.....
P	I	a-r-i-nđ	a-r-i-galđ
l	II	gu...i...	gu...i.....
u	III	i...i...	i...i.....
r			

Irreg:5 g+al+a, *to walk to, approach* (Extra-active)

This verb was used to illustrate the factor of 'Abbreviation' in Section 4.2.1 with reference to common Baṛdi verbs. The Auxiliaries of the Imperfect Tenses are deleted in surface forms.

		PROJECTED	PRESENT
S	I	ŋa-n-g-al-ø	ŋa-n-g-al-ø
i	II	a-n - al-ø	mi.........
n	III	u-n-g-al-ø	i.........
g	Dual	a.........	a.........
P	I	aŋ-ga-r-al-ø	a-r-al-ø
l	II	a - r.....	gu.......
u	III	uŋ-ga-r.....	i.......
r			

Irreg:6   ⌀+a, *to give* (Extra-active)

The Middle Perfect forms of this verb are abbreviated.

		NON-DURATIVE MIDDLE	DURATIVE MIDDLE
S	I	ŋa-n-a-ð-⌀	ŋa-n-inð-⌀
i	II	mi........	mi........
n	III	i........	i........
g	Dual	a........	a........
P	I	aŋ-ar-a-ð-⌀	aŋ-ar-inð-⌀
l	II	guŋ........	guŋ........
u	III	iŋ........	iŋ........
r			

6.2. *VERB MORPHEME LIST*

MORPHEME	DESCRIPTION	FEATURES
a-	Pronominal Subject	[+Dual]
a-	Pronominal Subject	[+{Inc / Exc}]
a-	Pronominal Subject	[+II]
-a	Indefinite Action	
-a	Non-Durative Imperfect Tenses	
-a	Pot/Neg Imperfect Tenses	
-ada	Question Marker	
-amba	Sequential Conjunction	
-an	Refer. Pronominal Affix	[+I,+Sing]
aŋ-	Pronominal Subject	[+{Inc / Exc}]
-aŋar	Intra-action Emphatic	
ara	Negative	
-b-	Class Marker	
-b	Temporal Relator	
-ba-	Nominal Relator	
-baḍa	Question Marker	
-ð-	Class Marker	[+{Inc / Exc}]
-ðaḍa	Refer. Pronominal Affix	[+{Inc / Exc}]
-ðaḍir	Di-trans. Pronominal Affix	
-ðamba	Sequential Conjunction	
-ðan	Refer. Pronominal Affix	[+I,+Sing]
-ðaran	Refer. Pronominal Affix	[+I,+Sing]

MORPHEME	DESCRIPTION	FEATURES
-ᵭaran	Di-trans. Pronominal Affix	[+I,+Sing]
-ᵭargur	Pronominal Object	[+II,-Sing]
-ᵭarmudu	Pronominal Object	[+{Inc / Exc}]
-ᵭarŋayu	Pronominal Object	[+I,+Sing]
-ᵭarwayi	Pronominal Object	[+Dual]
-ᵭi	Refer. Pronominal Affix	[+II,+Sing]
-ᵭin	Refer. Pronominal Affix	[+III,+Sing]
-ᵭir	Refer. Pronominal Affix	[+III,-Sing]
-ᵭir	Di-trans. Pronominal Affix	[+II,+Sing]
-ᵭiri	Refer. Pronominal Affix	[+II,+Sing]
-ᵭiri	Di-trans. Pronominal Affix	[+II,+Sing]
-ᵭiri	Pronominal Object	[+II,+Sing]
-ᵭirin	Refer. Pronominal Affix	[+III,+Sing]
-ᵭirin	Di-trans. Pronominal Affix	[+III,+Sing]
-ᵭirir	Di-trans. Pronominal Affix	[+III,-Sing]
-ᵭugara	Refer. Pronominal Affix	[+II,-Sing]
-ᵭugarir	Di-trans. Pronominal Affix	[+II,-Sing]
-ᵭɔwu	Refer. Pronominal Affix	[+Dual]
-ᵭɔwir	Di-trans. Pronominal Affix	[+Dual]
-g-	Class Marker	
-g-	Projected Tense Prefix	
-gal(ᵭ)	Contemporary Perfect Tense	
gu-	Pronominal Subject	[+II,-Sing]
guŋ-	Pronominal Subject	[+II,-Sing]
-gur	Pronominal Object	[+II,-Sing]
i-	Pronominal Subject	[+III,+Sing]
-i	Refer. Pronominal Affix	[+II,+Sing]
-iᵭ	Middle Perfect Tense	
-in	Refer. Pronominal Affix	[+III,+Sing]
-inᵭ	Durat. Middle Perfect	
-inᵭi	Retro-Action Marker	
iŋ-	Pronominal Subject	[+III,-Sing]
-ir	Intra-Action Emphatic	
-l-	Potential	
-lan	Refer. Pronominal Affix	[+I,+Sing]
-lgur	Pronominal Object	[+II,-Sing]
-li	Refer. Pronominal Affix	[+II,+Sing]
-li	Pronominal Object	[+II,+Sing]

MORPHEME	DESCRIPTION	FEATURES
-lin	Refer. Pronominal Affix	[+III,+Sing]
-lir	Pronominal Object	[+III,-Sing]
-lir	Refer. Pronominal Affix	[+III,-Sing]
-lmudu	Pronominal Object	$[+\{^{Inc}_{Exc}\}]$
-lwayi	Pronominal Object	[+Dual]
-m-	Intra-Action Marker	
-m-	Retro-Action Marker	
ma-	Infinitive Prefix	
mi-	Pronominal Subject	[+II,+Sing]
-mudu	Pronominal Object	$[+\{^{Inc}_{Exc}\}]$
-n-	Intra-Action Marker	
-n-	Extra-Action Marker	
-n-	Durat. Aspect	
-n	Infinitive Suffix	
-na	Distant Perfect Tense	
-na	Potential/Neg Auxiliary	$[+\{^{Contemp}_{Middle}\}]$
-nana	Potential/Neg Auxiliary	[-Middle]
-nana	Durat. Distant Perfect	
-nd̄	Durat. Imperfect Tenses	
-ŋ-	Intra-Action Marker	
-ŋ-	Associative Suffix	
ŋa-	Pronominal Subject	[+I,+Sing]
-ŋa	Negative Emphasis	
ŋanda	Question Marker	
-ŋayu	Pronominal Object	[+I,+Sing]
-r-	Plural Marker	
-r	Pronominal Object	[+III,-Sing]
-ri	Pronominal Object	[+II,+Sing]
u-	Pronominal Subject	[+III]
u-	Pronominal Subject	[+III,+Sing]
uŋ-	Pronominal Subject	[+III,-Sing]
-w-	Class Marker	
-wayi	Pronominal Object	[+Dual]
-y-	Class Marker	

6.3. *TEXT*

This text is Part One of a two-part description narrated by a Baṛdi man, Mr Tudor Ejai. It is available in tape and transcript form through the Australian Institute of Aboriginal Studies (Tape Catalogue No.A1839). The general title of the tape is, 'Death, Burial and Existence After Death' and the sub-title of Part One is, 'Tree-stage Burial and the Ordeal of Loki bin Sali'.

