BARDI VERB MORPHOLOGY

- A Transformational Analysis

by

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Except where otherwise acknowledged in the text, this thesis represents the original research of the author.
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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, W.A., 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, and in particular from the Head of the Department, Professor S.A. Wurm, and from my supervisors, Dr Tom Dutton and Dr Daryl Tryon. Professor Bob Dixon and Dr John Haiman from the School of General Studies' Linguistic Department also provided encouragement and instruction which was greatly appreciated.

On the field, I was given welcome assistance in the early stages by being allowed full use of rough field-notes on Barédi compiled by Alan and Val Rees, Howard Coate and Wilfred 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 times, extremely trying.
Mr David Drysdale who, with his wife, has 'given' himself in every sense to the success of the Baṛdi people in their Co-operative 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.
The Baridi 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 in 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 Baridi 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 consider-
ably simplified. The Bárdí verb is, in essence, a 'sentence-in-miniature' so that the morphological/syntactic relationship is of primary concern. Much of this dissertation 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 Bárdí verbs from their underlying base structure and to relate this base to its wider grammatical context.
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 xii)

It is a member of what Capell (1963:K.1) calls the 'Dampier Land' complex of languages² which are classified

---

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

<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derby and Sunday Island</td>
<td>170</td>
</tr>
<tr>
<td>Lombadina</td>
<td>100</td>
</tr>
<tr>
<td>Broome</td>
<td>50</td>
</tr>
<tr>
<td>Beagle Bay</td>
<td>12</td>
</tr>
<tr>
<td>Other Centres (Mowanjum, Wyndham, Port Hedland, Perth, etc.)</td>
<td>30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>362</strong></td>
</tr>
</tbody>
</table>

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.
more generally as 'prefixing, non-classifying' languages\(^1\) (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.\(^2\)

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 anthrop-

\(^1\) 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.

\(^2\) 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 81 that there are no \(\_\)-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 18,000 words of Bardi text material carried out by the Computer Programming Section of the Joint Schools' Services, Australian National University, Canberra.
ological and linguistic literature. These materials, and particularly Nekes and Worms (1953) which contains a considerable body of Bařđí 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 Bařđí into two groups - the 'Islanders' and the 'Mainlanders'.

Territorial contiguity and intermarriage have been the primary factors leading to a Djawi influence upon the Islanders and a Nyulnyul influence upon the Mainlanders. This present

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 Bařđí 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 Bařđí by the more southern 'tribes' - in particular, the Nyulnyul, who were their closest neighbours. Towards the end of the century, the Bařđí 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 Bařđí increasingly interacted and intermarried with the Djawi, finally dominating the island complex.
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 Bařdi 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 Bařdi 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 been formed a fully registered co-operative venture under the title of 'The Bardi Co-operative Society'. From forty to sixty people now live on Sunday Island or the surrounding islands and, with the development of viable industries, this number should grow and stabilise.¹ In this case, it is certain that the Bařdi language will be revitatised and that its use as the primary language of the people will continue for a considerable period.

¹ A newspaper report, (the West Australian, Wednesday, January 19, 1972) which has been confirmed from other informal sources, gives details of a development which could affect profoundly the future of the Co-operative. It states that, 'a big Sydney-based fishing company has offered the Bařdi Aborigines of Sunday Island the equipment they have been seeking to start a fishing industry in King Sound.' The equipment has been supplied for an initial two-month trial period, and the industry will operate from 'Bařdi territory' on the mainland.
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 '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.

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'. 
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, interrelationships or position limitations. The morphemes are numbered for later reference.

**PRE-VERB**
(Free Morphemes)

<table>
<thead>
<tr>
<th>Negative</th>
<th>NegativeEmphasis</th>
<th>Question</th>
<th>PreStem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**INFLECTED VERB**
(Bound Morphemes)

<table>
<thead>
<tr>
<th>Subject</th>
<th>ActionType</th>
<th>Tense</th>
<th>Potential</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
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<table>
<thead>
<tr>
<th>RetroActionI</th>
<th>ClassMarker</th>
<th>Intensity</th>
<th>InfinitiveI</th>
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<tbody>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEM</th>
<th>InfinitiveII</th>
<th>RetroActionII</th>
<th>Aspect</th>
<th>Tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Emphatic</th>
<th>AssociativeSuffix</th>
<th>QuestionMarker</th>
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<tbody>
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<td>19</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SequentialConjunction</th>
<th>ObjectPronoun</th>
<th>ReferentialPronoun</th>
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</thead>
<tbody>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>DiTransitivePronoun</th>
<th>Relator</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>26</td>
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</tbody>
</table>
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.

**Ex. 1**

\[ \text{qà-n-mà-nò-g} \]
5-6-14-18-23
I-ExtraAction-put-Present-it
'I am putting it (the story down).'

**Ex. 2**

\[ \text{mì-n-d-aralà-n} \]
5-6-11-14-18
You-IntraAction-Class-run-Present
'You are running.'

**Ex. 3**

\[ \text{i-m-b-àñì-n-àqàr} \]
5-6-11-14-18-19
It-IntraAction-Class-finish-Present-Emphatic
'It (the story) is absolutely finished.'

**Ex. 4**

\[ \text{l-ñ-g-alq-algamà-na-na} \]
5-6-11-12-14-17-18
It-IntraAction-Class-Intensity-move-Durat-DistantPerfect
'It kept on moving about vigorously.'

---

1 Ex. 1 to Ex. 4 are Text Verbs 1, 62, 89 and 49 respectively.
Ex. 5

**ara** gu-l-uru-m-ugul-inäi-na-ðan

1 5-8-9-10-14-16-18-24

Negative You-Potential-Plural-RetroActionI-break-RetroActionII-MiddlePerfect-for me

'You were not breaking yourselves (be deeply concerned) for me.'

Ex. 6

**ug-g-iri-gu-gur-a-ðanir**

1 5-7-9-12-14-18-25

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 Barði 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 Barði 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 Baðdi 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 Baðdi verb, they must be replaced by the Di-transitive 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 6 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 Baðdi verb, and it is to these areas that the main attention of this thesis is directed.

---

\(^1\) Reflexive and reciprocal expressions are subsumed under the more general term 'Retro-action'. (See page 131) That is, 'retro' in the sense of 'acting backwards' upon the Subject.
1.3 Aim

To analyse and describe the Ba̱dî 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 Ba̱dî 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. 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 language constituents and a fuller grammatical description.

1 Some linguists view Relativisation, Complementation and Coordination 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 Ba̱dî verb that all three processes can be expressed through verbal affixing.
Recent linguistic theory, and in particular generative, transformational theory, has tended to neglect the area of morphology. 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'; tag-memetic 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 possible sequences of morphemes (Elson, 1964:passim). 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,

---

1 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.'

satisfactorily, occurrence and co-occurrence restrictions 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.' 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 derivative processes. He also questions the degree of 'productiveness' of certain types of transformational rules. The problems concerning morphology and syntax were raised in Lees' _

1 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.'
review (1957:404) of *Syntactic Structures* which Dik cites as support for 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:

"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 problem 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 integrating 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 Ba'ardi verbal system,

---

¹ There are an increasing number of transformational analyses of languages with complex verbal structures but few have been published and those which 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.
there is no justification 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.  

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

1 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 continues (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 presentation of a Quiché sentence. The sentence with translation is given first, and then its diagramatic representation:

manuel kebuluk?am lok ri ši la čke pa ri ha čan im
'Manuel brings hither the chairs for into the house immediately' them

Subject Predicate Object Indirect Referent Location Time

Clause: manuel kebuluk?am lok ri ši la čke pa ri ha čan im

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

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

A generative approach becomes very relevant when set against the practically infinite array of verbal expressions possible within the Barádi language. That is, such an approach recognises the 'creative' aspect of language which can 'generate' an indefinitely large number of sentences and, further, provides an explicit set of rules which enumerates 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 Barádi verb on page 5. 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

¹ These two characteristics of generative grammar are emphasised, for example, in the writings 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 language' (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)
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 Bardi 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 of morphology to syntax, an Aspects-type model has been found to provide a useful and revealing theoretical orientation. 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. 'Case grammar' has been applied in at least two studies of Australian Aboriginal languages (Sharp, 1970 and Sommer, 1970). However, in view of the proliferation

\(^1\) 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)
of Baǎdi 'surface' cases and the difficulty of 'fit' between them and Fillmore's 'deep' case relationships,\(^1\) 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 Baǎdi 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. Further, the fieldwork upon which this thesis is based was not orientated towards a 'generative semantics' approach.

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\(^1\) 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 'Factivite' 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.
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 language.

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 subcategorial redundancy, structures 'higher' than 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 Bařdi 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 Bařdi 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 thesis — 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.

¹ Comparisons with a number of excellent non-transformational analyses of Aboriginal languages are made throughout the study.
The Australian field is, in fact, one which could prove of great significance in the development of comparison through generalisation. 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 Gumbayngar 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 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)
1.5 Presentation

Matters of presentation discussed here cover more general procedures which are relevant to the thesis 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 sub-component provides the morphemes which correspond to constituents in some way dependent upon transformational processes.

Section 4.0, the Phonological Component, discusses phonological processes in Bařdi 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 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 and, thirdly, a Text with interlinear and free translations.

Section 7.0 is the Bibliography.
1.5.1 Organising principles. In the discussion of the theoretical approach on page 19, the point was stressed that this study is essentially a 'descriptive analysis' of the Bardo 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 thesis 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, commencing on page 27, 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 Bardi 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 single quotes. To illustrate:

```
Ex. 30 (c)

barulu iğar-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 Bardi 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:

\[ \text{[NP,S] VP} \quad \text{[NP,PredP]} \]
\[ \text{ï'gara- ma-nana-} \quad \text{r} \]
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, page 270. The reasons for this are:

1. To provide the reader with a more complete body of Bardi 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, page 108. 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 the dissertation. 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 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. The Component reference is followed by a slash and then the page number of the reference. An illustration is provided in the discussion of the category 'Tense' on page 56.

B.8.2 Tense

REFERENCE:

B.4/45

L.7/101
T.16.1/167
R.2/188
M.12/238

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

1 See Metcalfe (1971) for a fuller discussion of Bařdi phonemes.
**CONSONANT CHART**

<table>
<thead>
<tr>
<th>MODE OF ARTICULATION</th>
<th>Bi-labial</th>
<th>Apico-alveol</th>
<th>Lamino-alveol</th>
<th>Apico-dorsal</th>
<th>Dorso-velar</th>
<th>Lamino-palatal</th>
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<tr>
<td>(Voiceless)</td>
<td>b</td>
<td>d</td>
<td>ð</td>
<td>g</td>
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<tr>
<td>(Voiced)</td>
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<td>n</td>
<td>ñ</td>
<td>ñ</td>
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<td>ñ</td>
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<tr>
<td><strong>LATERALS</strong></td>
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<td></td>
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<tr>
<td>(Voiced)</td>
<td>l</td>
<td>t</td>
<td>l</td>
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<td><strong>VIBRANT</strong></td>
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<tr>
<td>(Voiced)</td>
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**VOWEL CHART**

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<th>BACK (Rounded)</th>
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<td>1/1ː</td>
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<td></td>
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<td>MID</td>
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<td>a/aː</td>
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### List of Abbreviations

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<td>Any Vowel</td>
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<td>Verb Nucleus</td>
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<td>Verb Stem</td>
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</table>
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 Šardi. 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 Šardi 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, page 179). 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
Rule 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 underlies them by including, as the initial line in the Examples, the relevant formatives.

Take, for example, the following verb.

NP INTENS VbNuc Aux NP

|guru-|lu | luru- nu- | 6 | 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, page 127 and Ex. 83, page 138) and particularly by the complete derivations presented in Section 5.1, pages 244ff.

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 on page 66. Unbroken lines indicate an obligatorily rewritten category, while optional categories are indicated by broken lines.
2.0 **THE BASE COMPONENT**

2.1 **The Base Rules**

- **B.1** \( S \rightarrow (S \text{ Conj}) \ (PreS) \ NP \ PredP \)
- **B.2** \( PreS \rightarrow \) Question \( \{ \)  \( \) IMPERAT \( \) \( \} \)
- **B.3** \( PredP \rightarrow \) NEG \((EMPH)\) \( NP \) \( \{ \)  \( \} \) \( VP \) \( \{ \)  \( \} \) \( (Compl) \) \( POTENTIAL \) \( EMPHAT \)
- **B.4** \( VP \rightarrow \) (INTENS) \( VbNuc \) \( Aux \)
- **B.5** \( Compl \rightarrow \) (PostposP|Adverb) \(^1\)
- **B.6** \( PostposP \rightarrow \) \( NP \) \( Postpos \)
- **B.7** \( NP \rightarrow \) Nom \((S)\)
- **B.8** \( Aux \rightarrow \) Aspect Tense
- **B.9** \( Adverb \rightarrow \) (Time|Quantit) \(^1\)
- **B.10** \( Postpos \rightarrow \) \{ Comitat \} \{ Instrum \} \{ Dative \} \{ Ablative \} \{ Sequ \} \{ Purp \} \{ Temp \} \)
- **B.11** \( Conj \rightarrow \)

\(^1\) Linked parentheses indicate that at least one category must be chosen.
B.1. S → (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 Bardi 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

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 introduced into the Base. Such a rule as the following would be required:

Initial S → (ExclamationResponse\{Vocative\})

The linked parentheses indicate that at least one constituent must be chosen. This rule would underlie such expressions as:

Ex.7 ŋɔyɔw i: gujüll ŋɔrɔqalɔd
Exclamation Response S
ŋɔyɔw(u) i: gujüll ŋɔrɔ-qalɔd
Hurrah Affirmative turtle they-spear-just did
'Hurrah! Yes, they just speared a turtle!'
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 Bardi 'Action Type' will be elaborated upon. (Page 131)

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

Ex. 8

a) \( \text{gan}\text{arala}\text{gal} \) (Text Verb 88)

\[ \text{NP, S} \quad \text{PredP} \]
\( \text{gan-} \text{arala}\text{-gal} \)

'I just ran.'

b) \( \text{gi}\text{n}\text{ing i}\text{n}\text{dajguna} \)

\[ \text{NP, S} \quad \text{PredP} \]
\( \text{gi}\text{n}\text{ing i}\text{n-dajgun-na} \)

'He was born.'

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

Ex. 9

a) \( \text{in}\text{aramananor} \) (Text Verb 2)

\[ \text{NP, S} \quad \text{PredP} \quad \text{NP, PredP} \]
\( \text{in}\text{ara-} \text{ma-nana-} \)

'They used to put them (in the tree-coffin).'

\[ \text{Verb morphemes are listed in Section 6.2, page 266.} \]
b) **gur-nim guńaraŋayidimanamudu arudu**

[NP,S] PredP [NP,PredP]

**gur-nim guń-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 Baŋdi 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, page 63. The second optional element - Pre-Sentence - will now be taken up through its expansion in B.2.
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 Rules 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

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 गंधा plus the Indicative, or the bound morpheme अः गा suffixed to the verb.

अः गा is introduced through the operation of Rule T.13 and will be discussed there. गंधा is provided by the Lexicon, simply replacing the formative 'Question' (Lexical Entry 1).

As it is in correct sequence 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 page 38.)

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

a) įnara-ma-na-r ąńąńa įnara-ma-na-r

They-place-did-them Question they-place-did-them

'They placed them (there).' 'Did they place them (there)?'

b) įnäng-id-a ąńąńa įnäng-id-a

I-go-shall Question I-go-shall

'I shall go.' 'Shall I go?'

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

įnara-ma-n-āda-r

They-place-did-Question-them

'Did they place them (there)?'

įnäng-id-āda

I-go-shall Question

'Shall I go?'

B.2.3  Imperative

REFERENCE:

L.7.2/102
T.14/158

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

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).
be termed the 'Projected Imperfect' (Future) tense. Thus, *ändala* 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** ruwil aña ðu bad(a)

Go you you off

'You go off!'

The *ruwil* is a Pre-Stem (to be discussed) supported by the ancillary verb *aña*. The ðu is used as an emphatic pronoun.

---

1 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 Barđi is outside the scope of this study.
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

¹ Although there is an 'existential' verb 'to be' in Barđi, 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**

<table>
<thead>
<tr>
<th>bugun</th>
<th>in-in</th>
</tr>
</thead>
</table>

Inside he-is

'He is inside.'

b) **Equational**

| giini | mabud | dina | bo |

He woman's name her son

'He is Mabudi's son.'

c) **Stative**

| ir | bawa | lugal-gid |

Those children bad-Intensifier

'Those children are very naughty.'
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 on page 33. The category Complement will be elaborated upon when it is expanded by Rule B.5, page 50, the category Verb Phrase will be more fully dealt with under the discussion of B.4, page 45 and, to prevent premature complications, discussion of Negative Emphasis will be left until its relevant transformation is formulated (T.12, page 153).

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

B.3.1 Negative

REFERENCE:

T.9.2/147
R.2.3/188
M.1.1/203

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 — 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

\[\text{Ingar-ala-na-ri} \quad \text{ara ular-ala-nana-ri}\]

They-see-did-you Neg they-see-did-you

'They saw you' 'They did not see you.'
b) NP VP  
\[
\text{ney-ay\-a-n\~d}
\]
I- limping-am
'I am limping.'

NEG NP VP  
\[
\text{ara \~nal-ay-a}
\]
Neg I- limping-am
'I am not limping.'

It is in the Negative that the underlying division of tense into Imperfect and Perfect 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, \text{ara \~nalaya} means either 'I am not limping' or 'I shall not limp.' The Negative auxiliary is discussed in full in Section R.2.3.1/191.

B.3.2 Potential

REFERENCE:
T.9.1/145
R.2.3/188
M.1.1/203

The Negative and the Potential\(^1\) are linked closely within the derivational 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 \text{ara} is absent. Thus, taking the Negative expression of Ex.14(a), \text{ara ularalananari} means, 'They did not see you.' The Potential is \text{ularalananari}, meaning, 'They should have seen you.'

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

---

\(^1\) Nekes and Worms (1953: 173) use the term 'Potential' for this construction and deal with it and the Negative in the same section.
have done (using a Perfect form) or should do (using the Imperfect form). There is a strong note or 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. 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 As it is in Capell and Hinch in their analysis of Maung, a Northern Territory Aboriginal language. There is a close parallel here between Baridi 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 Baridi, the opposite is true - the following Maung examples show the parallel when compared with Ex.15 (Over page). The Maung example has been rearranged.

<table>
<thead>
<tr>
<th>Present Realis</th>
<th>Negative</th>
<th>Present Irrealis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ṇejan</td>
<td>marig Ṇejandi</td>
<td>Ṇejandi</td>
</tr>
</tbody>
</table>

'I see him.'  'I cannot or will not see him.' 'I can see him'
(i) 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.

<table>
<thead>
<tr>
<th>Affirmative</th>
<th>Negative</th>
<th>Omissive</th>
</tr>
</thead>
<tbody>
<tr>
<td>qan-didi-na</td>
<td>ara qal-idi-nana</td>
<td>qa-l-idi-nana</td>
</tr>
<tr>
<td>I-go-did</td>
<td>Neg I-Pot-go-did</td>
<td>I-Pot-go-did</td>
</tr>
<tr>
<td>'I went.'</td>
<td>'I did not go.'</td>
<td>'I should have gone.'</td>
</tr>
</tbody>
</table>

Ex.16 Using Imperfect tenses:

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

b) qa-l-al-a dalingaguru 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. The 'implied

---

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.
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.

You-Pot-wipe off-will-it I-Pot-wipe off-will-it I-Agent

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 'nα: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.11/151

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 im or an:ar.

Ex.17 (Text Verbs 61 and 71)

a) injilirm:anir b) imba:n:n:an:ar

NP VP EMPHAT NP VP EMPHAT
inji-lirma-n:ir im-ba:n:n- an:ar
They-call-did-Emphat It-finish-is- Emphat
'They called loudly.' 'It is really finished.'
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: *îngalîgâmânanâ*

```
NP       VP
   INTENS  VbNuc  Aux
          Class Marker  Verb Transit Stem Vowel

îng-âlg-âlgam-anâ
```

'It - Intens-move - Durative/Distant Perf
'It kept moving about vigorously.'

Ex.19 *lul irdând*¹

```
NP       VP
   VbNuc  Aux
          Pre-Class Verb Transit Stem Marker Stem Vowel

lul ird-g-ad-i-nâ
```

'Enter they - enter - Present Imperf
'They are going inside.'

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 page 88) are included which have not been discussed. Thirdly, transformational processes, such as permutation of Pre-Stems, have been anticipated.
B.4.2 The Auxiliary

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

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 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.

Example 18 inqalgalgamana displays simple Intensity. Another instance is:
Ex. 20  \textit{mind\textunderline{ugulugulinear}}

\begin{tikzpicture}
  \node (NP) {NP};
  \node (PredP) [above right of=NP] {PredP};
  \node (VP) [below of=PredP] {VP};
  \node (INTENS) [below of=VP] {INTENS};
  \node (VbNuc) [right of=INTENS] {\textit{VbNuc}};
  \node (Aux) [right of=VbNuc] {Aux};
  \node (Class) [below of=INTENS] {\textit{Class}};
  \node (Verb) [right of=Class] {\textit{Verb}};
  \node (Marker) [right of=Verb] {\textit{Marker}};
  \node (Stem) [right of=Marker] {\textit{Stem}};
  \node (Vowel) [right of=Stem] {\textit{Vowel}};

  \draw (NP) -- (PredP);
  \draw (PredP) -- (VP);
  \draw (VP) -- (INTENS);
  \draw (INTENS) -- (VbNuc);
  \draw (VbNuc) -- (Aux);
  \draw (INTENS) -- (Class);
  \draw (Class) -- (Verb);
  \draw (Verb) -- (Marker);
  \draw (Marker) -- (Stem);
  \draw (Stem) -- (Vowel);

  \node at (min) {\texttt{min} - \texttt{d} - \texttt{ugul} - \texttt{ugul} - \texttt{i} - \texttt{na} - \texttt{r}};

\end{tikzpicture}

\begin{quote}
\texttt{You Intens - break Dist-them Perf}
\end{quote}

'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: \textit{dagadag \textunderline{\textit{i}g\textunderline{i}r\textunderline{i}ni}}
\texttt{daga- dag \textit{igiri-\textit{g-}}-ni}
Intens-sleep they-\textit{g}-Dist Perf
'They \underline{all} slept.'

In this example the verb stem is a zero morpheme and its semantic significance has been neutralised by the Pre-Stem (see page 86 for discussion).

(ii) Intensity can refer primarily to the Object.

Ex. 22  Text Verb 8: \textit{\textunderline{I}g\textunderline{uru}l\textunderline{u}runu\textunderline{nu}ru}
\texttt{\textit{iguru-} l\textunderline{uru-nu-} \textit{\textunderline{n}uru}}
They-Intens - light-Dist-it fire Perf
'They lit a \underline{large} fire.'
(iii) Intensity will often cause a semantic modification. For instance, the verb stem $\text{al}$ means 'to look at, see'. The reduplicated stem $\text{alal}$ has the meaning 'to look after, care for'. The stem $\text{ad}$ means 'to enter' while the intensive form $\text{adad}$ is modified to mean 'to go in and out'. 
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.6/52
- B.10/60
- LE.2/109
- T.15/159

**B.5.2 Adverb**

REFERENCE:

- B.9/57
- LE.3/109
- T.16/167

Surface examples only will be given below to indicate something of the occurrence of Complement categories.
Ex.23 Text Line 66: ɦŋarargina ɓaɗa ɓaɗi-ŋan

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

Ex.24 ɓanangara-ɡlɗ ɬrɬɡal ɲɗi ɓiɡibigi ɡurŋul-ɔndar

'Just now all the pigs were in the mangroves.'
By Base Rule 6, a Postpositional Phrase is rewritten as an obligatory Noun Phrase and an obligatory Postposition.

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  nxr\[g\]n\[g\]n\[g\]y\[g\]u  d\[g\]l-c
[NP, S] VbNuc  Aux [NP, PredP] [NP, PostposP] Postpos
\[g\]n\[g\]-  \[g\]r\[g\]l-  na-  \[g\]n\[g\]yu  d\[g\]l-  c
He- pick up-did-me beach- from
'He picked me up from the beach.'

Postpositions relevant to verb morphology will be discussed under Rule B.10.
By Base Rule 7, a Noun Phrase is rewritten as an obligatory Nominal and an optional Sentence.¹

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

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.
They-Agent cutting they-荪-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 Bardi construction comparable to the English relative clause and it involves verb morphology in that the Relator morpheme ba (see page 176) 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  giğiği na:ri indaliđarnayu bugun-b-inin

This complex Sentence is constructed from the two Sentences:

giğiği na:ri in-daliđ-arnayu and giğiği na: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 prefixed to the second verb, producing the Relative construction. A tree diagram will illustrate further:

Apply T.18.2: giğiği na:ri indaliđarnayu bugun-b-inin

'That spirit, which lives inside, saw me.'
By Base Rule 8, the Auxiliary is rewritten as an obligatory Aspect formative and an obligatory Tense formative.

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

B.8.1 Aspect

B.8.2 Tense

Ex. 28 |rbandandamangald|

They - Class-Intens -stumble - Durat-Immediate Perfect

'Up to now, they have been continually staggering around.'
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.

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 *mlIoN* in Line 2 of the Text would be marked, when used in the sense of the 'before' times 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-ðarmi-galā
            Time Adverb Dual-rose-Near 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 *näl* 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

Example 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.

¹ Because the morpheme for the third person plural pronominal suffix (the Object suffix involved in this transformation) is not provided until after the Transformational Component, T.16.2 is identified by using the English pronoun. That is, "Them"-Deletion.
Ex.30

a) Text Lines 21 to 23:

\text{Inar-ala-na-q, nidi, bani, bur inar-ala-na-q.}

They look at did it Quantit this way see they look at did it.

\text{ara-gi id, ular-ala-na-q, 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 'shadow-man').'

b) Text Line 58:

\text{uluman-dini, gir, 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, page 105.)

\text{barulu, inar-andi-gal, nidi.}

Cat fish they catch did Quantit

'They had caught many cat fish.'

If the \text{nidi} did not occur in this sentence, the verb would be:

\text{Inar-andi-gal-dir}

They catch did them

'They had caught them.'

However, \text{nidi} causes the deletion of the pronominal Object suffix through Rule T.16.2.
By Base Rule 10, Postposition is rewritten as any one of Comitative, Instrumental, Dative or Ablative.

There are, in fact, some twenty-five Baræi 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 Dative 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.10.1 The Comitative

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

malər-ŋər 'with a wife'.
ŋayu-ŋər 'with me'.
dirim-ŋər 'with singing'.
milimili-ŋər 'possessing Citizenship Rights'.
marga-ŋər 'with a shield'. (in possession of)

B. 6/52

B.10.2 The Instrumental

The Instrumental postposition {ŋə} expresses 'with, by means of'.

Ex. 32

gurur-ŋə 'with blood' (they wet him).
diwa-ŋə 'with a boomerang'.
dilamana-ŋə 'with a gun'. (English: 'kill-a-man').
gaba-ŋə 'with a cup' (she hit him).
gay-ambilə-nə '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. 6/52

B.10.3 The Dative

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

**Ex. 33 Illustrating motion towards:**

- ḏariñan-ːn '{to Lombadina}'.
- iwaŋu-ːn '{to Sunday Island}'.
- bali-ːn '{to camp}'. (Text Line 19)
- ːnadin-ːn '{to the tree-coffin}'. (Text Line 65)
- ḏanam-buru-ːn '{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' ːla-ːn. Having drunk that, he seeks out his wife 'for money' ːgulbu-ːn. Upon refusing him, she is knocked down and searches 'for a stick' ːbagaga-ːn, with which to defend herself.

**B.10.4 The Ablative**

The Ablative postposition \( \frac{2}{3} \) expresses motion from.

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

- ːdal-ː ːmin in-arqil-na-ːnyu ːbag a in-angana-ːnyu
  Beach-from Temp he-pick up-did-me away he-take-did-me
- gulḍuman-ːn. ːgulḍuman-ːno
  Cape Leveque-to. Cape Leveque-from...

'Then he picked me up from the beach and took me off to Cape Leveque. From Cape Leveque...'
By Base Rule 11, Conjunction is rewritten as one of the following: Sequential, Purposive or Temporal.

In Base Rule 1, $S_{\text{Conj}}$ 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 straightforward 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 $\{\text{amba} \}$ 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.
.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.'

Ex.37

a) $S_1$ Conj $S_2$

\[
\text{in-a-mar-id-$\theta$ mayala arind$\acute{i}$-nan in-al-id-$\theta$ ala-nim din} \]

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

\[
\text{gi} \text{ning gulbu-ba-dib ina-ma-na-$\theta$ arind} \]

That stone-Relat-there he-place-did-it Purposive

$S_2$

\[
\text{in} \text{i-mi} \text{j} \text{jo-indi-na nu:n} \text{di} \]

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\}. It is used to relate both concurrent and subsequent actions. By T.18.1, this relation can also be expressed by the Relator **ba** suffixixed verb-finally.

**Ex.38**

a) \(S_1\) ** Conj ** \(S_2\)

\(\text{in-ga\-gi-na digi marab ba\-n\ i\-\text{\textcopyright{marara}}} \text{-m-a-n-\(\text{\textcopyright{marara}}} \text{-nim}\)

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 ** \(S_2\)

\(\text{nan-ibi-na-\(\text{\textcopyright{marara}}} \text{ maraba gu\-\text{\textcopyright{marara}}} \text{-gudu li\-\text{\textcopyright{marara}}} \text{-da-nim}\)

I-drink-did-it Temp blood-kind Police-Agent

\(\text{in\-\text{\textcopyright{marara}}} \text{-m-a-\(\text{\textcopyright{marara}}} \text{-gyu bugun}\)

they-put-did-me 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.
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.
2.3 Lexical Rules (L.)

L.1 Nom → +N

L.2 -N → \{αPerson, βNumber\}

L.2.1 Number → +Sing
L.2.2 Person → +I
L.2.3 -I → +II
L.2.4 -II → +III
L.2.5 [+I +II
      [+Sing] → +Dual
L.2.6 [+I
      [+Sing][−Sing] → +Inclusive
L.2.7 [+Sing] +III → +Exclusive

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  \[\rightarrow\] +Perf
L.7.1 -Perf  \[\rightarrow\] +Pres
L.7.2 -Pres  \[\rightarrow\] +Proj
L.7.3 +Perf  \[\rightarrow\] +Definite
L.7.4 +Definite  \[\rightarrow\] +Contemp
L.7.5 +Contemp  \[\rightarrow\] +Immed
L.7.6 -Immed  \[\rightarrow\] +Near
L.7.7 -Contemp  \[\rightarrow\] +Mid
L.7.8 -Mid  \[\rightarrow\] +Dist
By Lexical Rule 1, the Complex Symbol 'Nominal' is re-written 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'.

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.

The variables $\alpha$ and $\beta$ are necessary for the indication of agreement between free pronouns on the one hand and their pronominal affixes and other verb constituents on the other. An instance of agreement between pronouns and their corresponding affixes is provided in the first transformation. By it, the pronominal affix is produced corresponding to every subject or object noun or pronoun and agreeing with its antecedent in Person and Number. An instance of agreement with other

¹ See Nekes (1939) for a fuller account of the pronoun system of Dampier Land languages.
verb morphemes is given by the 'Number' prefix, the realisation of which is dependent upon the Number of the subject pronominal prefix involved (T.4, page 128 and R.4, page 194).

L.2.1  Number  →  +Sing
L.2.2  Person  →  +I
L.2.3  -I  →  +II
L.2.4  -II  →  +III

These sub-rules introduce the conventions for indicating first, second and third person, singular and plural. The binary presentation is consistent with the binary nature of the Dual, Inclusive and Exclusive now to be discussed.

L.2.5  [+I  +II]  +Sing  →  +Dual

The Bardi Dual pronoun is used when the speaker [+I, +Sing] is associated with a singular addressee [+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 ). It would, therefore, be better characterised as 'I and you (Singular)'.

L.2.6  [+I  +II]  +Sing  →  +Inclusive

First person plural forms of the free Personal pronoun are in either the Exclusive or the Inclusive. The Inclusive is used when the speaker [+I, +Sing] is associated with more than one addressee [+II, -Sing]. That is, 'I and you (plur-
al)' or 'we all'. The Exclusive is used when the speaker is associated with other persons or another person (as the +III is unspecified as to Number) not being addressed and where the addressee or addressees are excluded. 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 Exclamation Dual-forget-just did there. Cave-in Dual-Agent
an-gaṇḍi-gaḷ

 Nina gaḍin-ōn ayu-nim

Possessive Dual boy initiation stage

äowa

bawa balil.

'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-namba-mudu-p

ala giṇingi-ōna aridil-ōn bunda

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 Bardi man and his use of the Inclusive is seen here to good effect, supplemented by the *bunda* 'all'.

**Ex. 41** The Exclusive:

留言板 giŋgingi baw-ara-b-anar-alə-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 childhood. I, the addressee, was of course excluded from the action of the narrative.

L. 3 + N $\rightarrow$ [ 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.

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\(^1\) The label 'VOCATIVE' was introduced in the foot-note on page 33 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**

铵 oyi ona-ŋayid|m-a-ŋ digibigi Man-Exclamation you-hit-Proj-it pig 'Hey, man! Hit the pig!'
However, it is necessary to include an optional feature for nouns to express Number. This is because 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 orañ, 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 giñing-amba igara-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...'

If a noun is unmarked for Number then it can be used grammatically with either singular or plural pronominal affixes. For instance, orañ can signify either 'woman' or 'women' as in the sentences of Ex.44:

Ex.44
a) Singular:
in-g-ajarbu-nã-∅ orañ-nim
She-Class-winnow-Pres-it woman-Agent
'The woman is winnowing it.'

b) Plural:
ir-ajarbu-nã-∅ orañ-nim
They-winnow-Pres-it women-Agent
'The women are winnowing it.'
The other marker used to specify nouns is $\gamma_{\text{Feature}}$. 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 Barði there is not the same multi-referential problem highlighted, for instance, in Bolinger's treatment of English

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

1. \(i\) $+N \rightarrow [+\text{Common}]$
2. \(ii\) $+\text{Common} \rightarrow [+\text{Count}]$
3. \(iii\) $+\text{Count} \rightarrow [+\text{Concrete}]$
4. \(iv\) $-\text{Common} \rightarrow [+\text{Personal}]$
5. \(v\) $+\text{Concrete} \rightarrow [+\text{Animate}]$
6. \(vi\) $+\text{Animate} \rightarrow [+\text{Human}]$
7. \(vii\) $-\text{Count} \rightarrow [+\text{Abstract}]$

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\(^2\) 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'.

words such as 'bachelor' or even 'soup' (1965:555ff; 566f) there are complex problems in other areas. Illustration is provided by two areas of Bardı 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. 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, \[\gamma\text{Feature}\]. \(\gamma\) is unspecified and potentially infinite in range. However, the \(\gamma\) 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, page 112 gives a highly restrictive \(\gamma\) feature. The verb [\(\text{\textit{ur}}\) 'to light a fire' is marked, \([+\underline{\underline{\underline{N:\textit{nuru}}}}]\). That is, it must take an object and that object can only be the noun \(\textit{nuru}\), 'fire-wood'. I have no recorded case where \(\textit{nuru}\) 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 to
page 76 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 $\gamma$ marker would then represent language particular requirements.
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 neutral-
ised the semantic significance of the ancillary Stem (see page 86). 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'  \textit{\textit{\textit{alad}}}, almost certainly comes from the roots  \textit{\textit{al}} 'to go' and  \textit{\textit{ad}} 'to go inside'. The Stem for 'to cook' is  \textit{\textit{mar}} while the Stem  \textit{\textit{njyi-mar}} means 'to cook in a bush oven', although the meaning of the root  \textit{\textit{njyi}} is uncertain. The common word for 'meat' is  \textit{\textit{ali}} and this can be widened in reference to be used as a generic term for 'food'. The related verb 'to eat' has the Stem  \textit{\textit{al}}.

Two types of Verb Stems exhibit peculiarities with regard to their vowel systems. Some  \textit{\textit{b}}- and  \textit{\textit{g}}-Class Stems have the morphophonemes (capitalised)  \textit{\textit{U}} and  \textit{\textit{A}}. For example,  \textit{\textit{g+UdAl}} 'to lose', and  \textit{\textit{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  \textit{\textit{\textit{a}}}, \textit{\textit{\textit{u}}}, and  \textit{\textit{\textit{a}}}.

Other Stems display the morphophoneme  \textit{\textit{I}} but they are members of the \textit{\textit{d}}-Class. For instance,  \textit{\textit{d+Igur}} 'to make a catamaran', and  \textit{\textit{d+Idur}} 'to knock accidentally. The morphophoneme  \textit{\textit{I}} activates the Rule M.6, which controls alternation between the vowels  \textit{\textit{u}} and  \textit{\textit{i}}.

Apart from 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'  \textit{\textit{nulm}} is quite different in form from the Intransitive verb 'to be frightened'  \textit{\textit{arg}}. (See discussion of Action Type, page 131)
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 classes: $g$-Class, $b$-Class, $d$-Class and $q$-Class.

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

1. All consonant-initial Stems are $g$-Class. All intransitive $g$-Class Stems are consonant-initial. However, some 15% of transitive $g$-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 $g$-Class, whereas the homomorph and 'to scratch', is $q$-Class. $\text{arg}$ 'to pick up (a person)' is $g$-Class, while $\text{arg}$ 'to be frightened' is an intransitive $d$-Class Stem. $\text{irija}$ 'to wave' is $g$-Class and $\text{iril}$ 'to fly' is $b$-Class.

Although the $g$-Class is larger than any of the other Classes, only a limited range of consonants - $l$, $r$, $m$, $q$ and $g$ - 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, page 219) have not been found to commence a Verb Stem.

2. $\bar{a}$-Class Stems commence with $a$, $i$ or $u$, but not with $c$.

3. With two exceptions, $b$-Class transitive Stems commence with the morphophonemes $A$ or $U$. The exceptions are $b+i\text{llr}$ '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 $a$-, $i$- and $u$-initial Stems are found. For instance, $\text{umar}$ 'to shiver', $\text{a\text{al}}$ 'to squat' and $\text{j\text{tg}}$ '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 $b+u\text{l}g\text{Ar}$ 'to drag' with the Stem $g+u\text{l}Ar$ 'to fill', and, further, $g+u\text{l}u\text{rb}$ 'to answer a challenge' with $b+u\text{l}$ 'to come out'.

No $g$-Class Stem commences with an $j$, and every intransitive $g$-Class Stem, with one exception, is $a$-initial. The exception is $g+\text{c}$ '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', d+a is 'to see' and g+a is 'to walk'.

L.4.3 The Transitional Vowel

REFERENCE: M.12.3/240

With eight exceptions, Verb Stems end in a consonant. Every consonant-final Stem, apart from those ending with r, 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

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. ...'
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, *majambu* 'to chip with a tomahawk', *dəyibu* 'to ask for' and *junbu* 'to sink down'.

2. Stems ending in the apico-domals å, ķ, ñ and the bi-labial and dorso-velar nasals m and n take a as their Transitional Vowel. The relationship between these consonants and the low, open, central, unrounded vowel a is consistent phonologically. For instance, *galađa* 'to be bogged', *gaļaļa* 'to follow', *bA Atatürk* 'to mix up' and *buluļa* 'to come in, of tide'.

3. Stems ending in the lamino-alveolars ñ, ñ, i and the apico-alveolars å, ķ, ñ, ī, ř 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, the g+i sequence cannot be so accounted for. It is well attested as in the verbs *dargin* 'to be frightened', *b+ilq+ī* 'to blow, of wind', *b+Ang+i* 'to claim', *mīng+i* 'to choke' and *d-alq+i* 'to hide'. Examples of the alveolar consonant final Stems are: *nān+i* 'to refuse', *mirōnd+i* 'to explain', *b+Ardad+i* 'to distrust' and *d+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, ṭimb+i 'to land', b+UdUg+u 'to stamp off', g+andar+a 'to roll, of waves', and ḍ+i|i|i+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', ʻa|i . The Stem is ʻa| and the i has been retained as the Transitional Vowel against the phonological pattern. The same process probably operates with the verb ḍ+ag+i 'to enter', which seems to have been derived from the noun for 'cave', gaḏini .

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, ḍ+arq+u 'to shave', b+ariņ+a 'to fall' and ṭiņ+a 'to instruct'.

L.4.4 The Pre-Stem

The Pre-Stem is one of the most interesting features of the BaRDi 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 BaRDi 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.\(^1\) 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 Barði verbs account for about 90% of the ancillary expressions. These are the verbs \(m+a\) 'to place', \(n+a\) 'to take up', \(g+s+a\) 'to carry', \(d+i\) 'to say', \(d+id+i\) 'to go, walk and, surprisingly, \(ar\) '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:

---

\(^1\) C.f. similar structures in Young (1964:71,78) & 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)
Ex. 45

<table>
<thead>
<tr>
<th>Pre-Stem</th>
<th>Ancillary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) rawin</td>
<td>guŋ-ara-ma-na-na</td>
</tr>
<tr>
<td>Walk</td>
<td>you-Plur-place-Durat-did</td>
</tr>
</tbody>
</table>

'You all kept walking.'

b) OPSIS | ƞangi-ŋ-a-_CONN-ŋ |
| Avoid weapon | I-take up-will-from him-it |

'I will avoid his weapon.'

c) ruḏ | an-an̂-îd-ir |
| Pass | Dual-carry-did-them |

'You and I passed them.'

d) gudgud | in-ɗu-na-na |
| Crouch | he-say-Durat-did |

'He was crouching.'

e) dū | ir-ɗidi-ną |
| Dump, of waves | they-walk-are |

'The waves are dumping.'

f) dū | an-ar-a |
| Kneel | you-look for lice(?)-Imperative |

'Kneel down!'

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

f) dū | an-ar-a |
| Kneel | you-ø-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 a+I 'to say'.

Ex. 46

<table>
<thead>
<tr>
<th>Pre-Stem</th>
<th>Ancillary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a</strong> dhumul dhumul</td>
<td>in-du-na-na</td>
</tr>
<tr>
<td>Turtle hitting water in love-play</td>
<td>it-say-Durat-did</td>
</tr>
<tr>
<td>'The turtle was hitting the water in love-play.'</td>
<td></td>
</tr>
<tr>
<td><strong>b</strong> dudul</td>
<td>in-du-na-na</td>
</tr>
<tr>
<td>Knocking noise</td>
<td>it-say-Durat-did</td>
</tr>
<tr>
<td>'It kept on making a knocking noise.'</td>
<td></td>
</tr>
<tr>
<td><strong>c</strong> dalar</td>
<td>in-du-na-na</td>
</tr>
<tr>
<td>Light noise of rattling</td>
<td>it-say-Durat-did</td>
</tr>
<tr>
<td>'It kept up a light rattling noise.'</td>
<td></td>
</tr>
<tr>
<td><strong>d</strong> Jambal Jambal</td>
<td>in-du-na-na</td>
</tr>
<tr>
<td>Smacking noise while eating</td>
<td>he-say-Durat-did</td>
</tr>
<tr>
<td>'He was making a smacking sound while he was eating.'</td>
<td></td>
</tr>
<tr>
<td><strong>e</strong> dadur dadur</td>
<td>in-du-na-na</td>
</tr>
<tr>
<td>Crunching noise while chewing</td>
<td>he-say-Durat-did</td>
</tr>
<tr>
<td>'He was making a crunching sound while he was chewing.'</td>
<td></td>
</tr>
</tbody>
</table>

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 $g+a+d$ means 'to enter, to drown'. When preceded by the Pre-Stem $lul$ the meaning of 'entering' is specified.

b) The verb $g+a+l$ can mean 'to walk about' or 'to live'. If it is associated with the Pre-Stem $\text{jamal}$, it bears the former meaning, but if associated with $\text{gir}$ it bears the latter.

c) The verb $d+a+l$ means 'to see, look'. However at times it is preceded by the Pre-Stem $\text{bur}$ 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

$\text{jubul} \ jubul \ d+i$ expresses the action of 'sloshing' through shallow water.

$\text{gor} \ \text{gor} \ d+i$ describes someone 'chomping' on capsicum or some similar food.

$\text{bi\(\bar{\text{I}}\)} \ \text{bi\(\bar{\text{I}}\)} \ g+a+l$ is the 'skipping' of fish across the water.

$\text{buru\(\bar{\text{I}}\)} \ \text{buru\(\bar{\text{I}}\)} \ \text{ar}$ means the 'boiling' of water.

$\text{dilara} \ \text{dilara} \ d+i$ is the 'ringing' of bells.\(^1\)

---

\(^1\) See Worms (1938:164ff) for further examples of onomatopoeia.
2. Pre-Stems are the source of the majority of verbal neologisms.

Ex.49

bulawayi  đ+ipt is to 'pull away' in rowing.
galawayi  đ+ipt is to 'skull away'.
bulayi  đ+ipt is to 'play' (especially card games).
di:1  đ+ipt 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 neologisms was recorded:

fix-im-up  m 'to repair'
pass-im  q+ö '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.

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  b urb meaning 'ground', while the ancillary is the verb  na yldim , which means 'to hit'. Thus 'to miss' is, quite appropriately, 'to hit the ground'.

pl a means 'water'. When followed by the ancillary  ar , 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**

gorna is 'good, well'; gorna ḏ+ī is 'to feel happy, to be in good spirits'.

aliq means 'bad, weak'; aliq ḏ+ī 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-Stems as distinct from their 'primary' function of modifying verbal action.

**Ex.53**

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

bağa is 'away'; bağa plus the ancillary ḏ+ī 'to say' means 'to go away'.

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

The fact that neologisms, 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 Bağdi language.

L.4.4.3 **Action Change**

**REFERENCE:**

T.7.2/139

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.

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.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>g+am</td>
<td>'to laugh'</td>
<td>am-am</td>
</tr>
<tr>
<td>b+Al</td>
<td>'to make (a small object)'</td>
<td>Al-Al</td>
</tr>
<tr>
<td>mi</td>
<td>'to look around for'</td>
<td>mi-mi</td>
</tr>
<tr>
<td>du</td>
<td>'to turn over'</td>
<td>du-du</td>
</tr>
</tbody>
</table>

3. VCC Stems are fully reduplicated.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>g+añb</td>
<td>'to vomit'</td>
<td>añb-añb</td>
</tr>
<tr>
<td>arg</td>
<td>'to pick up (a person)'</td>
<td>arg-arg</td>
</tr>
<tr>
<td>ã+inb</td>
<td>'to think'</td>
<td>inb-inb</td>
</tr>
</tbody>
</table>
4. CVCC Stems are fully reduplicated, with the Translational Vowel coming between the repeated element and the Stem.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>land</td>
<td>'to sit, stay, anchor'</td>
<td>land-a-land</td>
</tr>
<tr>
<td>miña</td>
<td>'to receive'</td>
<td>miña-i-miña</td>
</tr>
<tr>
<td>lulm</td>
<td>'to put right'</td>
<td>lulm-u-lulm</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>ā+ayib</td>
<td>'to ask, especially a question'</td>
<td>ayib-ayib</td>
</tr>
<tr>
<td>ā+ulug</td>
<td>'to wash, clean'</td>
<td>ulug-ulug</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>ā+idiŋ</td>
<td>'to touch, feel'</td>
<td>id-idiŋ</td>
</tr>
<tr>
<td>q+UdAl</td>
<td>'to disappear'</td>
<td>Ud-UdAl</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>maḏ</td>
<td>'to build'</td>
<td>maḏ-a-maḏ</td>
</tr>
<tr>
<td>nañ</td>
<td>'to refuse'</td>
<td>nañ-i-nañ</td>
</tr>
<tr>
<td>lum</td>
<td>'to approach'</td>
<td>lum-a-lum</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>muɾ</td>
<td>'to waste'</td>
<td>mu-muɾ</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>liṅgan</td>
<td>'to try out'</td>
<td>liṅga-liṅgan</td>
</tr>
<tr>
<td>mangad</td>
<td>'to leave (a person)'</td>
<td>manga-mangad</td>
</tr>
<tr>
<td>miṅar</td>
<td>'to miss, not find'</td>
<td>miṅa-miṅar</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
<th>Reduplicated Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>b+AndAm</td>
<td>'to stop, especially a fight'</td>
<td>And-AndAm</td>
</tr>
<tr>
<td>undur</td>
<td>'to cut across'</td>
<td>und-undur</td>
</tr>
<tr>
<td>algam</td>
<td>'to move'</td>
<td>alg-algam</td>
</tr>
<tr>
<td>b+ArgAnd</td>
<td>'to wrap, tie, roll up'</td>
<td>Arg-ArgAnd</td>
</tr>
</tbody>
</table>

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, gayidim 'to hit' becomes gayidim-ayidim\(^1\) and alad 'to be bogged' becomes alad-ad.

L.4.6 Obligatory Retro-active Verbs REFERENCE: ____________

T.8/141

A small set of verbs must be marked 'Obligatory Retro-active'. These are the verbs which always appear in the frame \ [+N_1\_, + N_1\] - where the [NP,S] and [NP,PredP] are identical. Thus, they must undergo the Retro-action

\(^1\) This Stem is probably from the English I\{(nay)hit(id)him(1m).
(Reciprocal or Reflexive) transformation, T.8, and never occur in transitive forms.

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

- b+i+ind 'to put oneself forward, push one's own interests and importance'.
- ilbi +r 'to echo'.
- g+udA+I '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+ir '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

---

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.
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'  
  \[b+i\] \[l\] \[g\]
- 'to rain'  
  \[\text{pla ar}\]
- 'to flood'  
  \[b+\] \[\text{Ur}\]
- 'to roll, of waves'  
  \[g+\] \[\text{andangar}\]

This is by far the richest source of Impersonal verbs.

L.4.7.2 There are **inanimate source** verbs.

- 'to ricochet'  
  \[\text{birbad } \text{a+id}\]
- 'to echo'  
  \[\text{ilbir}\]

The verb 'to echo' is also impersonal and 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'  
  \[\text{mad}\]
- 'to fly, of birds and aeroplanes'  
  \[b+i\] \[\text{iril}\]
- 'to hover, of birds'  
  \[\text{baibal } \text{n}\]
- 'to cast off the skin, of snakes'  
  \[b+\] \[\text{unug}\]

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 Baŕdi 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 *ming*. To express 'I was choking (yesterday)' the Bardi would say: 'Something was choking me yesterday' *ini-mįįgįn-ąrnąyu*. Analysing the verb more closely:

```
[NP,S] VbNuc Aux [NP,PredP]
ini - ąrį - ąnį - ąrnąyu
```

Impers Source choke Durat/Mid Perf me

'Something was choking me (yesterday).'</n

In some cases the impersonal source is identified as with this verb: *irį-mįįgįn-ąį*

They-choke-Pres-you

'You are being choked by them (some pieces of meat).

**Ex.55** The verb Stem *b+ąn* 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': *ąrnągąn* versus *ąngąnągądąn*.

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

```
ąng - ąn - ą - r
I finish will them
```

'I will finish them (some objects)'].'
b) \[\text{[NP,S]} \ VbNuc \ Aux \ \text{Referential Suffix}\]

\[\text{ung} \ \_ \ \text{cñ} \ _ \ a \ _ \ \text{dan}\]

Impers finish will for me Source

'I will finish up (tomorrow).'

L.4.8 **Irregular Verbs**

Some of the most common Barðí 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, page 263, 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, concerning 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.
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.
Every tense has two Aspects, expressing either Durative or non-Durative action. The Durative morpheme is  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**

\[ \text{gang-arb-a-rl} \]

I-send-Projected-you

'I will send you (once).'

**Durative**

\[ \text{gang-arbu-n-d-irl} \]

I-send-Durat-Projected-you

'I will keep on sending you.'

b) The verb \[ b+\text{UndAr} \] 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**

\[ \text{an-amb-undar-l\d-g} \]

Dual-Class-bite-Middle-it

'You and I bit it (yesterday)'

**Durative**

\[ \text{an-amb-undar-ln-d-g} \]

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

'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.
As indicated previously, Başdi Tense can be divided into either Perfect or Imperfect [-Perf] action – completed versus uncompleted activity. There are two Imperfect Tenses, Present and Projected, and five Perfect Tenses, Indefinite, Immediate, Near, Middle and Distant. The 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 is 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.

<table>
<thead>
<tr>
<th>L.7</th>
<th>Tense</th>
<th>Reference:</th>
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</thead>
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<td>L.7.3</td>
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<td>L.7.4</td>
<td>+Definite</td>
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<td>L.7.5</td>
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<tr>
<td>L.7.7</td>
<td>-Contemp</td>
<td></td>
</tr>
<tr>
<td>L.7.8</td>
<td>-Mid</td>
<td></td>
</tr>
</tbody>
</table>

As with many languages, the Başdi Present Tense is in
almost every instance Durative in Aspect. The following example is made up of excerpts 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

aran lugal do iri-ŋa-n-Ø. galur-gudu.
Some bad water they-take-do-it. Froth-kind = beer.

aran gurur do iri-ŋa-n-Ø aliq
Others blood water = wine they-take-do-it... Feel ill

ln-da-n n-alma. giŋingi-yunu ọla. guļbu ɡidi it-Ø-does his-head. That-from liquor. Money then

i-waŋi-n-ŋir ir-ganbu-ŋi-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

REFERENCE: M.1/203

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 Bardi.

c) The Desiderative. 'I wish, desire, hope to go'.

d) **The Imperative.** This was discussed on page 37 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-∅  bayi· giñingamba wayid
Friday-time he-pick up-Proj-it pay. That is why wait
an-∅-a-ðaŋa  angiri-ñ-a-∅  gororo almidan taxi
you-∅-Proj-for us we-pick up-Proj-it if any way taxi
guna angar-ay-a-amba-∅  bawa . .  gang-al-a-amba-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  ∅ . 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-darm-a-dan (in-dārm-a-dān) ŋunu  in-u-gul-a-gayu

He-came up-Indefinite-for me there he-left-Indefinite-me.

bindana· ŋalab (bindana· ēn-darāl-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. From 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 \textit{gal} (\textit{gāl}) . The two Tenses - Immediate and Near - are differentiated by their prefixes. As with the distinction between Present and Projected Imperfect forms, this illustrates the fact that Tense, in Bařdi, 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 $a+$ with the Present, and the suffix $gal$ with the Near.

Ex. 62

$\text{We-Plur-wash-Pres-it}$  $\text{We-Plur-wash-Immed-it}$  $\text{We-Plur-wash-Near-it}$

'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

$\text{Saw-fish they-take-Near-it one. Cat-fish they-catch-Near}$

$\text{Quantitative. Sequential two baramundi they-pull in-Near-them.}$

$\text{Duncan another baramundi he-take-Near-it.}$

'That day they had taken one saw-fish. They had caught many cat-fish. Further, they had pulled in two baramundi.
Duncan had 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 'beginning' 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 wayward husband for 'driving her to drink'. Speaking on the day after the sacking, the narrator says:

Ex.64

arinål alying in-ðuw-î-ð amba-nim ðin
Causal make wrong he-ð-Middle-her husband-Agent her
in-anganbuw-î-ð.
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 Barđi. On rare occasions, the Durative Distant form of a verb is used to emphasise a 'pushing back' of the time depth into the remote times of the ancestral heroes and the beginnings 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-ðala-na-p ñu:ðin in-g-alg-algama-na-na
There he-see-Dist-it intestine it-Class-Intens-move-Durat-Dist

ɡǎndi·
on top

'Up there on top he saw (non-Durative) an intestine which kept moving about (Durative).'

---

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.
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.
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<td>Postpositions</td>
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<td>'in company with'</td>
<td>ṅar</td>
</tr>
<tr>
<td>LE.2.2 Instrumental</td>
<td>'with, by means of'</td>
<td>ṃa</td>
</tr>
<tr>
<td>LE.2.3 Dative</td>
<td>'to, for'</td>
<td>ṃan</td>
</tr>
<tr>
<td>LE.2.4 Ablative</td>
<td>'from'</td>
<td>ṃa</td>
</tr>
<tr>
<td>LE.3</td>
<td>Adverbs</td>
<td></td>
</tr>
<tr>
<td>LE.3.1 Temporal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[+Dist]</td>
<td>'long ago'</td>
<td>miλon</td>
</tr>
<tr>
<td>[+Mid]</td>
<td>'yesterday, recently'</td>
<td>bādī</td>
</tr>
<tr>
<td>[+Contemp]</td>
<td>'today'</td>
<td>banangara</td>
</tr>
<tr>
<td>[+Proj]</td>
<td>'tomorrow'</td>
<td>ṃuridi</td>
</tr>
<tr>
<td>LE.3.2 Quantitative</td>
<td>'many, intensely'</td>
<td>nidi</td>
</tr>
<tr>
<td>LE.4</td>
<td>Conjunctions</td>
<td></td>
</tr>
<tr>
<td>LE.4.1 Sequential</td>
<td>ḗamba</td>
<td></td>
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<tr>
<td>LE.4.2 Purposive</td>
<td>ṣrindī-ṅan</td>
<td></td>
</tr>
<tr>
<td>LE.4.3 Temporal</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>maraba</td>
</tr>
<tr>
<td>FORMATIVE</td>
<td>GLOSS</td>
<td>MORPHEME/WORD</td>
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<td>-----------</td>
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<tr>
<td>LE.5 Nominals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LE.5.1 Pronouns [-N]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[+I, +Sing] 'I, me'</td>
<td>ɲayu</td>
<td></td>
</tr>
<tr>
<td>[+II, +Sing] 'you'</td>
<td>ĉu</td>
<td></td>
</tr>
<tr>
<td>[+III, +Sing] 'he, she, it, him, her'</td>
<td>qĩŋiŋĩ</td>
<td></td>
</tr>
<tr>
<td>[+Dual] 'you and I, you and me'</td>
<td>ayu</td>
<td></td>
</tr>
<tr>
<td>[+Inclusive] 'we, us'</td>
<td>aridi</td>
<td></td>
</tr>
<tr>
<td>[+Exclusive] 'we, us'</td>
<td>arudu</td>
<td></td>
</tr>
<tr>
<td>[+II, -Sing] 'you all'</td>
<td>gur</td>
<td></td>
</tr>
<tr>
<td>[+III, -Sing] 'they, them'</td>
<td>ir</td>
<td></td>
</tr>
<tr>
<td>LE.5.2 Nouns [+N]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-Concrete] 'story, message'</td>
<td>ãawal</td>
<td></td>
</tr>
<tr>
<td>[-Animate] 'coffin in tree-stage burial'</td>
<td>ñandin</td>
<td></td>
</tr>
<tr>
<td>[-Animate] 'tree, branch, stick'</td>
<td>badjaga</td>
<td></td>
</tr>
<tr>
<td>[+Human] 'man, men, male'</td>
<td>amba</td>
<td></td>
</tr>
<tr>
<td>[+Human] 'woman, women, female'</td>
<td>orañ</td>
<td></td>
</tr>
<tr>
<td>[-Personal] 'Malumbo Bay, King Sound'</td>
<td>malambu</td>
<td></td>
</tr>
<tr>
<td>[+Human] 'relation(s)' Prob. Eng. 'countryman'</td>
<td>gandumurman</td>
<td></td>
</tr>
<tr>
<td>[-Personal] 'Gundulmara Hill'</td>
<td>gundulmara</td>
<td></td>
</tr>
<tr>
<td>[-Animate] 'type of large tree'</td>
<td>ĩgiri</td>
<td></td>
</tr>
<tr>
<td>[-Animate] 'fire, fire-stick'</td>
<td>nuru</td>
<td></td>
</tr>
<tr>
<td>[-Animate] 'home, camp, ground, country'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 (Footnote over page)
<table>
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<tr>
<th>FORMATIVE</th>
<th>GLOSS</th>
<th>MORPHEME/WORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-Animate]</td>
<td>'divining peg'</td>
<td>yandal</td>
</tr>
<tr>
<td>[+Animate]</td>
<td>'shadow-man, spirit of doctor-men'</td>
<td>mirurunu</td>
</tr>
<tr>
<td>[+Human]</td>
<td>'people'</td>
<td>amburini</td>
</tr>
<tr>
<td>[-Animate]</td>
<td>'camp, shade'</td>
<td>bali</td>
</tr>
<tr>
<td>[+Human]</td>
<td>'murderer'</td>
<td>ganabini</td>
</tr>
<tr>
<td>[-Animate]</td>
<td>'foot-print'</td>
<td>ninbil</td>
</tr>
<tr>
<td>[-Count]</td>
<td>'time'</td>
<td>buru</td>
</tr>
<tr>
<td>[+Personal]</td>
<td>'Loki bin Sali'</td>
<td>lagni</td>
</tr>
<tr>
<td>[-Concrete]</td>
<td>'day, sun'</td>
<td>alnga</td>
</tr>
<tr>
<td>[-Animate]</td>
<td>'intestine'</td>
<td>gu:ifiable</td>
</tr>
<tr>
<td>[-Animate]</td>
<td>'marsh'</td>
<td>bina:nba</td>
</tr>
<tr>
<td>[+Human]</td>
<td>'brother, one of same generation level'</td>
<td>alguru</td>
</tr>
<tr>
<td>[+Human]</td>
<td>'mother'</td>
<td>biri</td>
</tr>
<tr>
<td>[+Human]</td>
<td>'father'</td>
<td>gulu</td>
</tr>
<tr>
<td>[+Human]</td>
<td>'old woman, women'(Eng.)</td>
<td>uluman</td>
</tr>
<tr>
<td>[-Count]</td>
<td>'social deviance,'</td>
<td>ga:l</td>
</tr>
<tr>
<td></td>
<td>('&quot;humbug&quot;')</td>
<td></td>
</tr>
<tr>
<td>[-Count]</td>
<td>'teasing'</td>
<td>dido</td>
</tr>
</tbody>
</table>

1 (from previous page):

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)
**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 \(+N:\ [+\text{Animate}]\). Text numbers are given below the LE number for each verb.

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</thead>
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<td>LE.6.1 ([m+a, +_N: [+\text{Count}]])</td>
<td>'put, place'</td>
</tr>
<tr>
<td>((1))</td>
<td></td>
</tr>
<tr>
<td>LE.6.2 ([d+ib+i, -_N])</td>
<td>'die'</td>
</tr>
<tr>
<td>((3))</td>
<td></td>
</tr>
<tr>
<td>LE.6.3 ([b+\text{Añ}+i, -_N])</td>
<td>'finish, die'</td>
</tr>
<tr>
<td>((4))</td>
<td></td>
</tr>
<tr>
<td>LE.6.4 ([g+g+a, +_N: [+\text{Concrete}], +\text{Irreg:1}])</td>
<td>'carry, take away'</td>
</tr>
<tr>
<td>((5))</td>
<td></td>
</tr>
<tr>
<td>LE.6.5 ([lu+\text{ur}+u, +N: [+\text{Human}]), +_N: \text{nuru}]</td>
<td>'light a fire'</td>
</tr>
<tr>
<td>((8))</td>
<td></td>
</tr>
<tr>
<td>LE.6.6 ([\text{dagud} +\text{Action Change}, d+I, -_N])</td>
<td>'return'</td>
</tr>
<tr>
<td>((9))</td>
<td></td>
</tr>
<tr>
<td>LE.6.7 ([g+ad+i, -_N])</td>
<td>'enter, go down'</td>
</tr>
<tr>
<td>((10))</td>
<td></td>
</tr>
<tr>
<td>LE.6.8 ([b+u, +N: [+\text{Human}]), +_N: [+\text{Animate}], +\text{Irreg:2}]</td>
<td>'spear, kill, give needles'</td>
</tr>
<tr>
<td>((12))</td>
<td></td>
</tr>
<tr>
<td>LE.6.9 ([\text{uru}+b+u, +_N: [+\text{Animate}])]</td>
<td>'chase, follow'</td>
</tr>
<tr>
<td>((13))</td>
<td></td>
</tr>
<tr>
<td>LE.6.10 ([d+I+q+a, +_N: [+\text{Count}])]</td>
<td>'tell, send'</td>
</tr>
<tr>
<td>((15))</td>
<td></td>
</tr>
<tr>
<td>LE.6.11 ([\text{bir}+a, d+I, +_N: [+\text{Animate}])]</td>
<td>'leave behind'</td>
</tr>
<tr>
<td>((16))</td>
<td></td>
</tr>
<tr>
<td>LE.6.12 ([\text{rawin} +\text{Action Change}, m+a, -_N])</td>
<td>'walk, travel'</td>
</tr>
<tr>
<td>((17))</td>
<td></td>
</tr>
<tr>
<td>LE.6.13 ([\text{gir}, q+al+a, -_N])</td>
<td>'stay, reside'</td>
</tr>
<tr>
<td>((18))</td>
<td></td>
</tr>
<tr>
<td>LE.6.14 ([\text{daga} +\text{Action Change}, d+I, -_N])</td>
<td>'sleep'</td>
</tr>
<tr>
<td>((19))</td>
<td></td>
</tr>
<tr>
<td>LE.6.15 ([d+arm+i, -_N])</td>
<td>'rise up'</td>
</tr>
<tr>
<td>((20))</td>
<td></td>
</tr>
</tbody>
</table>
ENTRY | GLOSS
---|---
LE.6.16 `[dar +Action Change, ar, - N]` | 'arrive, come up'
(21)
LE.6.17 `[d+aːl+i, + N: [+Concrete]]` | 'see, look at'
(22)
LE.6.18 `[bur, d+aːl+i, + N: [+Concrete]]` | 'see, look at'
(23)
LE.6.19 `[mar +Action Change, d+I, - N]` | 'elapsing of time'
(28)
LE.6.20 `[ban, d+I, + N: [+Animate]]` | 'address'
(29)
LE.6.21 `[d+I, + N: [+Animate], + Irreg: 3]` | 'address, say to'
(31)
LE.6.22 `[ruwil +Action Change, ʔ+ə, - N]` | 'walk, go off'
(30)
LE.6.23 `[lagal, g+aŋ+i, - N]` | 'climb'
(32)
LE.6.24 `[land+a, - N]` | 'sit, stay, anchor'
(33)
LE.6.25 `[dab +Action Change, ʔ+a, - N]` | 'go up'
(38)
LE.6.26 `[g+oːn+b+u, + N: [+Animate]]` | 'send'
(44)
LE.6.27 `[dː, d+id+i, - N]` | 'burst open'
(45)
LE.6.28 `[dːgiːr +Action Change, d+I, - N]` | 'peep'
(47)
LE.6.29 `[ʔ+oːl+g+alchemy, - N]` | 'move about'
(49)
LE.6.30 `[ʔ+a, - N, + Irreg: 4]` | 'be, exist'
(50)
LE.6.31 `[ŋanɡanmad +Action Change, d+I, - N]` | 'try to stop'
(56)
LE.6.32 `[ʔ+aɾɡ+i, - N]` | 'be frightened'
(57)
LE.6.33 `[ʔ+aɾaː+ɑ, - N]` | 'run'
(58)