Each line and each verb are numbered, with the line numbers appearing in the left-hand column and the verb numbers after the verb in parentheses. A free translation follows.

1   ꝺawal ŋan-man-ø (1)   ꝺari· ŋanꝺin·
     Story I-am putting-it this. Tree coffin.

2   iŋara-manana-r (2)   amb agal ɔrañ milɔn·
     They-used to put-them men and women 'before' times.

3   baꝺag-ɔn gaṇdi·   in-ꝺibin (3) aṛinꝺ-aŋar   amba·
     Tree-in on top. He-died   one-Intensifier man.

4   malambu·   im-bañina (4)· giñiŋgara iŋara-na-ø (5)
     Malumbo Bay. He-died.   Then   they-took-him

5   baꝺa· gandurman-nim   ꝺin-ir   iŋara-na-ø (6).
     away. Relations-Agent his-they they-took-him.

6   ñun   iŋara-mana-ø (7) gunduḷmara   gaṇdi·
     There they-put-him   Gunduḷmara Hill on top.

7   iŋir-ɔn   baꝺag·   ŋanꝺin-gun·   iŋuru-
     Tree name-on branches. Tree coffin-in. They-

8   lulurunu-ø (8) nuru ꝺin ꝺiwara·   balabu ꝺagud
     lit-it   fire his dead man. Back   returned

9   iŋiri-ni (9)· buṛu-ŋan iŋ-gaꝺina (10) mar·
     they-ø.   Time-for it-went in   Temp = sunset.

10   ꝺib iŋara-mana-r (11)· yandal   ir-ŋa
     Here they-placed-them.   Divining pegs their-name

11   baꝺaga· giñiŋ baꝺaga·   ꝺawal-ŋidi
     sticks. Those sticks.   Message-pertaining to

12   baḏaga giñiŋ·   aŋgi-nim   in-buḏan-ø (12) ɔ
     sticks those.   *Who*-Agent *he-killed-him*   Conj

13   aŋgi-nim   inu-ŋurubunana-ø   miṛurunu
     who-Agent *he-followed-him (as a) 'shadow-man'*

14   giñiŋ amba   giñiŋ baḏag·   yandal-ba-ḏib
     that   man (is) that   stick.   Pegs-Relator-*these*

15   ira-man-ir (14)   ḏawal-ŋa   may-uḷŋa-n (15)
     they-put-them   message-with Infinitive-*tell*-Infinitive

16   ḏir   nunḏu-bal-ir   ḏiwara-nim
     to them the living-Relator-*them dead man*-Agent

17   ambuṛiñ·   giñiŋgara biṛar   iŋiri-ni-ŋ (16)
     people.   Then   left behind they-ø-with it   ●

18   biḏ ḏiwara·   balabu ṛawin iŋara-man (17) ambuṛiñ
     this dead man.   Back   walked they-ø   people

19   bali-ŋan·   giṛ   iŋar-alana (18) dagadag iŋiri-ni (19)·
     camp-to.   Stayed they-went about slept   they-ø

20   muyun iŋar-ḏarmina (20) baḏa·   dar iŋar-aṇa (21)
     Early they-rose up   away.   Came they-ø

21   ñunu·   iŋar-alana-ø (22) nidi   baṇi   buṛ
     there.   They-looked at-it Quantitative *this way saw*

22   iŋar-alana-ø (23)·   ara-giḏ   ular-alana-ø (24)
     they-saw-it.   Neg-Intensifier *they-saw-him*

23   nidi·   miṛurunu   ni-ŋa   amba giñiŋ
     Quantitative.   *'Shadow-man' his name being that.*

24   gaṇabini-b·   ara ular-alana-ø (25) ninbil·
     Murderer-Relator.   Neg *they-saw-it   track.*

25   ḏagud   iŋiri-ni (26) balabu·   giṛ   iŋar-alana (27)·
     Returned they-ø   back.   Stayed they-went about

26   irḏaṛa mar inḏuna (28) buṛu·   giñiŋgara baṇ
     Three Temp *it was   time.   Then   spoke*

27   iŋiri-n-in (29) lagi ṛuwil a-ña (30) ɖu baḏ
         they-said-to him Loki go   you-∅   you off

28   iŋiri-n-in (31)   lagal ɖamba ŋa:-ña (32) baḏag-ɔn·
         they-said-to him. Climb Sequ you-climb   tree-in.

29   ŋanɖin-gun   ŋa-land-amba (33) gaṇdi iŋiri-n-in (34)·
         Tree coffin-in. You-sit-Sequ   on top they-said-to him

30   baṇi   ɖira ir   milɔn-ɖun   ambuṛiñ·
         That way their those before-belonging people.

31   in-ɖarmina (35) ṛani   ṛuwil i-ñana (36)
         He-rose up   straight away went he-∅

32   baḏa· ṛuwil i-ñana (37) garagara   ñunu dab
         away. Went he-∅   Continuative there went up

33   i-ñana (38)· giñiŋ-ɔn baḏag· lagal   iŋ-gañina (39)·
         he-∅   That-in   tree. Climbed he-climbed.

34   aṛ-a:lga·   ɔ   ɖagud   in-ɖuna (40) ñalab· gaḏu
         another-sun. Conj returned he-∅   there. Still

35   ṛuwil i-ñana (41) gɔṛħa· dagadag iŋiri-n (42) aṛ-
         came he-∅   well. Slept   they-∅   another

36   a:lga min ṛuwil i-ñana (43) ɖar-ɔ   iŋɔr-ɔnbuna-∅ (44).
         sun Temp went he-∅   here-from they-sent-him.

37   lugal-gun buṛu gala· di:l   marab in-ɖidini (45)
         bad-at   time now. Burst open Temp it-came out

38   nu:-ŋu   giñiŋ ɖiwara-b-amba·   ṛuwil
         his-stomach that   dead one-Relator-man. Went

39   i-ñana (46) ɖar-ɔ·   baṇim ɖigiṛ in-ɖuna (47)
         he-∅   here-from. Quickly peeped he-∅

40   ñunu ŋanɖin-gun   ñun in-ɖalana-∅ (48) ŋu:ɖin
         there tree coffin-at. There he-saw-it   intestine

41   iŋ-galgalgamanana (49) gaṇdi· aṛaŋ   ŋu:ɖini
         it-was moving around   on top. Another intestine

42   laḏa-madan   iŋ-anana (50) nidi·
         bottom-Directional it was   Quantitative.