LE.6.34 `[yur +Action Change, m+a, - N]` | 'go down'
(59)
<table>
<thead>
<tr>
<th>ENTRY</th>
<th>GLOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE.6.35  [arar Action Change, ʃ+I, -___N]</td>
<td>'stand about'</td>
</tr>
<tr>
<td>LE.6.36  [lirm+a, -___N]</td>
<td>'call out'</td>
</tr>
<tr>
<td>LE.6.37  [lamang+a, -___N]</td>
<td>'listen'</td>
</tr>
<tr>
<td>LE.6.38  [b+Añ+i, +___N:[+Animate]]</td>
<td>'fight'</td>
</tr>
<tr>
<td>LE.6.39  [arg+i, +N:[+Human], +___N: [+Human]]</td>
<td>'pick up, carry (a person)'</td>
</tr>
<tr>
<td>LE.6.40  [mañ+i, -___N]</td>
<td>'wave'</td>
</tr>
</tbody>
</table>
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 **Cyclic/non-cyclic**

Transformational rules one to sixteen inclusive are cyclic while rules seventeen and eighteen are post-cyclic.

Cyclic rules apply to each sentence in turn and as many times within each sentence (or here, each complex verbal expression) as the Structural Description is met. Post-cyclic rules operate on compound constructions involving more than one sentence and deal with the recursive processes of Relativisation, Complementation and Co-ordination which are relevant to the Barádi verbal system.

3.1.2 **Ordering**

The cyclic 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 sequential development assists particularly in the formulation of Structural Descriptions.

The post-cyclic transformations are unordered.

3.1.3 **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 Bardi verbal expressions have been omitted from consideration, there are a number of optional constructions which must be comprehended if an 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.

3.1.4 **'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 immediately into the Structural Change and their 'label' discarded. These have been termed 'simple' categories. The 'Action Type'

---

\(^1\) See Chomsky (1965:127) and Dutton (1969:198f).
morphemes \( \text{n} \) (Extra-active), \( \text{q} \) (Intra-active) and \( \text{indi} \) (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 Realisation sub-component. (c.f. fuller discussion in Section 3.2, page 182.)

3.1.5 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 pre-terminal string of the 'Master Phrase-marker' on page 66. 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 presentation of the process using derivational trees.
T.1  OBLIG  PRONOMINAL AFFIX

S.D.  X  \[+N\]
\[\alpha \text{Person}\]
\[\beta \text{Number}\]
1  2  3

S.C.  1  2  \[+\text{ProAf}\]
\[\alpha \text{Person}\]
\[\beta \text{Number}\]
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 to 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 premature in that the affixes had to be expressed even though they had not been introduced into the grammatical description.

An inherently plural noun amburīn, 'people', and a Personal Pronoun ḏu, 'you (singular)' will be used here to demonstrate the effect of T.1:

Ex.66 (a) amburīn (b) ḏu

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>amburīn</td>
<td>ḏu</td>
</tr>
<tr>
<td></td>
<td>[+N]</td>
<td>[-N]</td>
</tr>
<tr>
<td></td>
<td>[+III]</td>
<td>[+II]</td>
</tr>
<tr>
<td></td>
<td>[-Sing]</td>
<td>[+Sing]</td>
</tr>
<tr>
<td>S.C.</td>
<td>[-Sing]</td>
<td>[+Sing]</td>
</tr>
</tbody>
</table>

\[
\begin{array}{l}
\text{S.D.} \\
\quad [+N] \\
\quad [+III] \\
\quad [-Sing] \\
\quad \downarrow \\
\text{S.C.} \\
\quad [-Sing] \\
\quad [+ProAf] \\
\quad [+III] \\
\quad [-Sing] \\
\quad \downarrow \\
\quad [+ProAf] \\
\quad [+II] \\
\quad [+II] \\
\quad [+Sing] \\
\end{array}
\]
T.2 OBLIG SUBJECT PRONOMINAL PREFIX

B.1/33
L.1/71
LE.5/110
T.1/118

REFERENCE:
R.1/186
M.1/203

S.D. X [+N] [+ProAf] (S) Y VbNuc Aux Z (Comple)

1 2 3 4 5 6 7 8 9

S.C. 1 ø ø ø 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 on page 125.) 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 Ba'di verb is becoming apparent. At this point, two processes of affixing have taken place, giving the
sequence: [+ProAf] + VerbNucleus + Auxiliary. For illustration, the Nominal \( \text{\textbar} \) of Ex.66 (b) will be taken and will be 'built' into the sentence: \( \text{mi-lirma-gal} \text{\textbar} \) 

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:

\[ \emptyset \text{ Nom} \emptyset \text{ VbNuc} \text{ Aux} \emptyset \]

Lexicon:

Apply T.1:

S.D. for T.2:

Apply T.2:

Later Rules

\[ \text{mi-lirma-gal} \text{\textbar} \]
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 ṣand ḫi-mi-mi-na bawa

Question he-Intens-look about-Dist child

'Did the child look about thoroughly?'

Base Formatives: Question Nom INTENS VbNuc Aux φ

Lexicon:

Apply T.1:

S.D. for T.2:

Apply T.2:

Later Rules

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 re-united
in contiguous sequence as a condition to the operation of the 'Embedded Nominal Relator' transformation (T.18.2/179). 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

B.3/39
L.1/71
LE.5/110
T.1/118

REFERENCE:
R.3/192
M.11/232

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

¹ Footnote over page.
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 word order of Barēdi sentences is thus defined as V(erb) S(ubject) O(object). The free Object Nominal, as has been indicated, is very often deleted in the surface sentence.

1 (Footnote from the previous page)
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.

2 The positing of Barēdi 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: inēdinē āul = 'Āul came.' while āul inēdinē could be translated, 'It was Āul who came.' And, to illustrate a topicalised Object:
baraļu  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.
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) \([NP, S]\) \(VbNuc\) Aux \([NP, PredP]\)

\[gi\-\text{nigii-nim} \ amba \ \text{ir-}\text{onbu-} n- \ \text{id} \ \text{gulbu}\]

Those-Agent men they-send- did-them moneys

'Those men (the Government) sent those lots of money (money is unusually expressed in the plural) (to the pensioners).'

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

\[\text{ina-} \ \text{anga-na-} \ \text{na-yu} \ \ \text{na-yu-nim} \ \text{jana} \ \text{ma}\-\text{a}\]

He- take- did-me my-Agent my boss

\([NP, S]\) \(VbNuc\) Aux \([NP, PredP]\) Complement

\[\text{inu-} \ \text{nu} \-\text{lu-na-} \ \text{nya} \-\text{yu}\]

\[\text{nunu}\]

\[\text{he-} \ \text{put-} \ \text{did-me}\]

there

'He picked me up - my own boss - and put me down there (on the Reserve).'

c) \([NP, S]\) \(VbNuc\) Aux \([NP, PredP]\)

\[\text{bi} \-\text{gi} \-\text{bi-gi-nim} \ \text{in-ungol} \-\text{bu-gol-} \text{joryayu}\]

Pig-Agent he-chase- did-me

'The pig chased me this morning (Near Perfect),'

1 The \(n\text{im}\) is a clitic which is suffixed 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 an 'ergative' language and the \(n\text{im}\), the ergative case marker, after the definit-

(Continued two pages on, page 128)
Ex. 70  \textit{Inara-ma-na-na-r} \quad \textit{amb agal crañ}

They-put-Durat-did-them men and women

'They used to put those men and women (in tree-coffins).'

---

```
S
[B, 1]

NP
[B, 7]

PredP
[B, 3]

VP
[B, 4]

NP
[B, 7]

VbNuc

Aux
[B, 8]

Nom
[L, 1]

[T, 1]

+N
+[III -Sing]

[Nom
[L, 1]

VbNuc

Aspect
[L, 6]

Tense
[L, 7]

+N
+[III -Sing]

[T, 1]

Apply T.2 [(+ProAf] + m + a + Durat + Dist + [+ProAf] [-N] [+N]

and T.3:

Later Rules  \rightarrow \textit{Inara} + m + a + na + na + r \quad \textit{amb agal crañ}

\rightarrow \textit{Inaramananar} \quad \textit{amb agal crañ}
```
All finite Barđi 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 through-

(Footnote continued from page 126)ion of Hockett (1958:235) and as applied to Australian languages, for example, in Hale (1970), Dixon (1969:35) and (forthcoming:167) and Bolt et al. (1971:43). However, there are usages of nim which do not conform to the 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 Barđi, returned by that track. In the second sentence, the Person of Jesus Christ was emphasised:

Ex.71

a) wayibala-đini-nim  đagud  inir-i-ni  bila  gining  mor  
Whites-group of-Agent return they-Ø-did again that path 'It was the group of 'white' men who returned on that path.'

b) Jesus-nim  gidi  in-đibi-na-đugara  
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.
out Barđi. *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 (page 151). These functions almost certainly have an underlying semantic relationship in view of the Barđi fusion of qualitative and quantitative aspects of language. Illustration of this fusion was also provided by the uses of the Quantitative Adverb *midi* as discussed on page 58.

**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**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td><em>ina-∅-mar-iître</em></td>
</tr>
<tr>
<td></td>
<td>She-Sing-cook-did-them</td>
</tr>
<tr>
<td>b)</td>
<td><em>jan-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'I build it'</td>
</tr>
<tr>
<td></td>
<td><em>a-ra-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'We build it'</td>
</tr>
<tr>
<td></td>
<td><em>min-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'You build'</td>
</tr>
<tr>
<td></td>
<td><em>qu-ra-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'You all build'</td>
</tr>
<tr>
<td></td>
<td><em>in-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'He builds'</td>
</tr>
<tr>
<td></td>
<td><em>i-ra-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'They build'</td>
</tr>
<tr>
<td></td>
<td><em>an-mağa-nā-∅</em></td>
</tr>
<tr>
<td></td>
<td>'You and I build'</td>
</tr>
</tbody>
</table>

**Ex.73** Taking up the derivation of the verb in Ex.67 after the application of Rule T.2: (page 121)

- **S.D. for T.4:**
  - 1 + Number + 2
- **Apply T.4:**
  - 1 + Number + 2
- **Later Rules:**
  - *mi + ∅ + limmagal ġu* → *mili limmagal ġu*
Ex. 74  Taking up the derivation of the verb in Ex. 70, page 127, after the application of Rules T.2 and T.3:

\[
\begin{array}{c}
\text{S.D. for T.4:} \\
1 & 2 \\
\end{array}
\]

Apply T.4:

\[
\begin{array}{c}
1 + \text{Number} + 2 \\
\end{array}
\]

Later Rules

\[
\begin{array}{c}
\text{in} + \text{ara} + m+a+n+a+n+a+r \\
\end{array}
\]

\[
\rightarrow \text{ingaramananar}
\]
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 Bardi 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 Bardi 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 _PRIMARY_ 'to be frightened, afraid', as in:

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

\_u-o-g-arg-a-di_  (Note the discontinuous Projected Tense morpheme PRIMARY_)

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 ֜dir:

Ex.76
ŋa-ŋa-maŋara-na-na-֜dir
I-IntraAction-ignored-Durat-was-by them
'They kept on ignoring me.'

Thirdly, in this discussion of the nature of Baŋdi 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 on page 80. There is the verb b+An ṭ 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 on page 97. 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  nặng 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**

<table>
<thead>
<tr>
<th>intra-active</th>
<th>extra-active</th>
</tr>
</thead>
<tbody>
<tr>
<td>ηa-ŋ-ga-ŋalga</td>
<td>ηa-n-ga-ŋalga-r</td>
</tr>
</tbody>
</table>

'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 η. 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 ɨd.)

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, page 228.
Ex.78

a)  $\text{mi-\eta-gam-\eta\ddot{a}}$  
   You-Intra-laugh-did  
   Action  
   'You laughed.'

b)  $\text{mi-n-\eta-gam-\eta\ddot{a}-argayu}$  
   You-Extra-laugh at-did-me  
   Action  
   'You laughed at me.'

c)  $\text{mi-\eta-gam-ind-\eta\ddot{a}}$  
   You-Intra-laugh at-Retro-did  
   Action  
   Action  
   'You laughed at yourself.'

The complete paradigm of this verb, showing the three action types, is set out as Paradigm 4, pages 260ff.
T.5 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':

\[
\begin{align*}
\text{ga-n-umulbu-na-r} & \quad \text{'I made a loan to them.'} \\
\text{mi-n-umulbu-na-r} & \quad \text{'You made a loan to them.'} \\
\text{i-n-umulbu-na-r} & \quad \text{'He made a loan to them.'} \\
\text{a-n-umulbu-na-r} & \quad \text{'You and I made a loan to them.'}
\end{align*}
\]

Ex. 80 Derivational tree for verb (above): \( \text{nanumulbunar} \)

\[
\text{S.D. for T.5:} \quad 1
\]

Apply T.5: \[
\begin{align*}
1 & \quad + \quad \text{n} & \quad + & \quad 2 \\
\rightarrow & \quad \text{ga} & \quad + \quad \text{n} & \quad + \quad \text{mulb+u} & \quad + \quad \text{na} & \quad + \quad \text{r}
\end{align*}
\]

\[
\rightarrow \quad \text{nanumulbunar}
\]
T.6 OBLIG INTRA-ACTION

REFERENCE: M.3/211

S.D. X [+ProAf] + Y

1 2

S.C. 1 + η + 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 η 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)

na-q-umulgu-na 'I slept. '
mi-q-umulgu-na 'You slept. '
i-q-umulgu-na 'He slept. '
a-q-umulgu-na 'You and I slept. '

Ex.82 'Tree' for the first verb in Ex.81: ɡanuɡumulgu

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

Apply T.5: 1 η 2

Later Rules → ηe + η + mulgu + na → ɡanuɡumulgu

Later Rules
T.7 PRE-STEM TRANSFORMATIONS

T.7.1 OBLIG PRE-STEM PLACEMENT

REFERENCE: L.4.4/85

S.D. X [+ProAf]+Y+ [Pre-Stem(+Action Change), Z ] 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 on page 113 as [ lagakk, 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 on page 113 as [ yurr+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 ø-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  \[\text{lagal anarga\ñinga\l}\]

'We all went climbing this morning (Near Perfect).'

Base Rules:

```
Base Rules:

NP
[N, 7]

PredP
[B, 3]

VP
[B, 4]

VbNuc

Aux
[B, 8]

S
[B, 1]

Formatives:

Nom
[L, 1]

VbNuc

Aspect
[L, 6]

Tense
[L, 7]

Lexicon:

[-N]

lagal g+añ+i

Durat

Near

Perf

Apply T. 1 and T. 2

Applying T. 4:

Applying T. 6:

S.D. for T. 7.1:

Apply T. 7.1:

Later Rules

\[\text{lagal anarga\ñinga\l}\]
```
T. 7.2 OBLIG ACTION CHANGE L.4.4.3/91

REFERENCE:

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

1  2  3  4  5

S.C.  1  $  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' (page 86) 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 @ 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 @ 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.'

<table>
<thead>
<tr>
<th>Formatives:</th>
<th>Nom</th>
<th>VbNuc</th>
<th>Aspect</th>
<th>Tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexicon:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[-N] +III +Sing</td>
<td>yur+Action m+a</td>
<td>Durat</td>
<td>Dist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change</td>
<td></td>
<td>Perf</td>
</tr>
<tr>
<td></td>
<td>[-N] [+ProAf]</td>
<td>yur+Action m+a</td>
<td>Durat + Dist</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change</td>
<td></td>
<td>Perf</td>
</tr>
<tr>
<td></td>
<td>[+ProAf]+Number+</td>
<td>yur+Action m+a</td>
<td>Durat + Dist</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change</td>
<td></td>
<td>Perf</td>
</tr>
<tr>
<td>S.D. for T.7.2:</td>
<td>yur+Action [+ProAf]+n+Number+m+a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Later Rules:</td>
<td>1</td>
<td>∅</td>
<td>3 + n</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>yur</td>
<td>i+n+∅+m+a+na+na</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Without the operation of T.7.2, the following unacceptable form would have been derived: * yur inamanana
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 \textit{ināl}; the optional marker is the prefix \textit{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

\begin{align*}
\text{S.D.} & \quad X \quad [+ProAf] + n + Y + \text{Aux} + [+ProAf] \quad Z \\
& \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \\
\text{S.C.} & \quad 1 \quad 2 \quad n \quad 4 + \text{ināl} + 5 \quad \emptyset \quad 7
\end{align*}

\textbf{Condition:} \quad 2 = 6.

T.8.1.1 The \underline{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 (\textit{n}) to intra-action (\textit{a}). The significance of this change was discussed on page 133, 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 $in\ddot{a}j$ 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:

<table>
<thead>
<tr>
<th>Extra-active</th>
<th>Retro-active</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) $\eta-a\nu-m\nu-d\nu-na-o$</td>
<td>$\eta-a\nu-m\nu-\ddot{a}j-na$</td>
</tr>
<tr>
<td>I-Extra-wet-did-him</td>
<td>I-Intra-wet-Retro-did</td>
</tr>
<tr>
<td>Action</td>
<td>Action</td>
</tr>
<tr>
<td>'I wet him.' (Dist Perf)</td>
<td>'I wet myself.'</td>
</tr>
<tr>
<td>b) $mi-na-mara-ga\ddot{l}-\ddot{a}r$</td>
<td>$mi-\eta-mar-\ddot{a}j-gal\ddot{d}$</td>
</tr>
<tr>
<td>You-Extra-burn-did-them</td>
<td>You-Intra-burn-Retro-did</td>
</tr>
<tr>
<td>Action</td>
<td>Action</td>
</tr>
<tr>
<td>'You burnt them.' (Near Perf)</td>
<td>'You burnt yourself.'</td>
</tr>
</tbody>
</table>

**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  anqur-nurub-inda

Exclusive We-chase-Retro-will
Action

'We will race each other.'

Formatives:

Lexicon:

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


Apply T.2 and T.3:

Apply T.4 and T.5:

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

Condit: 2 = 6.

Apply T.8.1:

Later Rules → an+n+g+r+nurub+u+inda → arud  anqurnurubinda
T.8.2  OPTIONAL  RETRO-ACTION II

S.D.  X + Class + Y + inđi + 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, page 257ff)

a)  ipor-m-indows-indi-na

They-Retro-Intens-cover-Retro-did (Dist Perf)  Action  Action

'They covered themselves completely.'

b)  mi-qa-m-and-indi-n-ga!

You-Intra-Retro-scratch-Retro-Durat-did (Near Perf)  Action  Action

'You have been scratching yourself all morning.'

c)  i-qi-m-ilbir-ind-iď

It-Intra-Retro-echo-Retro-did (Mid Perf)  Action  Action  Action

'It echoed.'

From this point on, the abbreviations EA (Extra-action), IA (Intra-action) and RA (Retro-action) will sometimes be used.
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 on pages 41f.

T.9.1 OBLIG POTENTIAL

<table>
<thead>
<tr>
<th>S.D.</th>
<th>W</th>
<th>POTENTIAL</th>
<th>X</th>
<th>{n₀}</th>
<th>Y</th>
<th>Aspect</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

S.C. 1 0 3 1 5 0 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 ₀ (IA) by the Potential marker 1, suggesting an underlying relationship in Bardi 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, page 41 these modifications to the Auxiliary demonstrate the basic division of Bardi 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 *ṣurid* 'to paint':

<table>
<thead>
<tr>
<th>Indicative</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḥa-nu-ṣurid-iā-∅</td>
<td>ḥa-lu-ṣuridi-na-∅</td>
</tr>
<tr>
<td>I-EA-paint-did-it</td>
<td>I-Potential-paint-did-it</td>
</tr>
<tr>
<td>'I painted it.'</td>
<td>'I should have painted it.'</td>
</tr>
<tr>
<td>mi-nu-ṣurid-iā-∅</td>
<td>mi-lu-ṣuridi-na-∅</td>
</tr>
<tr>
<td>i-nu-ṣurid-iā-∅</td>
<td>u-lu-ṣuridi-na-∅</td>
</tr>
<tr>
<td>a-nu-ṣurid-iā-∅</td>
<td>a-lu-ṣuridi-na-∅</td>
</tr>
<tr>
<td>aḥ-uru-ṣurid-iā-∅</td>
<td>a-lu-ru-ṣuridi-na-∅</td>
</tr>
<tr>
<td>gu-urma-ṣurid-iā-∅</td>
<td>gu-lu-ru-ṣuridi-na-∅</td>
</tr>
<tr>
<td>iŋ-uru-ṣurid-iā-∅</td>
<td>u-lu-ru-ṣuridi-na-∅</td>
</tr>
</tbody>
</table>
T. 9.2 OBLIG NEGATIVE

S.D.  W NEGATIVE  \[X + \{n\} + Y + \text{Aspect} + Z\]

S.C.  1 ara 3 1 5 \(\phi\) 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, page 153.

Ex. 89

Indicative  Negative

a) gu-q-ur-ulugu-nan-r  ara gu-l-ur-ulugu-nana-r
You-Plur-clean-did-them  Neg you-Pot-Plur-clean-did-them

'bYou cleaned them.'  'You did not clean them.'

b) i-n-aj-\(\tilde{n}\)-\(\ddot{g}\)  ara u-l-aj-a-\(\ddot{g}\)
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.'

<table>
<thead>
<tr>
<th>Formatives:</th>
<th>Nom</th>
<th>NEG</th>
<th>VbNuc</th>
<th>Aspect</th>
<th>Tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexicon:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[-N]</td>
<td>[+ProAf]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply T.1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply T.2:</td>
<td>NEG</td>
<td>[+ProAf] + mili+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply T.4:</td>
<td>NEG</td>
<td>[+ProAf] + Number + mili+</td>
<td>+Aspect + Mid</td>
<td>Perf</td>
<td></td>
</tr>
<tr>
<td>and T.6:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.D. for T.9.2:</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Apply T.9.2:</td>
<td>ara</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Later Rules</td>
<td>ara</td>
<td>ŋa +</td>
<td>+</td>
<td>mili+</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>ara</td>
<td>ŋalimilina</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
T.10 INTENSIVE ACTION

T.10.1 OBLIG VERB STEM REDUPLICATION

<table>
<thead>
<tr>
<th>Condition: 3 does not include Pre-Stem.</th>
</tr>
</thead>
</table>

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-qulma-qulma-gal-ğargayu
   You-EA-Intens-frighten-did (Immed Perf)-me
   'You just gave me a terrible fright!'

b) u-q-g-alg-alg-a
   He-IA-will-Intens-fall-will
   'He will really fall heavily.'

c) qanda i-r-b-and-andama-nə (Note Partial Reduplication)
   Question they-Plur-Class-Intens-stumble-are
   'Are they still staggering about?'
T.10.2 OBLIG PRE-STEM REDUPLICATION

B.4.3/47
T.7.1/137

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)  yar-yar  in-ďu-na-na
    Intens-paddle he-∅-Durat-did (Dist Perf)
    'He kept on paddling hard.'

b)  bar-bar  īnar-a-na-ri
    Intens-knock about they-∅-did-you
    'They knocked you about badly.'

c)  ara ďali-ďali  gu-la-ra-ma-na-r
    Neg Intens-store up you-Pot-Plur-put-did-them
    'You did not store them up carefully.'
T.11 OBLIG INTRA-ACTION EMPHATIC

S.D. X Tense EMPHAT Y
1 2 3 4

S.C. 1 2 + \( \text{ir} \text{a} \text{n} \text{a} \text{r} \)# 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 \( \text{ir} \) or \( \text{a} \text{n} \text{a} \text{r} \) 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) 

\text{bugun} \text{in-in-ir} \\
Inside he is Emphat \\
'He is really inside.'
b) giñing gunđi 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-ābi-n-āgar · · īqir-mi-mili-n-āgar · · amburiñ · ·
He-die-did-Emphat They-Intens-wake up-did-Emphat people

īqar-ār-ar-ār-n-āgar · · banāra · ·
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 Bařdi verbs.
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 gi₃ngi, 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 labeled Inf I and Inf II respectively.

Ex.95

a) Text Line 52:

ara-ŋa  ma-lamang-a-n  gi₃ngi

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-⁠₂₃₁₀-ir  ajgudu  ţuru₃-go

They-threw-with-at him-them Left right-from
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**

B.2.2/36  
LE.1/109

**REFERENCE:**

<table>
<thead>
<tr>
<th>S.D.</th>
<th>X</th>
<th>ᵃⁿᵃᵈᵃ</th>
<th>Y + Aux</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

| S.C. | 1 |        | 3 + ᵃᵈᵃ | 4 |

T.13.1  ᵃⁿᵃᵈᵃ  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 Bardi verb morphology is that, as an optional alternative, they may be expressed by replacing ᵃⁿᵃᵈᵃ with the suffix ᵃᵈᵃ suffixed to the Auxiliary. Like other Bardi grammatical markers, such as ᵃᵐᵇᵃ, the Sequential Conjunction affix and ᵃᵇᵃ, the Relator (see pages 63 and 176), this Question suffix can occur in almost any position and can be used to 'question' any part of speech.

**Ex.97**

a)  ᵄᵍᵃ⁻ᴺⁱᵐ⁻ᵃᵈᵃ  
Sickness-Agent-Question

'Has the sickness been acting?' = "Do you feel ill?"

b)  ᵃᵈᵃʳᵍᵃˡ⁻ᴳⁱᵈ⁻ᵃᵈᵃ  
 Truly-Intensifier-Question

'Is that really true?'

c)  ᵃⁿⁱʳᵃ⁻ᴳᵘᵈ⁻ᵃᵈᵃ  
 How-Qualitative-Question

'How is everything going?"
d) dingi-on-aďa  aďa

Dingey-in-Question to us

'Are we going in the dingey?'

The following example provides illustration of the alternative use of \( nanda \) and \( aďa \) in conjunction with verbal expressions.

Ex. 98

a)  
\[ nanda \; mi-laba-n \; nuru \rightarrow milaban-aďa \; nuru \]

Question you-have-do fire

'Do you have any matches?'

b)  
\[ nuriđi \; nanda \; ar-alal-a-gayu \rightarrow nuriđi \; aralal-aďa-gayu \]

Tomorrow Question you-follow-will-me

'Tomorrow, will you all follow me?'

c)  
\[ nanda \; dar \; ung-ar-a \rightarrow dar \; ungar-aďa \]

Question arrive he-ď-will

'Will he arrive?'

It is even possible for the \( aďa \) to be suffixed to the Pre-Stem instead of the Auxiliary. Thus, Ex. 98(c) could also be expressed: \( dar-aďa \; ungara \).
T.14 OBLIG IMPERATIVE

B.2.3/37
L.7.2/102

REFERENCE:
M.1.2/204

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

S.C. Ø 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.14.1 In a full grammar both the Question and Imperative sentence-types would be distinguished from the Indicative by an intonation feature.

T.14.2 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 ñ-a: lg-a ar-ɔn baðag.
You over there you-hide-Imperat another-in tree

in-ðu-n-ini. ñu bu nu 1ul ñ-a: lg-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!"
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 Dative and Ablative expressions (T.15.2).

<table>
<thead>
<tr>
<th>T.15.1</th>
<th>OPTIONAL</th>
<th>ASSOCIATIVE SUFFIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.10.1/60</td>
<td>B.10.2/61</td>
<td></td>
</tr>
<tr>
<td>REFERENCE:</td>
<td>R.3/192</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.D.</th>
<th>X Aux Y [+N] [+ProAf] {Instrument Comitat}</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

T.15.1.1 Nominals standing as the head of a postpositional phrase would have undergone the first transformation, the output of which is represented 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 \( \oplus \) 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 Bařdi, like English, makes this link between the Comitative and Instrumental. In English, the same surface preposition 'with' expresses both. In Bařdi, although the postpositions differ (the Comitative postposition is \( \ddot{\text{h}}\text{ar} \)), both can be expressed by the same Associative Suffix morpheme \( \oplus \). 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.

\textit{Ex.100}

a) \( \text{ŋang-\text{i}diŋ-a-ŋ-ir-\oplus} \)

I-touch-will-with-them-her

'I will touch her with them.'

b) \( \text{inu-mundu-na-na-ŋ-\oplus-\text{dargayu}} \)

He-wet-Durat-did-with-it-me

'He kept on wetting me with it.'
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.

They-Intens-cover-did-with-them-it leaves-with leaves-with 'They covered it thoroughly with many leaves.'
Ex. 102 The Associative Suffix in relation to Comitative postpositional phrases:

a) dar ḡar-anac-ŋ-ir
   Come they-did-with-them
   'They (the people) came with them (the children).'

b) ḡ ara-ma-na-ŋ-ḏarmud u-ŋ i:la
   They-place-did-with-us-it dog
   'They left the dog with us.'

c) ir bir ar ḡ ir-l-ni-ŋ-ir-ŋ
   They leave behind they-ŋ-did-with-them-him
   'They left him (the initiand) behind with them (the group of older men).'
T.15.2  OPTIONAL  REFERENTIAL SUFFIX

REFERENCE:

B.10.3/61
B.10.4/62

R.5/195
M.11/232

S.D.  X  Aux  Y  [+N]  [+ProAf]  {Dative
              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 Dative 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 postpositional phrase must be marked as
[+Animate].  Thus, for example, a Dative phrase in which
the Nominal is a place name would not activate the transform-
ation.

T.15.2.3  The second Condition blocks the transformation if a
first or second person Object pronominal suffix occurs bet-
ween 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.

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.

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 Dative 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 Dative morpheme is ġaŋ.  

Ex.103 (Text Verbs 54, 86 and 87):  
a) ġiŋir  in-ū-na-din  
Peep he-∅-did-at him(Refer)  
'He peeped at him.'

b) ī-maŋi-n-gal-ārān  īn-ū-na-diŋ  
He-wave-Durat-just did-at me he-say-did-to them  
"He kept on waving at me just now!" he said to them.

1 C.f. the Wik-munkan 'Referent-benefactive Suffix' in Godfrey (1970:747) for a close parallel.
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:

\[ \text{ala-\text{n}a, wi:n in-\text{d}u-na-\text{d}iri, a} \text{1} \text{na-mara-na-\text{d}iri-} \emptyset \]

Children-for coaxe he-\emptyset-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 \( \text{(\() \) \( \text{)} \) 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 Bardi, without a surface passive construction, the Ablative is used.

Ex. 105

a) \[ \text{in-d\text{a}lgi-na-\text{d}aga \text{ digi-nim} } \]
He-hide-did-from us Dickie-Agent

'Dickie hid from us (after stealing the eggs).''

b) \[ \text{gan-dargi-gal-\text{d}irin } \]
I-frightened-was just-from him

'I was just now frightened by him.'

c) \[ \text{iga-mangara-na-\text{d}ir } \]
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) \text{in-\text{d}ulu\text{\-}na-d\text{-}in-ir} \quad \text{gari}
   
   He-bring-did-for him-them alcohol
   
   'He brought those (bottles of) liquor for him.'

b) \text{in-\text{g}ulu-n-\text{d}an-ir}
   
   He-throw-is-for me-them
   
   'He is throwing in those (bets) for me (in a card game).'

c) \text{\text{\text{\text{n}}}an-\text{\text{\text{d}}}uguru-n-\text{\text{\text{d}}}ow-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 related transformations will now be formulated under T.16.1 and T.16.2.

T.16.1 OBLIG TIME ADVERB/AUXILIARY AGREEMENT

REFERENCE:

S.D. X + Tense Y Time Z

1 2 3

S.C. 1 2 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 \( \delta \) marker.

Ex.107 Take the ungrammatical sentence:

* \( \text{gurid} \) in-\( \text{idin-} \)

Tomorrow he-go-did (Dist Perf)

*'Tomorrow he went.'

During its derivation, the following stage would be reached:

\[ [+\text{ProAf}] + \underline{\text{q}} + \text{Number} + \underline{\text{id}+\text{i}} + \text{Aspect} + \text{Tense} \times \text{Time} \]

\[ [+\text{Dist}][+\text{Proj}] \]

At this point the transformation would block further derivation through lack of agreement between verb Tense and Time adverb.
If, however, the adverb *nurič* [+Proj] were to be replaced by the adverb *milon* [+Dist] then the derivation could proceed. The line in the derivation on the previous page would then read: [+ProAf] + ő + Number + i+i+id+i + Aspect + Tense + Time [+Dist][+Dist]

Later Rules → [i+ŋ+ø+id+i+i+ø+nás] milon

→ milon inãidina

'Long ago, he went.'
T. 16.2  OBLIG  'THEM' DELETION

B.9.2/58
LE.3.2/109

REFERENCE:

S.D.  W  Aux  +  X  +  [+ProAf]  +III  -Sing  Y  nidi  Z

1  2  3

S.C.  1  Φ  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 dir is deleted.

Ex.108

ma|gal | iru-lu||a-n-ga|l-Φ

Wild grapes they-gather-Durat-did-'them' deletion Quantit

agal gulu|ngulu|wara | iru-lu||a-n-ga|l-Φ

Conj 'Makabala' fruit they-gather-Durat-did-'them' deletion

nidi gaya|ra-āni|ni|m 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.

T.17.1 OPTIONAL SEQUENTIAL CONJUNCTION

**S.D.**

```
S_1 {amba \underline{damba}} S_2 [ X + Aux \underline{Y} ] S_2
```

```
1 2 3 4
```

**S.C.**

```
1 2
```

```
3+ amba 4
```

T.17.1.1 If the Sequential conjunction \{amba \underline{damba}\} 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 damba. 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:**

\[ \text{S}_1 \{ \text{lagal } \ddagger \text{amba \ } \eta-a:n-a \cdot \cdot \cdot \} \text{S}_1 \quad \text{S}_2 \{ \text{na-landamba } \text{gandi} \} \text{S}_2 \]

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) \[ \text{S}_1 \{ \ddagger \text{an-aya-åir-ä} \quad \text{dingi } \text{bağa } \text{bun-amba} \} \text{S}_1 \]

This you-take-for them-it dingey off over there-Sequ

\[ \text{S}_2 \{ \text{an-argamba-åir} \} \text{S}_2 \]

You-pick up-Sequ-them

"You take this dingey off over there for them and then you pick them up."

c) \[ \text{S}_1 \{ \ddagger \text{dígir } \ddagger \text{amba } \text{ar-i-åir} \} \text{S}_1 \text{S}_2 \{ \text{gång } \text{ar-ayamba-åaga-ä} \} \text{S}_2 \]

Peep Sequ you-å-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) \[ \text{S}_1 \{ \text{bun-amba } \text{did } \text{in-åu-na} \} \text{S}_1 \text{S}_2 \{ \text{ara } \ddagger \text{amba } \text{ular-ala-na-ä} \} \text{S}_2 \]

Further-Sequ run he-ä-did Neg Sequ they-see-ä-did-him

"He ran on further and they did not see him (again)."
b) \( S_1 [\text{in-} \text{dargi-namba} \text{ gining bawa}] S_1 S_2 [\text{dagud} \text{ damb in-du-nal}] S_2 \)

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.
Puroposive conjunction may be expressed either by relating two sentences through the use of arindī-nan (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.

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 [n] if it occurs.

The Puroposive conjunction (element 2) is deleted.

This construction is similar to 'Infinitive of Purpose' constructions in other languages such as English and Greek and it will be termed the Bardi 'Infinitive'.
As stated on page 154, the prefix \textit{ma} will be labelled Inf I, and the suffix \textit{n} will be labelled Inf II.

T.17.2.4 Although the Dative postposition \textit{nan} 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 Dative is commonly used to express Purpose as in the following example:

\textbf{Ex.111} \textit{in-đidi-n ariana buru-nan}  
\textit{He-go-did Ariana kangaroo-for}  
'Ariana (the Eagle-hawk) went off for kangaroo.'

The following example illustrates the 'Infinitive of Purpose' construction:

\textbf{Ex.112} (Methods of divining the identity of a murderer):

\begin{enumerate}
\item[a)] 
\textit{S}_1 [\textit{ir-alala-n-ir} \quad \textit{giñana} \quad \textit{mawan}]_{S_1} 
\text{They-watch over-do-them those hair relics}
\textit{S}_2 [\textit{mi\textasciitilde{r}urunu-nim-nan} \quad \textit{m-a\textasciitilde{i}-a-n} \quad \textit{balabu}]_{S_2} 
\text{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.'

\item[b)] 
\textit{S}_1 [\textit{ga\textasciitilde{a}gaga ba\textasciitilde{g}aga di\textasciitilde{r}bir-b-ira-ma-n-ir}]_{S_1} 
\text{Short sticks stand up-Relat-they-put-do-them}
\textit{S}_2 [\textit{jawal-nan} \quad \textit{ma-yu\textasciitilde{r}-a-n} \quad \textit{giñana di\textasciitilde{r}ara-nim}]_{S_2} 
\text{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.'
\end{enumerate}
Where the dependent verb stands alone as the dependent sentence, the Dative postposition aña can be suffixed to it.

**Ex.113**

a) In this instance, the Infinitive of Purpose occurs with the Retro-action morpheme indī.

\[ S_1 [bañi-gara liyan min-ma-n ūu-nim] S_2 [ma-gurub-indī-n-aña] \]

What-time want you-do you-Agent Inf-chase-RA-Inf-for

'I at what time do you want for us to race against each other?'

b)  

\[ S_1 [bii niñir-i-na-dīr manga-nim ambiřīn] S_1 \]

Make trouble they-did-for them black-Agent people

\[ S_2 [m-ōnā-a-ña-gan] S_2 \]

Inf I-spear-TransitV-Inf II-for

'The Aboriginal people went to make trouble for them (two Europeans engaged in shelling) - to spear them.'
The ubiquity of Bardi postpositions, clitics and particles has been mentioned from point to point. The Relator $\{ b_{\text{ba}} \}$ is the most versatile in this respect. It can be used to relate almost any two parts of speech, or words to larger to larger constructions, or sentence to sentence. The following illustration gives a limited overview of its functions.

**Ex.114** Examples of relation:

a) **Noun to noun**

\( \text{jiwara-bamba} \)

Dead man-Relator-man

'The man who was a corpse.'

b) **Noun to adverb**

\( \text{iwala-nimi gi\text{"i}ningi baw-ara-b} \)

Uncle-Agent that child-time-Relator

'At the time of that uncle's childhood.'

c) **Noun to pronoun**

\( \text{gulu-ba-\text{"i}ir} \)

Fathers-Relator-their-them

'Those (men) who were their fathers.'

d) **Adjective to pronoun**

\( \text{lugal-ba-\text{"i}ir} \)

Bad-Relator-them

'Those who were bad.'

e) **Postpositional phrase to pronoun**

\( \text{gara-yunu-ba-\text{"i}ir} \)

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.
T.18.1 OPTIONAL TEMPORAL RELATOR

S.D. \[ \text{S}_1 \{ \text{maraba} \} \] \[ \text{S}_2 \{ \text{X + Tense + Y} \} \] \[ + \text{Dist} \] \\
\[ 1 \] \[ 2 \]

S.C. \[ 1 \] \[ 2 + \text{b#} \]

T.18.1.1 The Temporal conjunction \{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

\[ S_1 \{ \text{ir-nim} \ \text{ambur} \text{i} \text{n} \ \text{gala} \ \text{in} \text{g} \text{a-la-na-ir} \} \]

Those-Agent people Affirmative they-see-did-them

\[ S_2 \{ \text{qi} \text{ñi} \text{ng la} : \text{ga} \ \text{i} \text{ña} \text{-l} \text{anda-na-b} \ \text{ñun} \text{u} \} \]

That lugger it-anchor-did-Relator there

'Yes, those (Bařdi) people saw them when that lugger anchored there.'
b) \[\text{̌d̃ráda ̌d̃l ̌ǎl ľǧľř-ľň-ľn} \] \(S_1\)

Here your meat they-say-did-to him

\[\text{̌ľň-d̃ǎľǎ-ň-b̌ ̌ľř-m̌ǎľǎ} \] \(S_2\)

He-see-did-Relator their-hands

\[\text{̌d̃ľň ̌ǐǧǎř-ǎ-ň-b̌ ̌b̌ǎľǐľľ} \] \(S_3\)

Point at they-Ø-did-him-Relator initiated

"Here is your meat!" they said to him (a malevolent spirit) when he saw their hands as they pointed to the initiated."
T. 18.2  OPTIONAL  EMBEDDED NOMINAL RELATOR  B.7.2/54

REFERENCE:

\[
\begin{align*}
\text{S.D.} & \quad S_1 \left[ \text{W Nom } S_2 \left[ \begin{array}{c}
X \text{ (Pre-Stem) } [+ProAf] + Y \left[ +N \right] Z \end{array} \right]_{S_2} \right]_{S_1} \\
1 & \quad 2 \quad 3 \quad 4 \quad 5 \quad 6
\end{align*}
\]

\[
\text{S.C.} \quad 1 \quad 2 \quad 3 \quad \text{ba} + 4 \quad \emptyset \quad 6
\]

**Condition:** 2 is co-referential with 5.

T.18.2.1 The Embedded Nominal Relator transformation produces the Bardi 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 $\rightarrow$ Nom (S)].

The Nominal of the primary sentence is element 2 in the S.D. Its 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 to 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:

S₁ [in-ðu-n-in ara-nim] S₂ [gulb-un b-ŋ-a-na-na] S₂
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:

S₁ [amba-nim ara ular-ala-na-r gayara-ðini] S₁
Men-Agent Neg they-see-did-them 'whites'-group of

S₂ [ðiba b-arat inji-i-na] S₂
There Relat-standing they-∅-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.

S₁ [ŋun in-a-n-∅ angumundu amba] S₁
There he-give-did-it right past to man

S₂ [bayibirũ b-ŋ-a-na-na] S₂
Behind Relat-he-be-Durat-Dist

S₃ [balili b-in-ungundunduma-na-na-∅] S₃
Initiand Relat-he-hold tight-Durat-Dist

'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

S.D. \[ X + [+PrAf] \ Y \]
     \[ 1 \quad 2 \]

S.C. \[ 1 + ba + 2 \]

Condition:  1 does not include either the Sequential conjunction suffix \textit{amba} or the Associative suffix \textit{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.

\textbf{Ex.117}

a) Relator in conjunction with an Object suffix:
\[ īɡor-ɔŋi-na-na-ba-1ir \]
They-kill-Durat-Dist-Relat-them
'They used to kill them.'

b) Relator with a Referential suffix:
\[ ɪŋa-lamanga-na-ba-ðin \]
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 Transformational 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 Barði 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, page 116 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 Negative 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 anar interchangeably.

The Realisation rules are concerned with the balance of transformationally 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), the 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 ḍōwə.

Ex.118 takes up the output of Ex.86, page 142 after the application of the T-rules to illustrate the discussion of the Realisation sub-component: (verb derivation only)

\[
\text{arud} \quad \text{angur-ŋurub-īnd-a}
\]

Exclusive we-chase-Retro-will Action

'We will race each other.'

\[
[+\text{ProAf}] + \eta + \text{Number} + \text{ŋurub} + u + \text{indī} + \text{Aux} [+\text{Proj}]
\]

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 \(\eta\) (Intra-action) and the \(\text{īndī}\) (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 \(\text{ən}\) (R.1); Number is realised as \(\text{r}\) (R.4); and Auxiliary, as the prefix \(\eta\) and the suffix \(\text{ə}\) (R.2). This gives the sequence of fully realised morphemes: \(\text{ən}+\eta+\text{q+r+ŋurub+u+indī+a}\) which, after the operation of the Morphophonemic rules, becomes \(\text{aŋgurŋurubīndā}\).

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.\(^1\)

\(^1\) (Footnote over page)
Chomsky, in the defence of the 'lexicalist' position that 'all lexical insertion rules precede any nonlexical transformations' (1969:50), 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.\textsuperscript{2} 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.

\textsuperscript{1} (from previous page)

Dutton, for instance, in his study of the Papuan language 'Koiai', 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.

\textsuperscript{2} 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  SUBJECT PRONOMINAL PREFIX

\[+\text{ProAf}\]

\[
\begin{array}{c|c}
+I & na \\
+\text{Sing} & \\
+II & mi \\
+\text{Sing} & \\
+III & i \\
+\text{Sing} & \\
+\text{Dual} & a \\
+\text{Inc}_{\text{Exc}} & an \\
+II & g\text{un} \\
-\text{Sing} & \\
+III & i\text{n} \\
-\text{Sing} & \\
\end{array}
\]

\[+\text{X}+\text{VbNuc}\]

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.

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 \[b\], 'to drink' is presented as it would appear after the operation of the transformational rules, followed by its surface realisation with the Subject prefix forms hyphenated:

(Over)
For identification of morphemes, the first verb, ṇa-ni-bi-d will be set out in detail:

'I drank it (yesterday).'</nations
R.2  AUXILIARY

R.2.1

\[
\begin{align*}
[-\text{Perf}] & \quad \rightarrow \quad \begin{bmatrix} a \end{bmatrix} \\
[+\text{Durat}, -\text{Perf}] & \quad \rightarrow \quad \begin{bmatrix} n(\dd) \end{bmatrix} \\
[-\text{Definite}] & \quad \rightarrow \quad \begin{bmatrix} a \end{bmatrix} \\
[+\text{Contemp}] & \quad \rightarrow \quad \begin{bmatrix} gal(\dd) \end{bmatrix} \\
X + [+\text{Durat}, +\text{Contemp}] & \quad \rightarrow \quad \begin{bmatrix} ngal(\dd) \end{bmatrix} \\
[+\text{Middle}] & \quad \rightarrow \quad \begin{bmatrix} i\dd \end{bmatrix} \\
[+\text{Durat}, +\text{Middle}] & \quad \rightarrow \quad \begin{bmatrix} in\dd \end{bmatrix} \\
[+\text{Distant}] & \quad \rightarrow \quad \begin{bmatrix} na \end{bmatrix} \\
[+\text{Durat}, +\text{Distant}] & \quad \rightarrow \quad \begin{bmatrix} nana \end{bmatrix}
\end{align*}
\]

Condition: X does not include the Potential morpheme $\downarrow$ .

R.2.2

\[
X + \text{Number} + Y \quad \rightarrow \quad X + g + \text{Number} + Y / +\text{Tense} \quad [+\text{Proj}]
\]

Condition: X does not include the Potential morpheme $\downarrow$ .

R.2.3

\[
\begin{align*}
X + \downarrow + Y + \\
\begin{cases} [+\text{Contemp}] \\
[-\text{Definite}] \\
[+\text{Dist}] \end{cases} & \quad \rightarrow \quad \begin{bmatrix} na \end{bmatrix} \\
\begin{bmatrix} a \end{bmatrix} & \quad \rightarrow \quad \begin{bmatrix} nana \end{bmatrix}
\end{align*}
\]
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:

(i) 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 (\( \text{[i-\( \ddot{d} \)]} \rightarrow \text{[i-\( n-\ddot{d} \)]} ), and it attracts the vowel \( a \) in the Distant Perfect Tense (\( \text{n+na} \rightarrow \text{na-na} \)).

(ii) It underlines the relationship between Aspect and Tense in Bağdi. 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 \( \text{nana} \) (see page 107).

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 Perfect - share the same suffixes and, as with the Imperfects, are distinguished by their prefixes.

Ex.120

\[ \text{ir-unduru-gal\( \ddot{a} \)-\( \emptyset \)} \]
\[ \text{igur-unduru-gal\( \ddot{a} \)-\( \emptyset \)} \]

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 distinguishes Present from Projected forms in conjunction with other morphophonemic changes to the prefix structure.

Ex.121

a) $\eta\eta\eta-$unduru-n$\tilde{a}$-$\emptyset$  
   I-cross-Durat Pres-it 
   'I am crossing it.'

b) a-$r$-unduru-n$\tilde{a}$-$\emptyset$  
   We-Plur-cross-Durat Pres-it 
   'We are crossing it.'

Before discussing the third sub-rule, R.2.3, the first two sub-rules will be illustrated together:

Ex.122

a) $u\eta$-$g$-ir-mili-$a$ 
   'They will wake up.'
   They-Proj-Plur-wake-Proj

b) ir-mili-$n\tilde{a}$ 
   'They are waking up.'
   They-wake-Durat Pres

c) i$g$ir-$mili$-$a$ 
   'They woke up (sometime in the past).'
   They-wake-Indefinite Perf
d) \textit{ir-milli-n-gaïd}  
\textit{They-wake-Durat-Immed}  
'They have just been waking up.'

e) \textit{injir-milli-n-gaïd}  
\textit{They-wake-Durat-Near}  
'They kept waking up (this morning).'

f) \textit{injir-mil-iï}  
\textit{They-wake-Mid}  
'They woke up (yesterday).'

g) \textit{injir-milli-na-na}  
\textit{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 \textit{a} . The Near, Immediate, Middle and Indefinite Perfects are marked by \textit{na} . The Distant Perfect is marked by \textit{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 \textit{q} does not apply to Irrealis verbs, and because of the operation of the Rules M.1, page 203 and M.3, page 211.

\textbf{Ex.123} (Negating the verbs given in \textbf{Ex.122}):

a) \textit{ara} \textit{i-1-ir-mill-a}  
Neg they-Pot-Plur-wake-[+Contemp]  
'They will not wake up.'

\textit{Neg} they-Pot-Plur-wake-[+Definite]  
'They did not wake up (Indefinite past) .'

b) \textit{ara} \textit{i-1-ir-mili-na}  
\textit{Neg they-Pot-Plur-wake-[+Mid]}  
'They did not wake up (yesterday).'

\textit{Neg} they-Pot-Plur-wake-[+Definite]  
'They did not wake up (Indefinite past) .'

c) \textit{ara} \textit{i-1-ir-mili-nana}  
\textit{Neg they-Pot-Plur-wake-[+Dist]}  
'They did not wake up (long ago).'

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. 

R.3.2 As previously stated, the Object suffixes are related to the Personal free pronouns, repeated here for comparison:

\[ [+I,+Sing] \quad \gamma yu \]
\[ [+II,+Sing] \quad \ddot{a}u \]
\[ [+III,+Sing] \quad gi\ddot{i}ing\ddot{i} \]
\[ [+Dual] \quad ayu \]
\[ [+Exc] \quad arudu \]
\[ [+II,-Sing] \quad gur \]
\[ [+III,-Sing] \quad ir \]
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. (See page 234)

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:

For identification of morphemes, the first verb, \textit{inimbinanayu} will be set out in detail:

\[ \text{He-EA-Sing-Class-hit-did-me} \]
\[ 'He hit me (some time ago).' \]
R.4  NUMBER PREFIX

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 accommodate either the Action Type morpheme or the Potential morpheme.

Ex.125  Contrasting singular and plural, using the verb \( m\text{i} \) 'to look around'.

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>ga-( \varphi )-mi-( n\ddot{a} )</td>
<td>a-( r )-mi-( n\ddot{a} )</td>
</tr>
<tr>
<td></td>
<td>I-Sing-look around-Pres</td>
<td>We-Plur-look around-Pres</td>
</tr>
<tr>
<td></td>
<td>'I am looking around.'</td>
<td>'We are looking around.'</td>
</tr>
<tr>
<td>b)</td>
<td>i-( \eta )-( q )-mi-gal</td>
<td>( \eta )-ir-mi-gal</td>
</tr>
<tr>
<td></td>
<td>He-IA-Sing-look around-Near</td>
<td>They-Plur-look around-Near</td>
</tr>
<tr>
<td></td>
<td>'He looked around (earlier).'</td>
<td>'They looked around (earlier).'</td>
</tr>
<tr>
<td>c)</td>
<td>mi-li-( \varphi )-mi-( na )</td>
<td>qu-li-ri-mi-( na )</td>
</tr>
<tr>
<td></td>
<td>You-Pot-Sing-look around-did</td>
<td>You-Pot-Plur-look around-did</td>
</tr>
<tr>
<td></td>
<td>'You (sing) should have looked around.'</td>
<td>'You all should have looked around.'</td>
</tr>
</tbody>
</table>
### R.5 REFERENTIAL SUFFIX

<table>
<thead>
<tr>
<th>Rule</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ProAf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Refer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+I</td>
<td>+Sing</td>
<td>ɗan</td>
</tr>
<tr>
<td>+II</td>
<td>+Sing</td>
<td>ɗi</td>
</tr>
<tr>
<td>+III</td>
<td>+Sing</td>
<td>ɗin</td>
</tr>
<tr>
<td>+Dual</td>
<td></td>
<td>ɗɔwɔ</td>
</tr>
<tr>
<td>+{Inc}</td>
<td>+{Exc}</td>
<td>ɗada</td>
</tr>
<tr>
<td>+II</td>
<td>-Sing</td>
<td>ɗugara</td>
</tr>
<tr>
<td>+III</td>
<td>-Sing</td>
<td>ɗir</td>
</tr>
</tbody>
</table>

**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] ɗana
- [III,+Sing] ɗiya
- [+III,+Sing] ɗina
- [+Dual] ɗɔwɔ
- [+{Inc}]{Exc}] ɗada
- [+II,-Sing] ɗugara
- [+III,-Sing] ɗira