43 iŋ-galgalgamanana (51) nidi·   agal amba
It-was moving around Quantitative. Conj *man*

44 in-ðalana-ø (52) ðari iŋ-galgalamanana (53) ni-maḷa·
he-saw-him   *this he-was moving around his-arm.*

45 agal niy-aḍa·   bil-amba ðigiṛ in-ðuna-ðin (54)
Conj *his-body. Again-*Sequ *peeped he-ø-at him*

46 baŋi   in-ðalana-ø-b (55)·   ŋaŋganmaḍ   in-ðuna (56)
*this way he-saw-him-*Temp.   *Tried to stop he-ø*

47 in-ðaṛgina (57)   in-ðaralana (58) giñiŋg-ɔ-
he-was frightened. He-ran off   *that-from-*

48 ŋan-ðunu   ŋanðin·   yur
because of-belonging tree coffin. Came down

49 ina-mana (59) ðari bi:nba· ðari mar arar
he-ø   *this marsh. Here* Temp *standing*

50 iŋiri-n (60) amb-aṛaŋ iŋi-lirman-ir (61)·   alguṛu
they-ø   *men-other they-called out-*Emphat. *Brother*

51 ðanam-buṛu-ŋan min-ðaralan (62) iŋiri-n-in (63)
which-place-to you-are running they-said-to him.

52 ara-ŋa   ma-lamanga-n (64)   giñiŋgi· gaḍ
Neg-Emph Infinitive-*listen*-Infinitive *he.*   *Still*

53 in-ðaralana (65) baŋdara   ñunu·   iŋi-lirman-in (66)
he ran   *straight on there. They-called-to him*

54 bayibirɔñ· ɔ ara-ŋa ma-lamanga-n (67)·
behind.   Conj Neg-Emph Infinitive-*listen*-infinitive.

55 bun-ɔn   dar in-aṇa (68) bal-un niṛirðara baḍ
Further on came he-ø   *camp-to alongside off*

56 inðaralana (69)· iŋi-lirman-ini (70) biri-gulu-
he ran.   *They-called-to him mother-father-*

57 nim ðin-ir agal ñuŋuḷ-ðini ðalbur-gaḍa·
Agent *his-they and older-group a few-not.*

58 uluman-ðini   giṛ ular-alana (71) nidi
Old women-group lived they-went about Quantitative

59   iŋi-lirman-ini (72) ḍanam-buṛu-ŋan min-ḍarala (73)
they called-to him which-place-to you-are running

60   iŋiri-n-in (74)   ara ḍin   gaḍ   in-ḍaralana (75)
they-said-to him. Neg to him still he-ran (like)

61   namaḍa biṛar-ḍunu   gala·
nothing behind-belonging = on his own Affirmative.

62   in-ḍaṛgina (76)·   ṛuban   marab ga:l   marabu-ḍin
He-was frightened. In return Temp humbug Temp-his

63   ḍidɔ·   ambuṛiñ in-ambañina-r (77) giñiŋ-amba
teasing. People he-fought-them   that-(is why)

64   iŋara-mana-∅ (78) ṛuban   baḍa-ba   ṛuwil i-ñana (79)
they-put-him   in return away-Relator went he

65   ŋanḍin-ŋan·   balab iŋuru-ŋurubina-∅ (80) baḍa
tree coffin-to. Up   they-chased-him   off

66   aṛaŋa-nim·   iŋar-aṛgina-∅ (81) baḍa bali-ŋan·
others-Agent. They-brought-him   away camp-to.

67   aŋan min-ḍarala-gal (82)   iŋiri-n-in (83)·   ara
Why you-were running-just they-said-to him. Response

68   ŋan-ḍaṛgi-gal-ḍirin (84)·   aṛinḍ i-yalgalgaman-
I-was frightened-just-from him. Causal he-moved about-

69   galḍ (85) ñunu gaŋdi·   i-mañin-gal-ḍaran (86)
just   there on top. He-waved-just-to me

70   in-ḍuna-ḍir (87)· giñiŋ-amba ŋan-ḍarala-gal (88)·
he said-to them. That-(is why) I-was running-just.

71   im-bañin-aŋar (89) giñiŋ·
It-finished-Emphat that (story).

FREE TRANSLATION: (With explanatory notes in parentheses)

This story which I am putting down concerns the tree coffin. They used to place the (deceased) men and women up in a tree in the olden times.

A certain man once died in Malumbo Bay (near the mouth of King Sound, Western Australia). After he had passed on his relations took him away. They put him there at the top of Gunduḻmara Hill, on a tree coffin in the branches of an Iŋiri tree. They lit a large fire for this dead man. They returned there at sundown. Here they placed those sticks which they call yandala - *divining pegs. The purpose of these sticks was to give a message as to who killed the person or who followed him as a 'shadow-man'. (A 'shadow-man is the alter ego of a sorcerer which dogs the steps of the victim and finally may kill him). That man (the murderer, is represented by one of) those sticks. Those divining pegs which they put there are for the dead person to send a message to the people who are living. Then they left the dead man there behind and walked back to camp. The people stayed there and all slept. Early next morning they arose and went off to that place. There they looked carefully over it but saw not a single thing. They did not see that being called the 'shadow-man' - the one who was the murderer - nor did they see one track. They returned and stayed (in camp) for three days.*

Then they spoke to Loḳi (bin Sali, a Baṟdi man, Asian father).

"You go off and climb into that tree! Sit down there on top where that tree coffin is!" they said to him.

That is the way those people (used to act) in the olden days.

He got up immediately and went off. He kept going until he was right up there on the hill. He climbed up into that tree. (At the end of the day, he returned to camp.) The next day he went back there. Still he came back well (in good spirits). They all slept. When the next (third) day came, they sent him from there and off he went. It was to be a bad time for him as the stomach of that man who had died had burst open. When Loḳi returned from (camp), quickly he peeped there at the tree coffin. Up there on top he saw an intestine which kept moving about. Another intestine was hanging downwards. It kept moving about also. And he saw that dead man moving his arm around - and his body! When he peeped again at him, he saw the same thing.

"I must stop!" he said, but he was terrified. Off he ran from that tree coffin because of what it held. He came down to this marsh. As they were standing about here, the other man called out loudly to him,

"Brother, to which place are you running?"

He did not listen to them at all. He kept on running straight on

there. They called to him from behind, but he would not listen. Further on he came alongside the camp and ran on. His parents and not a few of the older people called to him. A group of the older women who were living there called to him, asking:

"To which place are you running?"

He took no notice. Indeed, he ran on as fast as anything - out on his own. He was so frightened. This was in retribution for his 'humbug' (general term for a range of bad conduct) and for the times when he used to tease and fight with the people. That is why - for retribution - they made him go off to the tree coffin.

The others chased off after him and brought him back to the camp.

"Why were you running just now?" they said to him.

"Oh, I was very frightened of him because he kept moving around up there. Just now, he waved his hand at me. That is why I ran," he said to them.

That (part of the story) is quite finished.

6.4. THE RULES SUMMARISED

This Appendix brings together the derivational rules as they are presented in the Base, Lexical, Transformational, Realisation and Phonological Components. They are provided for convenience of reference particularly when following through a derivational example from the Base to surface forms.

2.0. THE BASE COMPONENT

2.1. *THE BASE RULES*

B.1.   S $\longrightarrow$ (S Conj) (Pres) NP PredP

B.2.   Pres $\longrightarrow$ $\{^{\text{Question}}_{\text{IMPERAT}}\}$

B.3.   PredP $\longrightarrow$ $(\{^{\text{NEG (EMPH)}}_{\text{POTENTIAL}}\})$ VP $(\{^{\text{NP}}_{\text{EMPHAT}}\})$ (Comple)

B.4.   VP $\longrightarrow$ (INTENS) VbNuc Aux

B.5.   Comple $\longrightarrow$ (PostposP⊘Adverb)[1]

B.6.   PostposP $\longrightarrow$ NP Postpos

B.7.   NP $\longrightarrow$ Nom (S)

B.8.   Aux $\longrightarrow$ Aspect   Tense

B.9.   Adverb $\longrightarrow$ (Time⊘Quantit)[1]

B.10.   Postpos $\longrightarrow$ $\begin{Bmatrix}\text{Comitat}\\\text{Instrum}\\\text{Purp}\\\text{Ablative}\end{Bmatrix}$

B.11.   Conj $\longrightarrow$ $\begin{Bmatrix}\text{Sequ}\\\text{Purp}\\\text{Temp}\end{Bmatrix}$

----

[1]Linked parentheses indicate that at least one category must be chosen.

S
[B.1]   B.1

S   Conj   Pres   NP   PredP   B.2
              [B.2]

                                        PredP
                                        [B.3]   B.3

              NEG (EMPH)   VP   NP   Comple   B.4
              { POTENTIAL }   [B.4]   { EMPHAT }

                         INTENS VbNuc Aux   Comple   B.5
                                                        [B.5]

                                               PostposP   Adverb   B.6
                                               [B.6]

                        NP   NP   Postpos   B.7
                   [B.7]   [B.7]

              NP   Aux   NP   Postpos   Adverb   B.8
              [B.7]   [B.8]   [B.7]   [B.10]   [B.9]   B.9
                                                                                  B.10
     Conj   B.11
     [B.11]

S   ⎰Sequ⎱   Question   Nom S   NEG (EMPH)   INTENS VbNuc Aspect Tense Nom S   Nom S ⎰Comitat⎱ Temp Quantit
    ⎨Purp⎬   { IMPERAT } { POTENTIAL }   { EMPHAT }   ⎨Instrum⎬
    ⎩Temp⎭   ⎨Purp   ⎬
                                                                              ⎩Ablative⎭

2.3. *LEXICAL RULES (L.)*

L.1.   Nom   ⟶   ±N

L.2.   -N   ⟶   [±I, ±II, ±Sing]

L.3.   +N   ⟶   [γFeature, ±Sing]

L.4.   VbNuc   ⟶   [(+Pre-Stem (+Action Change)),
                                        +Class, (+PartRedup), +Vbs,
                                        (+TransitV),
                                        (+ObligRetro),
                                        (+Impers),
                                        (+Irreg:n),
                                        +N:____,± ____N:]

L.5.   Temporal Adverb ⟶ [±Tense]

L.6.   Aspect   ⟶   [±Durat]

L.7.   Tense   ⟶   ±Perf

L.7.1.   -Perf   ⟶   ±Pres

L.7.2.   +Perf   ⟶   ±Definite

L.7.3.   +Definite   ⟶   ±Contemp

L.7.4.   +Contemp   ⟶   ±Immed

L.7.5.   -Contemp   ⟶   ±Mid

3.1. *TRANSFORMATIONAL RULES*

T.1. OBLIG   PRONOMINAL AFFIX

S.D.   x $\begin{bmatrix} ±N \\ \alpha Person \\ \beta Number \end{bmatrix}$ Y

        1   2   3

S.C.   1   2 $\begin{bmatrix} +ProAf \\ \alpha Person \\ \beta Number \end{bmatrix}$ 3

T.2.   OBLIG   SUBJECT PRONOMINAL PREFIX

S.D. X [±N] [+ProAf] (S) Y   VbNuc Aux Z   (Comple)

    1   2   3   4   5   6   7   8   9

S.C. 1   ∅   ∅   ∅   5 3 + 6 + 7   8   2   4   9

T.3.   OBLIG   OBJECT PRONOMINAL SUFFIX

S.D. X   Aux   [N]   [+ProAf]   (S)   Y   (Comple)

    1   2   3   4   5   6

S.C.   1 + 3   ∅   ∅   ∅   5   2   4   6

T.4.   OBLIG   NUMBER PREFIX

S.D.   X   [+ProAf] + VbNuc   Y

       1   2

S.C.   1 + Number + 2

T.5.   OBLIG   EXTRA-ACTION

S.D.   X   [+ProAf] + Y + [+ProAf]   Z

       1   2

S.C.   1   +   n   +   2

T.6.   OBLIG   INTRA-ACTION

S.D.   X   [+ProAf] + Y

       1   2

S.C.   1 + n + 2

Condition: 2 does not include [+ProAf]

T.7.1.   OBLIG   PRE-STEM PLACEMENT

S.D.   X   [+ProAf]+Y +   [Pre-Stem(+Action Change), Z]
                   VbNuc   VbNuc

    1   2   3   4

S.C.   1   3   2   +   4

T.7.2.   OBLIG   ACTION CHANGE

S.D.   X   Pre-Stem +Action Change   [+ProAf] + ŋ + Y

         1   2   3   4   5

S.C.   1   ∅   3 + n + 5

T.8.1.   OBLIG   RETRO-ACTION I

S.D.   X   [+ProAf] + n + Y   Aux + [+ProAf]   Z

      1   2   3   4   5   6   7

S.C.   1   2   ŋ   4 + inði + 5   ∅   7

Condition: 2 = 6

T.8.2.   OPTIONAL   RETRO-ACTION II

S.D.   X + Class + Y + inði + Z

       1   2   3

S.C.   1   m   3

T.9.1.   OBLIG   POTENTIAL

S.D.   W   POTENTIAL   X + $\{^{n}_{ŋ}\}$ + Y + Aspect + Z

      1   2   3   4   5   6   7

S.C.   1   ∅   3   1   5   ∅   7

T.9.2.   OBLIG   NEGATIVE

S.D.   W   NEGATIVE   X + $\{^{n}_{ŋ}\}$ + Y + Aspect + Z

      1   2   3   4   5   6   7

S.C.   1   ara   3   1   5   ∅   7

Condition: 3 does not include EMPH.

T.10.1.   OBLIG   VERB STEM REDUPLICATION

S.D.   X   INTENS   Y + Vbs + Z

      1   2   3   4   5

S.C.   1   ∅   3   4 + 4   5

Condition: 3 does not include Pre-Stem

T.10.2.   OBLIG   PRE-STEM REDUPLICATION

S.D.   X   INTENS   Pre-Stem   Y

          1   2   3   4

S.C.   1   3   +   3   4

T.11.   OBLIG   INTRA-ACTION EMPHATIC

S.D.   X   Tense   EMPHAT   Y

          1   2   3   4

S.C.   1   2   + $\{^{ir}_{a\eta ar}\}$#   4

Condition: 2 is not marked [+Proj].