**R.5.2** The Referential suffixes may later be modified through Rule M.11.
Ex. 126  The Projected Imperfect of the verb ą+dalq, 'to hide', using a third person singular Subject in conjunction with the Referential pronominal suffixes:

For identification of morphemes, the first verb, ungalgadan will be set out in detail:

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 form of the verb as: ungalgadan.

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 Bardi verbs. The presentation will be based upon the phonemic orthography set out on page 26. A generative phonology of Bardi 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 concatenated morphemes, many of which will modify or be modified by their environment. Five phonological processes underlie almost all the morphophonemic rules which have been formulated to account for these modifications within Bardi verbs.

4.1.1 Assimilation

Morphophonemic Rules 8.2 and 10 demonstrate the process of Assimilation to the point of articulation. By M.8.2, page 229, the ṇ is modified through assimilation to a contiguous Class marker. It becomes n before a ḫ, and m before a b. Thus ṇaŋ+ḏa|gugaḷa is re-written as ṇanda|gugaḷa and ṉ+bi|giṇa is re-written as imbi|giṇa. That is, assimilation to the alveolar and bilabial points of articulation respectively.
4.1.2 Cluster Reduction

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 Barði word. 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 $nr$, $nð$, $nl$ and $nl$ do not occur in any Barði word. With these sequences, the $n$ is simply deleted. Thus, $\text{gan+nand}$ becomes $\text{gañand}$, and $\text{min+umagaldir}$ becomes $\text{milumagaldir}$.

By M.12.3, certain initial members of vowel clusters are deleted. Thus, $\text{mindayayana+ada+ir}$ is rewritten as $\text{mindayayana+aqdir}$.

---

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 14 footnote 1, above).

This is particularly relevant to the view of the present study of the Barði 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.
4.1.3 Transition

'Cluster reduction' and Transition are complementary in their operation. They appear to be alternative solutions to the problem which 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, \( \text{ono+ar} \) becomes \( \text{onowar} \) and \( \text{ Ini rija+in} \) becomes \( \text{ini ri jai n} \).

In the case of contiguous consonants, 'epenthetic' vowels are introduced through M.7. By it, \( \text{al+r+mananar} \) is written as \( \text{alaramanaran} \).

4.1.4 Vowel Harmony

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 \( z \) phoneme, the influence of vowel harmony extends to the pronominal prefix where the vowel of the prefix is an \( a \). Thus, by M.9, \( \eta ng+\eta ng i n a \) is rewritten as \( \eta ng ng ng i n a \).

---

1 In rapid speech, vowel harmony has an even wider influence. In Text Verbs 8 and 9 it extends to the Auxiliary. Thus, \( \text{inurulurun} \) is \( \text{inurulurunu} \) and \( \text{inirina} \) is \( \text{ini rin} \).
4.1.5 Metathesis

Metathesis - a reversal in morpheme order - occurs twice in Bari 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, \( \text{a+}n+\text{mul}g\)a to be written as \( \text{a}+\text{mul}g\)a. The second modification is introduced by M.11.3.1 by which the combination \( \text{jin+r} \) would be written as \( \text{dirin} \).

4.2 Other Factors

In addition to these five processes which underlie most of the Bari 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 the tendency found in many languages to shorten the most common expressions of command. For instance, the Bari for 'they will sleep' is \( \text{ungur}+\text{mul}g\)a. If the second person plural were to be realised without the intervention of Rule M.1.2.1, its form would be \( \text{ungur}+\text{mul}g\)a. However, the present form has been abbreviated to \( \text{a}+\text{rmul}g\)a.

Another area in which forms have been abbreviated over time and through intensive use is that of the 'Irregular Verbs'. 
As mentioned in Section 6.1, page 263, where these verbs have been presented in paradigm form, it is the most used tense of the most common verbs which have been modified. For instance, the Present Tense (and, with this verb the Projected Tense) of the verb \( q+a \) 'to walk' has 'lost' its Auxiliary. The 'regular' derivation of the third person singular forms would be *ungala* (Projected) and *ingalanđ* (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 \( q \) without which, a number of the Present and Projected forms would be identical. (See Section R.2.2.1, page 190)

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-mulungalđ* 'They were sleeping just a moment ago' and *inur-mulungalđ* '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 common 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, (...) (...) 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:

\[(...)\bar{a}(...) \rightarrow (...)\bar{c}(...) \big/ \big/ \big/ +X+\bar{c}(...)\]

[VbS]

The vowel \(\bar{a}\), whenever it occurs before a Verb Stem which is \(\bar{o}\)-initial, is written as \(\bar{c}\).

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:

\[C + C \rightarrow C + V_1 + C \big/ \big/ \big/ +X+(...)V_1\]

[VbNuc]
M.1 SUBJECT PREFIX MODIFICATION

M.1.1 THIRD PERSON

The \( i(\ldots) \) is either the third person singular pronominal prefix \( i \), or the third person plural prefix \( in \) (in which case the 'three-period' convention stands for the \( n \)).

Whenever \( i \) occurs before the Potential morpheme \( _1 \) or in a verb in the Projected 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:

\[
\begin{align*}
i & + n + g + \phi + m + a + a + \phi \\
i & + n + g + r + m + a + a + \phi \\
\end{align*}
\]

He-EA-Proj-Sing-put-TV\(^1\)-Proj-it \quad They-EA-Proj-Plur-put-TV-Proj-it

'He will put it (there).' \quad 'They will put it (there).'

Apply M.1.1: \quad \begin{align*}
u & + n + g + \phi + m + a + a + \phi \\
u & + n + g + r + m + a + a + \phi \\
\end{align*}

Later Rules \quad \rightarrow \quad \text{ungama} \quad \text{ungarama}

\(^1\) 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:

\[
\begin{align*}
| l+| r+m+a+nana+\varphi & \quad | \eta+| r+m+a+nana+\varphi \\
He-Pot-Sing-put-TV-Dist-it & \quad They-Pot-Plur-put-TV-Dist-it
\end{align*}
\]

'He should have put it (there).''They should have put it (there).'

Apply M.1.1: \( u+l+| r+m+a+nana+\varphi \quad u+\eta+| r+m+a+nana+\varphi \)

Later Rules \[ \rightarrow \] ulamanana ularamananana

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 Bardi. Two sub-rules account for these modifications.

M.1.2.1

\[
\begin{align*}
\left[\begin{array}{c}
\text{mi} \\
\text{nn}
\end{array}\right] + \text{Action Type} + \varphi & \rightarrow \left[\begin{array}{c}
\text{a} + \text{Action Type} \\
\text{a} + \text{Tense [+Proj]}
\end{array}\right]
\end{align*}
\]

Action Type would be either the Extra-active morpheme \( a \) or the Intra-active morpheme \( \eta \). The \( \eta \) morpheme is the Projected Tense prefix. It is necessary to include this identification as the \( \eta \) in this position could also be a Class marker.

Whenever the second person singular prefix \( \text{mi} \), or the second person plural prefix \( \text{nn} \) occurs before an Action Type marker and the Projected Tense prefix, the \( \text{mi} \) is rewritten as \( \text{a} \) and the tense prefix deleted, and the \( \text{nn} \) is rewritten as \( \text{a} \) and both the tense prefix and the Action Type marker are deleted.
Ex.128 (using the verb and+ı, '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:

\[ \text{mi+n+g+ı+and+i+a+r} \]

You-EA-Proj-Sing-pick-TV-Proj-
up

\[ \text{an+n+g+r+and+i+a+r} \]

You-EA-Proj-Plur-pick-TV-Proj-
up

'Pick them up!'

Apply : a+n+ı+ı+and+i+a+r

M.1.2.1

Later Rules \[ \rightarrow \text{anandar} \]

arandar

b) To illustrate further, the plural verb above is presented in a simplified tree diagram:

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 ara|gam+a 'to dry' to illustrate the rules formulated to this point. The third person plural Object suffix r is used in each case.
Ex. 129

\[ \eta_a-n-g-a-r_\text{aralgam-a-r} \quad 'I\ shall\ dry\ them.' \]
\[ a-n-g-a-r_\text{aralgam-a-r} \quad 'You\ will\ dry\ them.\!/\ Dry\ them!' \]
\[ u-n-g-a-r_\text{aralgam-a-r} \quad 'He\ will\ dry\ them.' \]
\[ a-n-g-a-r_\text{aralgam-a-r} \quad 'You\ and\ I\ will\ dry\ them.' \]
\[ a-n-g-a-r_\text{aralgam-a-r} \quad 'We\ all\ shall\ dry\ them.' \]
\[ a-n-g-a-r_\text{aralgam-a-r} \quad 'You\ all\ will\ dry\ them.\!/Dry\ them!' \]
\[ u-n-g-a-r_\text{aralgam-a-r} \quad 'They\ will\ dry\ them.' \]

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).

\[ L.1.2.2 \quad a + \eta \rightarrow \eta + a \]

\[ \begin{array}{c}
+\text{ProAf}\\+\text{II}\\+\text{Sing}
\end{array} \]

This sequence of \( a + \eta \) 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 \( \text{mi} \), and the \( \eta \) 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) \( \eta_a-mul\text{g-a} \quad \text{You-sleep-Proj} \quad 'Go\ to\ sleep!' \)
b) \( \eta_a-lag-a \quad \text{You-find\ out-Proj} \quad 'You\ will\ find\ out.' \)
c) \( \eta_a-midu\text{g-a} \quad \text{You-look\ around-Proj} \quad 'Look\ around.' \)
d) (a), above, represented as a tree diagram:

After T- & R-rules: \[ \text{mi+n+g+φ+mulg+u+a} \]

Apply M.1.2.1: \[ \text{a+n+φ+mulg+u+a} \]

Apply M.1.2.2: \[ \text{η+a+φ+mulg+u+a} \]

Later Rules \[ \rightarrow \text{ηamulga} \]
The Extra-action morpheme \( n \) is written as a zero morpheme when it is affixed to a Subject pronominal prefix ending in \( \eta \).

This rule involves every sequence of a plural pronominal prefix with \( n \), as all three plural prefixes end in \( \eta \). They are, \( an \) for first person, \( gun \) for second person and \( i\eta \) 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

\[
\begin{align*}
a) \quad & an+n+r+\text{aralgam}+a+\text{gald}+r \\
& \text{We=EA-Plur-dry-TV-Near-them} \\
& \text{Later Rules} \rightarrow an\text{araralgamagald}ir \\
& \text{Later Rules} \\
& \text{'We dried them (earlier).'} \\

b) \quad & gun+n+r+\text{aralgam}+a+i\text{id}+r \\
& \text{You=EA.....dry...Mid-them} \\
& \text{Later Rules} \rightarrow gun\text{araralgamidir} \\
& \text{Later Rules} \\
& \text{'You dried them (yesterday).'} \\

c) \quad & i\eta+n+r+\text{aralgam}+a+na+r \\
& \text{They=EA...dry...Dist-them} \\
& \text{Later Rules} \rightarrow i\eta\text{araralgamanar} \\
& \text{Later Rules} \\
& \text{'They dried them (long ago).'}
\end{align*}
\]
The Extra-action marker \( n \) is written as a zero morpheme when it occurs immediately before the consonants \( r, n, l \) and \( l \), 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 \( n \), 'to pick up', is the only recorded 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. On page 81, 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 \( r \) or \( n \), then these consonants would also cause the deletion of the Extra-action morpheme.

This alternation is an example of 'cluster reduction'. Quite apart from the context of this rule, \( n \) is never followed by any of the consonants listed in the rule in Bărădi 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 relation-
ship between the two tenses (see page 104) and, on the other, the distinction between the Immediate and the Near Perfects.

Ex. 132

<table>
<thead>
<tr>
<th>a)</th>
<th>ṇa+n+ϕ+ī+a+nō+ϕ</th>
<th>M. 2.2</th>
<th>ṇa+ϕ+ī+a+nō+ϕ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>I-EA-Sing-pick-TV-Pres-it up</strong></td>
<td>Later Rules</td>
<td>ṇanōnd</td>
</tr>
<tr>
<td></td>
<td>'I am picking it up.'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b)</th>
<th>l+n+ϕ+iriñariñ+a+nō+ϕ</th>
<th>M. 2.2</th>
<th>l+ϕ+iriñariñ+a+nō+ϕ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>He-EA..explain..Pres-it</strong></td>
<td>Later Rules</td>
<td>irĩñariñand</td>
</tr>
<tr>
<td></td>
<td>'He is explaining it.'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>c)</th>
<th>mi+n+ϕ+lum+a+galō+r</th>
<th>M. 2.2</th>
<th>mi+ϕ+lum+a+galō+r</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>You-EA.approach.Immed-them</strong></td>
<td>Later Rules</td>
<td>milumagalōir</td>
</tr>
<tr>
<td></td>
<td>'You approached them just now.'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>d)</th>
<th>ṇa+n+ϕ+jab+a+galō+r</th>
<th>M. 2.2</th>
<th>ṇa+ϕ+jab+a+galō+r</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>I-EA...have..Immed-them</strong></td>
<td>Later Rules</td>
<td>jetabagalōir</td>
</tr>
<tr>
<td></td>
<td>'I just had them.'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
M.3  η PREFIX DELETION

(…) η  →  φ

\[ \begin{array}{c}
\text{X} + \text{VbNuc} + \text{Aux} \\
[+ \{\text{Pres Immed}\}] \\
\end{array} \]

η is written as a zero morpheme whenever it occurs before either the Potential _1_, 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 η 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 η of the prefixes ση, γυη and ηη.

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 μυγ΄u 'to sleep':

<table>
<thead>
<tr>
<th>ι-μυγ΄-νδ</th>
<th>ι-μυγ΄-ν-γαλδ</th>
<th>ιγυ-μυγ΄-ν-γαλδ</th>
</tr>
</thead>
<tbody>
<tr>
<td>They-sleep-Pres</td>
<td>They-sleep-Durat-Immed</td>
<td>They-sleep-Durat-Near</td>
</tr>
</tbody>
</table>

'They are sleeping.' "They were sleeping 'They were sleeping just a moment ago.' earlier.'

<table>
<thead>
<tr>
<th>ι-μυγ΄-νδ</th>
<th>ι-μυγ΄-ν-γαλδ</th>
<th>ι-γυ-μυγ΄-ν-γαλδ</th>
</tr>
</thead>
<tbody>
<tr>
<td>He-sleep-Pres</td>
<td>He-sleep-Durat-Immed</td>
<td>He-IA-sleep-Durat-Near</td>
</tr>
</tbody>
</table>

'He is sleeping.' "He was just asleep.' 'He was sleeping earlier.'
b) Using ṅalga+a 'to cry':

\[gu-r-\text{ŋalga-}n\text{ā} \quad gu-r-\text{ŋalga-galā} \quad gu-r-\text{ŋalga-galā}\]

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):

\[
\text{After T- and R-Rules: } \text{gun} + \eta + r + \text{ŋalga} + \text{galā}
\]

Apply M.3:

\[
\text{gun} + \lambda + r + \text{ŋalga} + \text{galā}
\]

Re-apply M.3:

\[
\text{gun} + \lambda + r + \text{ŋalga} + \text{galā}
\]

Later Rules → gunŋaŋgagałā

Ex.134 Illustrating deletion before the Potential I .

The only \( \eta \) occurring before I is the final \( \eta \) of Subject prefix forms. The Action Type morphemes would have been replaced by I through Rule T.9. The third person plural prefix would have been altered from \( \text{ŋ} \) to \( \text{ŋu} \) by Rule M.1.1, page 203.

\[
a) \quad \text{uŋ}+l+r+i+\text{b}+i+a+\text{ŋ} \quad \text{M.3 } \rightarrow \text{uŋ}+l+r+i+\text{b}+i+a+\text{ŋ}
\]

They-Pot-Plur-drink-TV-Imperf-it

Later Rules → uliriba

'They should drink it.'

\[
b) \quad \text{ara } \text{aŋ}+l+r+i+\text{b}+i+nana+\text{ŋ} \quad \text{M.3 } \rightarrow \text{ara } \text{aŋ}+l+r+i+\text{b}+i+nana+\text{ŋ}
\]

Neg we-Pot-Plur-drink-TV-Dist-it

Later Rules → ara alliribinana

'We did not drink it.'
PLURAL MARKER DELETION

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 \( \text{lamang+} \) 'to listen':

\[
\begin{align*}
\text{i-lamanga-nà} & & \text{anga-lamang-id} \\
\text{III-listen-Pres} & & \text{Dual/Inc/Exc-listen-Middle} \\
\text{He is listening.} & & \text{We two listened.} & \text{We all listened.}
\end{align*}
\]
b) Using land+a 'to sit':

\[
\begin{align*}
\text{ara u-landa-na} & \quad \text{ara a-land-a} \\
\text{Neg III-sit-Middle} & \quad \text{Neg \{Dual Inc/Exc\}-sit-Imperf} \\
\{'\text{He}\text{ }\text{They}\} & \text{ did not sit down.}' & \{'\text{We two}\text{ }\text{We all}\} & \text{will not sit down.}'
\end{align*}
\]
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 \[ \rightarrow \varphi \]

Class markers are written as zero morphemes when they immediately follow either \[ \varphi \] or \[ \varphi \].

The \[ \varphi \] in this context is the Potential morpheme and the \[ \varphi \] is the Projected Tense prefix.

Ex.136 Using \[ d+anb+u \] 'to tread upon':

a) ara \( \eta \varphi +1+\varphi +anb+u+a+r\)  
Neg I-Pot-Class-tread-TV-Imperf-you  
Later Rules \[ \rightarrow \] ara \( \eta \varphi +l+\varphi +anb+u+a+r\)  
'I will not tread on you.'

b) \( mi+l+\varphi +anb+u+nana+r \)  
You-Pot-Class-tread-TV-Dist-them  
Later Rules \[ \rightarrow \] milanbunanar  
'You should have trodden on them.'

Ex.137 Using \[ b+Ul+u \] 'to come out':

a) \( u+\eta +g+b+Ul+u+n\ddot{a} \)  
He-IA-Proj-Class-come out-TV-Durat Proj  
Later Rules \[ \rightarrow \] ungolund  
'He will keep on coming out.'

b) \( \eta a+\eta +g+b+Ul+u+a \)  
I-IA-Proj-Class-come out-TV-Proj  
Later Rules \[ \rightarrow \] nungc\(\ddot{a}\)  
'I shall come out.'
M.5.2 Class → Φ / 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.137 Using g+aŋb+u 'to growl at':

a) i+r+g+aŋb+u+nā+ŋayu → i+r+g+aŋb+u+nā+ŋayu

III-Plur-Class-growl-TV-
Pres-me Later Rules → iraŋbundargayu

'They are growling at me.'

b) ara gu+1+r+g+aŋb+u+na+r → ara gu+1+r+g+aŋb+u+na+r

Neg II-Pot-Plur-Class-
growl-TV-Mid-them Later Rules → ara gularanbunar

'You all did not growl at them.'

c) The derivation of the verb: iŋar-anbu-na-mudu

They-growl at-Dist-us

'They growled at us.'

After T- and R-Rules:

Apply M.2.1:

Apply M.5.2:

Later Rules → iŋaraŋbunamudu
M.5.3 \[ \frac{b}{g} \quad \rightarrow \quad g \quad / \quad n+ \quad + \quad X \quad + \quad \text{Aux} \quad [+\text{Proj}] \]

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 \( a \) is retained in all probability because of the common alveolar point of articulation following \( n \).