T.12.   OBLIG   NEGATIVE EMPHASIS

S.D.   NEG EMPH X   [+ProAf] + Y + Verb Nucleus (+ind̄i) + Z#

          1   2   3   4   5   6

S.C.   ara + ŋa   3   ma   +   5   +   n

T.13.   OPTIONAL   YES-NO QUESTIONS

S.D.   X   ŋand̄a   Y + Aux   Z

         1   2   3   4

S.C.   1   ∅   3 + ad̄a   4

T.14.   OBLIG   IMPERATIVE

S.D.   IMPERAT   X + Aux   Y

            1   2   3   4

S.C.   ∅   2   3   4
                      [+Proj]

T.15.1.   OPTIONAL   ASSOCIATIVE SUFFIX

S.D.   X Aux   Y   [N]   [+ProAf] $\{^{Instrum}_{Comitat}\}$ Z

            1   2   3   4   5   6

S.C.   1 + ŋ + 4   2   3   +   5   6

T.15.2.   OPTIONAL   REFERENTIAL SUFFIX

S.D.	X	Aux	Y	[±N]	[+ProAf]	{Purposive / Ablative}	Z
	1		2	3	4	5	6
S.C.	1 + 4		2	3	+	5	6
	[+Refer]						

Conditions: (i) 3 is marked [+Animate].

   (ii) 2 is not 1st. or 2nd. Person Pronominal Object.

T.16.1.   OBLIG   TIME ADVERB/AUXILIARY AGREEMENT

S.D.	X	+	Tense	Y	Time	Z
					[δTense]	
	1		2		3	
S C.	1		2		3	
			[δTense]			

T.16.2.   OBLIG   *THEM* DELETION

S.D.	W	Aux	+	X	+	$\begin{bmatrix} +\text{ProAf} \\ +\text{III} \\ -\text{Sing} \end{bmatrix}$	Y	nidi	Z
		1				2		3	
S.C.		1				$\emptyset$		3	

T.17.1.   OPTIONAL   SEQUENTIAL CONJUNCTION

S.D.	S_1	{amba / ḍamba}	S_2[	X	+	Aux	Y	]$_{S_2}$
	1	2			3		4	
S.C.	1	2			3 + amba		4	

T.17.2.   OPTIONAL   PURPOSIVE CONJUNCTION

S.D.	S_1 aṛinḍi-ŋan	S_2[	X [+ProAf]+Y	+	Verb Nucleus (+inḍi)	+	Z#]$_{S_2}$
	1	2	3	4	5		6
S.C.	1	$\emptyset$	3	ma	+ 5	+	n

T.18.1.   OPTIONAL   TEMPORAL RELATOR

S.D. S_1 $\begin{Bmatrix} \text{marab} \\ \text{maraba} \end{Bmatrix}$ $\underbrace{\qquad\qquad\qquad}$ $S_2[\underbrace{\begin{matrix} X + \text{Tense} + Y \\ [-\text{Mid}] \end{matrix}}]_{S_2}$

　　　　　　　　　1　　　　　　　　　2

S.C.   　　　1　　　　　　　　　2 + b#

T.18.2.   OPTIONAL   EMBEDDED NOMINAL RELATOR

S.D. $S_1\left[W \text{ Nom } S_2[\ X \underbrace{(\text{Pre-Stem}) [+\text{ProAf}] + }Y\ [\pm N]\ Z\ ]_{S_2} \right]_{S_1}$

　　　　　　　1　2　　　3　　　　　4　　　　　5　6

S.C.   　　　1　2　　　3　　　ba + 4　　　∅　6

Condition: 2 is co-referential with 5.

T.18.3.   OPTIONAL   PRONOMINAL SUFFIX RELATOR

S.D.   X + $\underbrace{[+\text{ProAf}]\ Y}$

　　　　　　1　　　　　2

S.C.   1 + ba + 2

Condition: 1 does not include either the Sequential conjunction suffix
amba or the Associative suffix ŋ.

3.2. *REALISATION RULES*

R.1. SUBJECT PRONOMINAL PREFIX

$\begin{bmatrix} +\text{ProAf} \end{bmatrix}$

+I +Sing	→	ŋa
+II +Sing	→	mi
+III +Sing	→	i
+Dual	→	a
+{Inc / Exc}	→	aŋ
+II −Sing	→	guŋ
+III −Sing	→	iŋ

____+X+VbNuc

R.2. AUXILIARY

R.2.1.

$$X + \begin{bmatrix} \text{[-Perf]} \\ \text{[+Durat, -Perf]} \\ \text{[-Definite]} \\ \text{[+Contemp]} \\ \text{[+Durat, +Contemp]} \\ \text{[+Middle]} \\ \text{[+Durat, +Middle]} \\ \text{[-Middle]} \\ \text{[+Durat, -Middle]} \end{bmatrix} \longrightarrow \begin{bmatrix} a \\ n(\eth) \\ a \\ gal(\eth) \\ ngal(\eth) \\ i\eth \\ in\eth \\ na \\ nana \end{bmatrix}$$

Condition: X does not include the Potential morpheme l.

R.2.2. $X + \text{Number} + Y \longrightarrow X + g + \text{Number} + Y \quad / \quad \underline{} \begin{array}{l} \text{+Tense} \\ \text{[+Proj]} \end{array}$

Condition: X does not include the Potential morpheme l.

R.2.3.

$$X + l + Y + \begin{bmatrix} \text{[-Perf]} \\ \left[\left\{ \begin{array}{l} \text{+Contemp} \\ \text{+Middle} \\ \text{-Definite} \end{array} \right\} \right] \\ \text{[-Middle]} \end{bmatrix} \longrightarrow \begin{bmatrix} a \\ na \\ nana \end{bmatrix}$$

R.3. OBJECT/ASSOCIATIVE PRONOMINAL SUFFIX

$$\begin{bmatrix} \text{+ProAf} \end{bmatrix}$$

+I +Sing	→	ŋayu
+II +Sing	→	ri
+III +Sing	→	ø
+Dual	→	wayi
+{Inc Exc}	→	mudu
+II -Sing	→	gur
+III -Sing	→	r

$/\quad VbNuc + X + \underline{}$

R.4.   NUMBER PREFIX

$$\text{Number} \longrightarrow \begin{bmatrix} \emptyset \\ r \end{bmatrix} \Big/ \begin{bmatrix} +\text{ProAf} \\ +\text{Sing} \\ -\text{Sing} \end{bmatrix} + X + \underline{\quad}$$

R.5.   REFERENTIAL SUFFIX

$$\begin{bmatrix} +\text{ProAf} \\ +\text{Refer} \end{bmatrix}$$

$$\begin{bmatrix} +\text{I} \\ +\text{Sing} \end{bmatrix} \rightarrow \left\{ \begin{matrix} \text{ɗan} \\ \text{an} \end{matrix} \right\}$$

$$\begin{bmatrix} +\text{II} \\ +\text{Sing} \end{bmatrix} \rightarrow \left\{ \begin{matrix} \text{ɗi} \\ \text{i} \end{matrix} \right\}$$

$$\begin{bmatrix} +\text{III} \\ +\text{Sing} \end{bmatrix} \rightarrow \left\{ \begin{matrix} \text{ɗin} \\ \text{in} \end{matrix} \right\}$$

$$+\text{Dual} \rightarrow \text{ɗɔwu}$$

$$+\left\{ \begin{matrix} \text{Inc} \\ \text{Exc} \end{matrix} \right\} \rightarrow \text{ɗaɗa}$$

$$\begin{bmatrix} +\text{II} \\ -\text{Sing} \end{bmatrix} \rightarrow \text{ɗugara}$$

$$\begin{bmatrix} +\text{III} \\ -\text{Sing} \end{bmatrix} \rightarrow \text{ɗir}$$

4.3.   MORPHOPHONEMIC RULES

M.1.   SUBJECT PREFIX MODIFICATION

M.1.1.   THIRD PERSON

$$i(\dots) \longrightarrow u(\dots) \Big/ \left\{ \begin{matrix} \underline{\quad} + \\ \underline{\quad} +X+\text{Aux} \\ [-\text{Pres}] \end{matrix} \right\}$$

M.1.2.   SECOND PERSON PROJECTED

M.1.2.1.
$$\begin{bmatrix} \text{mi} \\ \\ \text{aŋ} \end{bmatrix} + \begin{matrix} \text{Action} \\ \text{Type} \end{matrix} + \begin{matrix} g \\ \text{Tense} \\ [-\text{Pres}] \end{matrix} \longrightarrow \begin{bmatrix} a + \begin{matrix} \text{Action} \\ \text{Type} \end{matrix} \\ \\ a \end{bmatrix}$$

204

M.1.2.2.

$$a + ŋ \longrightarrow ŋ + a$$

$$\begin{bmatrix} +ProAf \\ +II \\ +Sing \end{bmatrix}$$

M.2. EXTRA-ACTION MARKER DELETION

M.2.1.

$$n \longrightarrow \emptyset \ / \ \begin{matrix} ...ŋ \ + \\ [+ProAf] \end{matrix} \underline{\quad}$$

M.2.2.

$$n \longrightarrow \emptyset \ / \ \underline{\quad} + \begin{Bmatrix} r \\ ñ \\ l \\ ! \end{Bmatrix} (...) + X + \underset{[+\{\begin{smallmatrix}Pres\\Immed\end{smallmatrix}\}]}{Aux}$$

M.3. ŋ PREFIX DELETION

$$(...)ŋ \longrightarrow \emptyset \ / \ \begin{Bmatrix} \underline{\quad} +l \\ \underline{\quad} + X + VbNuc + \underset{[+\{\begin{smallmatrix}Pres\\Immed\end{smallmatrix}\}]}{Aux} \end{Bmatrix}$$

M.4. PLURAL MARKER DELETION

$$r \longrightarrow \emptyset \ / \ \underline{\quad} + l... + X$$

Condition: X does not include an Object pronominal suffix.

M.5. CLASS MARKER DELETION

M.5.1.

$$Class \longrightarrow \emptyset \ / \ \{\begin{smallmatrix}l\\g\end{smallmatrix}\}\underline{\quad}$$

M.5.2.

$$Class \longrightarrow \emptyset \ / \ r+\underline{\quad}+X$$

Condition: X includes an Object pronominal suffix.

M.5.3.

$$\{\begin{smallmatrix}b\\g\end{smallmatrix}\} \longrightarrow \emptyset \ / \ n+\underline{\quad} + X + \underset{[-Pres]}{Aux}$$

M.5.4. $\begin{bmatrix} \{ \begin{smallmatrix} ð \\ g \end{smallmatrix} \} \\ \\ b \end{bmatrix} \longrightarrow \begin{bmatrix} y \\ \\ w \end{bmatrix} \Big/ \quad V + \underline{\hphantom{xxx}} + V$

M.6. VERB STEM VOWEL MORPHOPHONEMICS

M.6.1. $\quad I... \longrightarrow \begin{bmatrix} u... \\ \\ i... \end{bmatrix} \Big/ \begin{bmatrix} \{ \begin{smallmatrix} ð \\ y \end{smallmatrix} \} + \underline{\hphantom{xxx}} \\ \\ \text{Elsewhere} \end{bmatrix}$

M.6.2. $\quad (...) \begin{bmatrix} U \\ \\ A \end{bmatrix} (...) \longrightarrow \begin{bmatrix} u \\ \\ a \end{bmatrix} \Big/ \quad \text{Class} + \underline{\hphantom{xxx}}$

M.6.3. $\quad \{ \begin{smallmatrix} U \\ A \end{smallmatrix} \} \longrightarrow \quad ɔ$

M.7. EPENTHETIC VOWEL

$$C + C \longrightarrow C + V_1 + C \Big/ \quad \underline{\hphantom{xxx}} + X + (...)V_1$$
$$[\text{VbNuc}]$$

Conditions: C + C is not the sequence of:

(i) $ŋ + \begin{Bmatrix} b \\ ð \\ g \end{Bmatrix}$

(ii) $n + \{ \begin{smallmatrix} ð \\ g \end{smallmatrix} \}$
$\quad\quad [-\text{Pres}]$

(iii) $n + C(...) + X + \text{Aux}$
$\quad\quad\quad\quad [\{ \begin{smallmatrix} +\text{Pres} \\ +\text{Immed} \end{smallmatrix} \}]$

(iv) $r + C(...) + X$, where X does not include an Object
$\quad\quad\quad\quad$ pronominal suffix.

M.8. CLASS MARKER ASSIMILATION

M.8.1. $\begin{bmatrix} b \\ \\ g \end{bmatrix} \longrightarrow \begin{bmatrix} mb \\ \\ ŋg \end{bmatrix} \Big/ \quad V + \underline{\hphantom{xxx}}$

M.8.2. $\quad ŋ \longrightarrow \begin{bmatrix} n \\ \\ m \end{bmatrix} \Big/ \quad \underline{\hphantom{xxx}} + \begin{bmatrix} ð \\ \\ b \end{bmatrix}$

M.9. ɔ PRECEDENCE

$$(...)a(...) \longrightarrow (...)ɔ(...) \quad / \quad \underline{}\!+X\!+ɔ(...)$$
$$[VbS]$$

M.10. ɽ-FINAL VERB STEMS

$$ɽ + n(...) \longrightarrow ŋ(...)$$

M.11. PRONOMINAL SUFFIX MODIFICATION

M.11.1. OBJECT/ASSOCIATIVE SUFFIX

M.11.1.1.
$$\begin{bmatrix} ŋayu \\ ri \\ wayi \\ mudu \\ gur \\ r \end{bmatrix} \longrightarrow \begin{bmatrix} ðarŋayu \\ ðiri \\ ðarwayi \\ ðarmudu \\ ðargur \\ ðir \end{bmatrix} \quad / \quad (...)C\!+\underline{}$$

M.11.1.2.
$$\begin{bmatrix} ri \\ r \end{bmatrix} \longrightarrow \begin{bmatrix} li \\ lir \end{bmatrix} \quad / \quad \left\{ \begin{matrix} ba \\ amba \end{matrix} \right\}\!+\underline{}$$

M.11.2. REFERENTIAL SUFFIX

$$\begin{bmatrix} ðan \\ ði \\ ðin \end{bmatrix} \longrightarrow \begin{bmatrix} ðaran \\ ðiri \\ ðirin \end{bmatrix} \quad / \quad (...)C\!+\underline{}$$

M.11.3. DI-TRANSITIVE SUFFIXES

M.11.3.1.
$$\begin{bmatrix} ðan\!+\!r \\ ði\!+\!r \\ ðin\!+\!r \end{bmatrix} \longrightarrow \begin{bmatrix} ðaran \\ ðiri \\ ðirin \end{bmatrix} \quad / \quad (...)C\!+\underline{}$$

M.11.3.2.

$$
\begin{bmatrix}
\text{ɗan+r} \\
\text{ɗi+r} \\
\text{ɗin+r} \\
\text{ɗɔwu+r} \\
\text{ɗaḍa+r} \\
\text{ɗugara+r} \\
\text{ɗir+r}
\end{bmatrix}
\longrightarrow
\begin{bmatrix}
\text{ɗan+ir} \\
\text{ɗ+ir} \\
\text{ɗin+ir} \\
\text{ɗɔw+ir} \\
\text{ɗaḍ+ir} \\
\text{ɗugar+ir} \\
\text{ɗir+ir}
\end{bmatrix}
$$

M.12. SUFFIX VOWEL ADJUSTMENT

M.12.1. $\quad a \longrightarrow \begin{bmatrix} w + a \\ y + a \end{bmatrix} \bigg/ \begin{bmatrix} (\dots)\{^u_ɔ\} \\ (\dots)\{^i_a\} \end{bmatrix}_{[VbS]} + \underline{\quad}$

M.12.2. $\quad i\dots \longrightarrow \begin{bmatrix} w + i\dots \\ y + i\dots \\ \emptyset \end{bmatrix} \bigg/ \begin{bmatrix} (\dots)u \\ (\dots)a \\ (\dots)ɔ \end{bmatrix}_{[VbS]} + \underline{\quad}$

M.12.3. $\quad (\dots)V + V(\dots) \longrightarrow V(\dots)$

M.13. SUFFIX CONSONANT ADJUSTMENT

M.13.1. $\quad (\dots)C_1 + C_1(\dots) \longrightarrow C_1(\dots)$

M.13.2. $\quad \begin{bmatrix} \text{amba} \\ \text{aḍa} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{ɗamba} \\ \text{baḍa} \end{bmatrix} \bigg/ \dots\{^l_n\} + \underline{\quad}$

M.14. +-REMOVAL

$$+ \longrightarrow \emptyset$$

7.0. BIBLIOGRAPHY

Only works to which reference has been made within the dissertation have been listed in this Bibliography.

BOLLINGER, Dwight L.
  1965   'The Atomisation of Meaning', *Language*, 41:555-573.

BOLT, J.E., J.R. CLEVERLY and W.G. HODDINOTT
  1970   'Pronominalisation in Djamindjungan'. In *Pacific Linguistics*, C.13:593-615.

BOLT, J.E., W.G. HODDINOTT and F.M. KOFOD
  1971   'An Elementary Grammar of the Ngaliwuru Language of the Northern Territory', Unpublished mimeo.

BREKLE, Herbert E.
  1969   'Generative Semantics Versus Deep Syntax'. In F. Kiefer (ed.), *Studies in Syntax and Semantics* (Dordrecht, D. Reidel Publishing Co.).

CAMPBELL, William D. and W.H. BIRD
  1914   'Account of the Aborigines of Sunday Island, King Sound, Kimberley, Western Australia'. In Royal Society of Western Australia. *Journal*, 1:55-82.

CAPELL, Arthur
  1937   'The Structure of Australian Languages', *Oceania*, 8:27-61.

  1940   'The Classification of Languages in North and North-West Australia', *Oceania*, 10:241-272, 404-433.

1956   'A New Approach to Australian Linguistics', *Oceanic Linguistic Monographs* No.1, (Sydney, University of Sydney).

1963   *Linguistic Survey of Australia*, (Sydney, The Australian Institute of Aboriginal Studies).

1965   'Aborigines:Languages'. In *Australian Encyclopaedia*, 1:21-28. (Sydney, Grolier).

1967   'The Analysis of Complex Verbal Forms'. In *Pacific Linguistics*, A.11:43-62.

CAPELL, Arthur and A.P. ELKIN
1937   'The Languages of the Kimberley Division', *Oceania*, 8:216-246.

CAPELL, Arthur and H.E. HINCH
1970   *Maung Grammar*, (The Hague, Mouton).

CHADWICK, N.
1968   'Djingili (North Australia) in a Comparative Perspective', *Oceania*, 38:220-228.

CHOMSKY, Noam A.
1965   *Aspects of the Theory of Syntax*, (Cambridge Mass., M.I.T. Press).

1966   *Cartesian Linguistics: A Chapter in the History of Rationalistic Thought*, (New York, Harper and Row).

1968   'Deep Structure, Surface Structure and Semantic Interpretation', reprinted in Roman Jakobson and Shigeo Kawamoto (eds.), *Studies in General and Oriental Linguistics*, (Tokyo, TEC Co., 1970).

1969   'Some Empirical Issues in the Theory of Transformational Grammar'. Unpublished mimeo.

CHOMSKY, Noam A. and Morris HALLE
1965   'Some Controversial Questions in Phonology Theory', *Journal of Linguistics* 1:97-138.

210

1968 *The Sound Pattern of English*, (New York, Harper and Row).

COATE, Howard H. and L. OATES
1970 *A Grammar of Ngarinjin*, (Canberra, Australian Institute of
Aboriginal Studies).

CONKLIN, Harold C.
1962 'Lexicographical Treatment of Folk Taxonomies'. In
*Indiana University Research Center in Anthropology, Folklore
and Linguistics*, Publication 21 (Bloomington). pp.119-141.

DIK, Simon C.
1967 'Some Critical Remarks on the Treatment of Morphological
Structure in Transformational Generative Grammar'. *Lingua*,
18:352-383.

DIXON, Robert M.
1969 'Relative Clauses and Possessive Phrases in Two Australian
Languages', *Language* 45:35-44.

1970 'Languages of the Cairns Rain Forest Region'. In *Pacific
Linguistics*, C.13:651-682.

1971 'A Method of Semantic Description'. In D.D. Steinberg and
L.A. Jakobovits (eds.), *Semantics: An Interdisciplinary
Reader in Philosophy, Linguistics, and Psychology*.
(Cambridge, Cambridge University Press). pp.463-471.

1972 *The Dyirbal Language of North Queensland*. (Cambridge,
Cambridge University Press).

1973 'The Semantics of Giving'. To be published in Maurice
Gross et al. (eds.), *Formal Analysis of Natural Language*
(First International Congress), (Paris, Mouton).

DUTTON, Thomas E.
1969 'A Syntactic Sketch of Koiari', Part II of *The Koiarian
Languages of Central Papua*, Ph.D. Thesis, The Australian
National University, Canberra).

ELKIN, Adolphus P.

1932   'Social Organisation in the Kimberley Division', *Oceania*,
        2:296-333.

1935   'Initiation in the Bard Tribe, North-West Australia'. In
        Royal Society of New South Wales. *Journal and Procedings*,
        69:190-208.

ELKIN, Adolphus P. (ed.)
1939   'Studies in Australian Linguistics'. *Oceania Monograph*,
        No.3.

ELSON, Benjamin F. (ed.)
1964   *Verb Studies in Five New Guinea Languages*, (Norman, Summer
        Institute of Linguistics).

FILLMORE, Charles J.
1968   'The Case For Case'. In Emmon Bach and Robert T. Harms
        (eds.), *Universals in Linguistic Theory*, (New York, Holt,
        Rinehart and Winston).

FRANTZ, Donald G.
n.d.   'Towards a Generative Grammar of Blackfoot'. Unpublished
        Ph.D. Thesis, University of Alberta.

GARVIN, P.
1948   'Kutenai III: Morpheme Distributions (Prefix, Theme, Suffix)',
        International Journal of American Linguistics, 14:171-187.

GODFREY, Marie
1970   'Wik-Munkan Verb Morphology'. In *Pacific Linguistics*,
        C.13:741-756.

HALE, Kenneth
1965   'Australian Languages and Transformational Grammar',
        Linguistics, 16:32-41.

1967   'Case and Voice in Some Australian Languages'. Unpublished
        mimeo.

1967a   'Some Productive Rules in Lardil (Mornington Island)
        Syntax'. In *Pacific Linguistics*, A.11:63-73.

212

1968   'Preliminary Remarks on Walbiri Grammar: II'. Unpublished
mimeo.

'The Passive and Ergative in Language Change: The Australian
Case'. In *Pacific Linguistics*, C.13:pp.757-781.

HOCKETT, Charles F.
1958   *A Course in Modern Linguistics*, (New York, MacMillan).

HYMES, Dell
1955   'Positional Analysis of Categories: A Frame for
Reconstruction', *Word* 11:10-23.

JACKENDOFF, R.S.
1969   'Some Rules of Semantic Interpretation for English'.
Unpublished Ph.D. Thesis, Massachusetts Institute of
Technology.

KATZ, Jerrold J. and Paul M. POSTAL
1964   *An Integrated Theory of Linguistic Descriptions*, (Cambridge
Mass., M.I.T. Press).

KERR, N.
1969   'Preliminary Report of Fieldwork - Part I. A Comparative
Word-list - Nyigina and Neighbouring Languages'.
Unpublished mimeos, Australian Institute of Aboriginal
Studies.

LAKOFF, Robin
1968   *Abstract Syntax and Latin Complementation*, (Cambridge Mass.,
M.I.T. Press).

LANG, Adrianne
1971   'Nouns and Classificatory Verbs in Enga (New Guinea): A
Semantic Study'. Unpublished Ph.D. Thesis, Australian
National University.

LEES, Robert B.
1957   Review of Noam A. Chomsky, *Syntactic Structures* (The Hague,
Mouton, 1957), in *Language*, 33:375-408.

LONGACRE, Robert E.
    1964   *Grammar Discovery Procedures: A Field Manual* (The Hague,
            Mouton).

LYONS, John (ed.)
    1970   *New Horizons in Linguistics* (Harmondsworth, Penguin Books
            Ltd).

McCAWLEY, James D.
    1968a   'Concerning the Base Component of a Transformational Grammar',
            Foundations of Language, 4:243-269.

    1968b   'The Role of Semantics in a Grammar'. In Emmon Bach and
            Robert T. Harms (eds.), *Universals in Linguistic Theory*
            (New York, Holt, Rinehart and Winston).

MATTHEWS, G.H.
    1965   *Hidatsa Syntax* (The Hague, Mouton).

MATTHEWS, P.H.
    1965a   'The Inflectional Component of a Word-and-Paradigm Grammar',
            Journal of Linguistics, 1:139-171.

    1965b   'Some Concepts in Word-and-Paradigm Morphology', *Foundations
            of Language*, 1:268-289.

    1967   'The Main Features of Modern Greek Verb Inflection',
            Foundations of Language, 3:261-283.

    1970   'Recent Developments in Morphology'. In John Lyons (ed.),
            pp.96-114.

METCALFE, Christopher D.
    1971   'A Tentative Phonemic Statement of the Bardi Aboriginal
            Language'. In *Papers on the Languages of Australian
            Aborigines* (Canberra, Australian Institute of Aboriginal
            Studies) 82-92.

NEKES, Hermann
    1939   'The Pronoun in the Nyol-Nyol (Nyul-Nyul) and Related
            Dialects'. In A.P. Elkin (ed.), pp.139-163.

O'GRADY, Geoffrey N., Stephen A. WURM and Kenneth HALE
    1966   'Aboriginal Languages of Australia', (Victoria B.C.,
           University of Victoria).

PERLMUTTER, D.M.
    1970   'Surface Structure Constraints in Syntax', *Linguistic
           Inquiry*, 1:187-255.

POSTAL, Paul M.
    1962   'Some Syntactic Rules in Mohawk'. Unpublished Ph.D. Thesis,
           Yale University.

ROBINSON, Michael V.
    n.d.   'Change and Adjustment Amongst the Bardi of Sunday Island,
           North-Western Australia'. M.A. Thesis, University of
           Western Australia.

SAPIR, Edward and Harry HOIJER
    1967   'The Phonology and Morphology of the Navaho Language'.
           University of California Publications in Linguistics,
           No.50, University of California Press.

SHARP, Margaret C.
    1970   'Alawa Case Relationships'. In Donald C. Laycock (ed.),
           Linguistic Trends in Australia (Canberra, Australian
           Institute of Aboriginal Studies). pp.39-50.

SOMMER, Bruce A.
    1972   *Kunjen Syntax: A Generative View* (Canberra, Australian
           Institute of Aboriginal Studies).

STANLEY, Richard J.
    1969   'The Phonology of the Navaho Verb'. Ph.D. Thesis,
           Massachusetts Institute of Technology.

TAYLOR, Andrew J.
    1970   'Syntax and Phonology of Motu (Papua): A Transformational
           Approach'. Unpublished Ph.D. Thesis, Australian National
           University.

WORMS, Ernest A.

    1938   'Onomatopoeia in Some Kimberley Tribes of North-West
               Australia', *Oceania*, 8:453-457.

    1942   'Sense of Smell of the Australian Aborigines: a
               Psychological and Linguistic Study of the Natives of the
               Kimberley Division', *Oceania*, 13:107-130.

    1944   'Aboriginal Place Names in Kimberley, Western Australia:
               an Etymological and Mythological Study', *Oceania*, 14:284-310.

    1950a   'Djamar, the Creator: A Myth of the Bād (West Kimberley)
               Australia', *Anthropos*, 45:641-658.

    1950b   'Feuer und Feuerzeuge in Sage und Brauch der nordwest-
               australier', *Anthropos*, 45:145-164.

    1952   'Djamar and His Relation to Other Culture Heroes', *Anthropos*,
               47:539-560.

    1957   'The Poetry of the Yaoro and Bād, North-Western Australia',
               Annali Lateranensi, 21:213-229.

WURM, Stephen A.

    1970   'Linguistic Classification and the Prehistory of Australia'.
               In Donald C. Laycock (ed.), *Linguistic Trends in Australia*
               (Canberra, Australian Institute of Aboriginal Studies).

YOUNG, Robert A.

    1964   'The Primary Verb in Bena Bena'. In Elson (ed.) 45-83.