Ex.138 This example takes phonologically similar verbs from the three Classes and compares their derivation. The three verbs in order are: \( b+A|+i \) 'to make' (a small object); \( g+a|+i \) 'to go to'; and \( a+n|+i \) 'to see'.

a) \( a+n+\varnothing+b+A|+i+a+r \)

II-EA-Sing-Class-make-TV-Later-Proj-them Rules \( \rightarrow \) analar

'Make them!'

b) \( a+n+\varnothing+g+a|+i+a+r \)

II-EA-Sing-Class-go to-TV-Later-Proj-them Rules \( \rightarrow \) analar

'Go to them!'
c) \( a+n+\emptyset+\emptyset+a|+i+a+r \)

Rule M.5.3 does not apply.

II-EA-Sing-Class-see-TV-

Proj-them

Later Rules \( \longrightarrow \) andalar

'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.138 to show the extent of morphophonemic processes upon it to this point:

Ex.139 \( \text{an-al-a-r} \)

You-go to-Proj-them

'Go to them.'
When the Class markers ḷ and ḳ occur between any two vowels, they are written as ḷ. When the Class marker ḷ occurs intervocally, it is written ḷ.

With reference to the phoneme charts on page 26, it can be seen that this rule reflects a process of alternation from stopped phonemes to continuents in intervocalic environments. The bilabial stop ḷ is replaced by the bilabial semi-consonant ḷ. The lamino-alveolar stop ḷ is replaced by the lamino-palatal semi-consonant ḷ. The dorso-velar stop ḷ is replaced by ḷ.

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 ḷ 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, ḷ and ḷ will be referred to as Class markers along with ḷ, ḷ, ḷ and ḷ.

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. 140

a) \( \eta + a + y + am + a \)  
   IA-you-Class-laugh-Proj  
   'You will laugh.'

b) \( \eta + a + y + am + in\tilde{a} + a \)  
   IA-you-Class-laugh-RA-Proj  
   'You will laugh at yourself.'

c) \( mi + y + am + a + n\tilde{a} \)  
   You-Class-laugh-TV-Pres  
   'You are laughing.'

d) \( mi + y + am + in\tilde{a} + i + n\tilde{a} \)  
   You-Class-laugh-RA-Pres  
   'You are laughing at yourself.'

e) \( mi + y + am + a + gal\tilde{a} \)  
   You-Class-laugh-TV-Immed  
   'You just laughed.'

f) \( mi + y + am + in\tilde{a} + i + gal\tilde{a} \)  
   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. 140. The \( a + \text{Class} + a \) can be written simply as \( a \). This abbreviation is particularly used with the Imperative. Thus, (a) in Ex. 140 could be written as \( \eta a : ma \) 'Laugh!'

Ex. 141 Using \( b + \text{umar} + a \) 'to shiver' to illustrate \( b - \text{Class} \) modifications:

a) \( ma + w + \text{umar} + a + n \)  
   Inf I-Class-shiver-TV-Inf II  
   'to shiver'

\( \eta a + w + \text{umar} + a + n\tilde{a} \)  
   I-Class-shiver-TV-Pres  
   'I am shivering.'

c) \( l + w + \text{umar} + a + n + gal\tilde{a} \)  
   He-Class-shiver-TV-Durat-Immed  
   'He was shivering just now.'
In Section L.4.1 three verb stem morphophonemes were introduced. Some b- and q-Class stems exhibit the morphophonemes A and U, while some d-Class stems commence with I. The three sub-rules of M.6 are concerned with these morphophonemes.

\[ \text{M.6.1} \quad I \ldots \rightarrow \begin{cases} u \ldots \\ i \ldots \end{cases} \]

The morphophoneme I is rewritten as u when immediately preceded by either d or y, or as i in all other environments.

Ex. 142

a) Using d+Iq+a 'to tell (particularly a story)'

\[ \begin{array}{ll}
  a-n-d-u | q-a-dan-q & a-r-l | q-a-dan-q \\
  \text{II-EA-Class-tell-Proj-for-it me} & \text{II-Plur-tell-Proj-for-it me} \\
  \text{'You (sing), tell it for me!' 'You all, tell it for me!'}
\end{array} \]

b) Using d+Ibar+a 'to singe'

\[ \begin{array}{ll}
  ma-y-ubar-a-n & na-n-Ibar-ind-i\d \\
  \text{Inf I-Class-singe-TV-Inf II} & \text{I-IA-singe-RA-Middle} \\
  \text{'to singe'} & \text{'I singed myself.'}
\end{array} \]

The full paradigm of the verb 'to singe' is presented in P.3, pages 257ff.
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 $g+oAI$ 'to put to sleep'; and initially and medially within the one stem, as in $b+ Udug+$ 'to stamp off', $b+AndArm$ 'to stop', and $g+ UdAI$ 'to lose'.

M.6.2 and M.6.3 are complementary in operation and will be illustrated together after the formulation of the latter.

After the operation of M.6.2, any remaining $U$ morphophoneme or $A$ morphophoneme is written as $\emptyset$.

Ex.143

a) Using $g+UlUrb$ 'to answer a challenge':

<table>
<thead>
<tr>
<th>M.6.2</th>
<th>M.6.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$m\text{-ni-g-ulu}rbu-n\dot{\text{d}}-\emptyset$</td>
<td>$\text{gu-}r-\text{orbu-n\dot{d}}-\emptyset$</td>
</tr>
</tbody>
</table>

II-EA-Class-answer-Pres-it   II-Plur-answer-Pres-it

'You are answering the challenge.' 'You all are answering it.'
b) Using \( b+\text{ArgAnd} \) 'to roll up':

\[
\begin{align*}
\text{M.6.2} & & \text{M.6.3} \\
\text{ŋa-n-b-argandi-nār} & & \text{ŋo-l-gorgad-a-r} \\
\text{I-EA-Class-roll up-Pres-them} & & \text{I-Pot-roll up-Imperf-them} \\
'I \text{am rolling them up}.' & & 'I \text{should roll them up}.'
\end{align*}
\]

c) Using \( b+\text{Ul} \) 'to come out':

\[
\begin{align*}
\text{M.6.2} & & \text{M.6.3} \\
\text{1-w-ulul-galā} & & \text{u-ŋ-g-ol-a} \\
\text{III-Class-come out-Immed} & & \text{III-IA-Proj-come out-Proj} \\
'\text{He came out just then}.' & & '\text{He will come out}.'
\end{align*}
\]

The paradigm of the verb \( b+\text{Al} \) 'to make' is given on pages 254ff.
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 \( _\text{r} \), the Class markers and the optional Retro-action marker \( _\text{m} \); and there are the consonant-initial verb stems.

As has been demonstrated, one of the processes which operates in Bardi morphophonemetics 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 Transitional 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.

\[
\text{M.7} \quad C + C \rightarrow C + V_1 + C \quad \text{[VbNuc]} \]

\text{Conditions:} \quad C + C \text{ is not the sequence of:}

(i) \( n + \{\overline{a}\} \)

(ii) \( n + \{\overline{a}\} \quad [+\text{Proj}] \)

(iii) \( n + C(...) + X + \text{Aux} \quad [+\text{Pres}] \quad [+\text{Immed}] \)

(iv) \( _\text{r} + C(...) + X \), 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 $\mathbf{n}+\mathbf{d}$, the dorso-velar cluster $\mathbf{g}+\mathbf{a}$ and the sequence $\mathbf{n}+\mathbf{g}$ are common in Bardi phonological patterns. The sequences $\mathbf{g}+\mathbf{b}$ and $\mathbf{g}+\mathbf{d}$, however, cannot be explained on this basis, although the sequences are modified by assimilation later to $\mathbf{m}+\mathbf{b}$ and $\mathbf{n}+\mathbf{d}$ respectively (Rule M.8). Secondly, the Conditions (i) and (ii) 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.144** Illustrating M.7 without Conditions:

a) Using $\mathbf{gurid}+\mathbf{i}$ 'to paint':

\[\text{He painted himself.}\]

b) Using $\mathbf{ma}$ 'to put':

\[\text{We should have put them (there).}\]

c) Using $\mathbf{min}+\mathbf{i}$ 'to receive':

\[\text{You received it.}\]
Ex. 145 Illustrating Condition (i):

a) Using \( b + UdUg + u \) 'to stamp off':

\[ mi + n + b + udug + u + gal \]

M.7 does not apply.

\[ II - IA - Class - stamp \ off - TV - Near \]

Later Rules \[ \rightarrow \ mimbudugugal\]

'You stamped off.'

b) Using \( d + id + i \) 'to go, walk':

\[ a + n + d + id + i + na \]

M.7 does not apply.

\[ Dual - IA - Class - go - TV - Dist \]

Later Rules \[ \rightarrow \ an\j i\d i\n\]

'You and I went.'

Ex. 146 Illustrating Condition (ii):

a) Using \( d + anb + u \) 'to tread on':

\[ mi + n + d + anb + u + n\d + mudu \]

M.7 does not apply.

\[ II - EA - Class - tread \ on - TV - Pres - us \]

Later Rules \[ \rightarrow \ m\d anbun\d armudu \]

'You are treading on us.'

b) Using the same verb:

\[ n\a + n + g + anb + u + n\d + ri \]

M.7 does not apply.

\[ I - EA - Proj - tread \ on - TV - Durat - Proj - you \]

Later Rules \[ \rightarrow \ n\a nganbun\d i\n\]

'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 \( g + onb + u \) 'to send word':

\[ l + n + g + onb + u + na + na + d\a ga + \d \]

M.7 \[ \rightarrow \ l + n + c + g + onb + u + na + na + d\a ga \]

\[ III - EA - Class - send \ word - TV - Durat - Dist - to us - it \]

Later Rules \[ \rightarrow \ in\o ngon bunan\a da \]

'He kept on sending word to us.'
Ex. 147  Showing the surface distinctions between the Immediate and Near Perfect Tenses introduced by Condition (ii):

Using *mağa* 'to build':

\[ \eta+a+n+maģ+a+gaľa+\emptyset \quad \text{M.7 does not apply.} \]
\[ \text{I-EA-build-TV-Immed-it} \]

'I have just built it.'

\[ \eta+a+n+maģ+a+gaľa+\emptyset \quad \text{M.7} \rightarrow \eta+a+n+maģ+a+gaľa+\emptyset \]
\[ \text{I-EA-build-TV-Near-it} \]

'I built it earlier.'

Ex. 148  Illustrating Condition (iv), by comparing the verb *mulg+u* 'to sleep' with *mulb+u* 'to lend':

\[ \text{guŋ+r+mulg+u+na} \quad \text{M.7} \rightarrow \text{guŋ+r+mulg+u+na} \]
\[ \text{II-Plur-sleep-TV-Dist} \]

'You slept.'

\[ \text{guŋ+r+mulb+u+na+\emptyset} \quad \text{M.7} \rightarrow \text{guŋ+r+mulb+u+na+\emptyset} \]
\[ \text{II-Plur-lend-TV-Dist-it} \]

'You lent it.'
In certain contexts, Class markers modify their environments by assimilation to their point of articulation.

\[
\begin{align*}
M.8.1 & \quad \begin{array}{c}
\begin{array}{c}
[\text{b}]
\end{array} \\
[\text{g}]
\end{array} \quad \rightarrow \quad \begin{array}{c}
\begin{array}{c}
[\text{mb}]
\end{array} \\
[\text{ng}]
\end{array} \quad \nu^+ \quad \end{align*}
\]

The introduction of the nasals \( \text{m} \) and \( \text{g} \), which form homorganic clusters with the Class markers \( \text{b} \) and \( \text{g} \) respectively, provides transitional sequences which are paralleled in other areas of Bardi 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. 149**

a) Using \( \text{b+ul̄} \text{gar+a} \) 'to drag':

\[
\begin{align*}
\text{a+n+u+b+ul̄gar+a+na+na+r} & \quad \text{M.8.1} \quad \rightarrow \quad \text{a+n+u+m+b+ul̄gar+a+na+na+r} \\
\text{Dual-EA-EpV-Class-drag-TV-} & \quad \text{Later} \quad \rightarrow \quad \text{anUMBUL̄GARANANAR} \\
\text{Durat-Dist-them} & \quad \text{Rules} & \quad \end{align*}
\]

'You and I used to drag them along.'

b) Using \( \text{g+ə} \text{b+u} \) 'to dig':

\[
\begin{align*}
\text{i+n+a+g+a|b+u+i começ+r} & \quad \text{M.8.1} \quad \rightarrow \quad \text{i+n+a+n+g+ə} \text{b+u+i começ+r} \\
\text{III-EA-EpV-Class-dig-TV-} & \quad \text{Later} \quad \rightarrow \quad \text{iNANGA|BIDAÑIR} \\
\text{Mid-for me-them} & \quad \text{Rules} & \quad \end{align*}
\]

'He dug them for me.'
The Intra-active marker \( n \) is written as \( n \) immediately preceding the Class marker \( d \), and as \( m \) preceding the Class marker \( b \). This is an example of assimilation to the alveolar and bilabial points of articulation respectively.

**Ex. 150**

a) Using \( d+alg+u \) 'to fall':

\[
\begin{align*}
\mathbb{N}a+q+d+alg+u+gal\dd & \quad M.8.2 \quad \mathbb{N}a+n+d+alg+u+gal\dd \\
I-I A-Class-fall-TV-Near \quad \text{Later Rules} & \quad nanda algugal3
\end{align*}
\]

'I fell.'

b) Using \( b+ilg+i \) 'to blow, of wind':

\[
\begin{align*}
i+g+b+ilg+i+in\dd & \quad M.8.2 \quad i+m+b+ilg+i+in\dd \\
III-I A-Class-blow-Durat Mid \quad \text{Later Rules} & \quad imbilgin\dd
\end{align*}
\]

'It was blowing.'
The vowel \( \_ \) 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 \( \_ \) vowels in the prefixes is expressed by this rule.

\[
\text{M.9} \quad (\ldots)\_ (\ldots) \quad \rightarrow \quad (\ldots)\_ (\ldots) / \quad \_ + \_ (\ldots) \quad \text{[Vbs]}
\]

The vowel \( \_ \), whenever it occurs before a Verb Stem which is \( \_ \)-initial, is written as \( \_ \).

The \((\ldots)\_ (\ldots)\) covers any occurrence of \( \_ \). This could be a single phoneme, as with the Dual prefix; morpheme-initial, as with \( \_a \); or morpheme final, as with \( ma \).

The 'X' before the Verb Stem in the rule context allows for intervening morphemes.

**Ex.151**

a) Using \( b + \text{Anaran} + a \) 'to show oneself off':

\[
\text{M.9} \quad \rightarrow \quad \text{Later Rules}
\]

'I will show myself off.'

b) Using \( b + \text{Uluran} + a \) 'to pull along':

\[
\text{M.9} \quad \rightarrow \quad \text{Later Rules}
\]

'We pulled it along.'

---

\(^1\) See Metcalfe (1971:91)
A Stem-final រ and an ញ in sequence are written as an ញ .

As pointed out on page 83, the រ-final verb stems do not have a Transitional Vowel.

This is again an instance of assimilation to the point of articulation, with the apico-domal nasal ញ replacing the apico-domal រ and the apico-alveolar ញ . រ is the only apico-domal which activates the rule as verbs such as midud 'to look around', ᐊiIli 'to lick' and ᐋaIaM 'to be boggled' do not produce this modification.

The ញ(...) 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 ញa .

Ex.152

a) Using មរប 'to smell':

ŋa+n+mar+ŋ+gal+d+r M.10  → ŋa+n+mara+ŋ+gal+d+r
I-EA-smell-Durat-Immed-them Later Rules  → ŋanmurangaldir

'I was smelling them just now.'

b) Using ᐊiIr 'to make sore':

ma+y+urgar+ŋ Inf I-Class-make sore-Inf II Later Rules  → mayurgan

'make sore'
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 morphemes. 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

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  \( \tilde{d}i \) is prefixed to the basic form in the second person singular and
the third person plural, while the morpheme *dar* is prefixed to all other forms.

M.11.1.2

\[
\begin{align*}
[r_i] & \rightarrow [\text{li}] \\
[r] & \rightarrow [\text{li}] 
\end{align*}
\]

\[
\{\text{ba} \text{amba}\} + \]

The second person singular Object suffix *ri* is written as *li*, and the third person plural suffix *r* as *li*, 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 *wayl*, *mudu* and *gur*. (c.f. Ex.153 (d))

Ex.153 Using *qulgù* 'to frighten':

a) *uŋ-gu-ru-qulgù-a-ri*

III-Proj-Plur-frighten-Proj-you

'They will frighten you.'

b) *iŋu-ru-qulgù-id-āiri*

III-Plur-frighten-Middle-you

'They frightened you (yesterday).' 

c) *iŋu-ru-qulgùmu-na-ba-lir*

III-Plur-frighten-Distant-Relator-you

'They frightened you (some time ago).' 

d) *iŋu-ru-qulgùmu-namba-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 $\mathcal{Q}$, 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 $\operatorname{ind}$.

**Ex.154 Using dar ar 'to arrive':**

a) \underline{dar} $\operatorname{uŋ-g-ar-ar-a-ŋ-ðarmudu}$

Arrive III-Proj-Plur-$\emptyset$-Proj-Assoc-us

'They will arrive with us.'

b) \underline{ara dar} $\operatorname{gu-ŋ-ar-a-ŋan-a-ŋ-\operatorname{ind}}$

Neg arrive II-Pot-Plur-$\emptyset$-Dist-Assoc-him

'They did not arrive with him.'
M.11.2 REFERENTIAL SUFFIX

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 Conjunctionamba, as with the Object suffixes in this context. Thus, the first, second and third persons singular dan, di and din may be written as lan, li and lin respectively and the third person plural dir may be written lir. (c.f. Ex.154 (c))

Ex.155 Using a+ajg+I 'to hide':

a) u-ŋ-g-ajg-a-dan

III-IA-Proj-hide-Proj-from me

'He will hide from me.'

b) u-ŋ-g-ajgi-nā-daran

III-IA-Proj-hide-Durat Proj-from me

'He will keep on hiding from me.'

c) u-ŋ-g-ajgi-nā-damba-lan

III-IA-Proj-hide-Durat Proj-Sequential-from me

'Then he will keep on hiding from me.'
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, page 235)
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. 156 Using $\ddot{t}+$a 'to pick up':

a) $\ddot{a}-\ddot{n}-a-a\ddot{\ddot{d}}n-ir$
   II-pick up-Proj-for him-them
   'Pick them up for him!'

b) $\ddot{a}-\ddot{n}-a-n\ddot{a}-\ddot{d}ir-in$
   II-pick up-TV-Durat Proj-them-for him
   'Keep on picking them up for him!'

c) $\ddot{a}-\ddot{n}-a-\ddo{d}a\ddot{a}-\ddot{a}$
   II-pick up-Proj-for us-it
   'Pick it up for us!'

d) $\ddot{a}-\ddo{n}-a-\ddo{d}a\ddot{d}-ir$
   II-pick up-Proj-for us-them
   'Pick them up for us!'

e) $\ddot{a}-\ddo{n}-a-n\ddot{a}-\ddo{d}a\ddot{d}-ir$
   II-pick up-TV-Durat Proj-for us-them
   'Keep on picking them up for us!'
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 Verb Stem contiguous to a vowel-initial Auxiliary or the Retro-action morpheme \(\text{in}\)\(\tilde{a}\) 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 \(\text{i}\) of the Middle Perfect marker and the Projected Imperfect \(\text{a}\) - 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.

\[
\begin{align*}
\text{M.12.1} \quad \text{a} & \rightarrow \left[ \begin{array}{l} \text{w+a} \\ \text{v+a} \end{array} \right] / \left[ \begin{array}{l} \{\text{u}\} \\ \{\text{i}\} \end{array} \right] + \\
& \text{[VbS]}
\end{align*}
\]

The Projected morpheme \(\text{a}\) is written as \(\text{w+a}\) following a Verb Stem ending in either \(\text{u}\) or \(\text{a}\), and as \(\text{v+a}\) following a Verb Stem ending in \(\text{i}\) or \(\text{a}\).

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 page 83). When a Transitional Vowel does occur before a vowel-initial Auxiliary, it is deleted (M.12.3).

\(^1\) See Metcalfe (1971:92).
Ex.157 Illustrating the four possible vowel-final Verb Stems in the order set out in M.12.1:

a) Using ŋugu 'to rub':
\[\eta a+n+\text{gu}+\text{gu}+a+ri\]  
M.12.1 \[\eta a+n+\text{gu}+w+a+ri\]  
I-EA-Proj-rub-Proj-you \[\text{Later Rules}\] \[\eta \text{anguwari}\]  
'I will rub you."

b) Using b+u 'to spear':
\[\sigma+n+\text{co}+a+r\]  
M.12.1 \[\sigma+n+\text{co}+w+a+r\]  
II-EA-spear-Proj-them \[\text{Later Rules}\] \[\text{onawar}\]  
'Spear them!'

c) Using mi 'to look around':
\[\text{ara mi+li+mi+a+da}a\]  
M.12.1 \[\text{ara mi+li+mi+y+a+da}a\]  
Neg II-Pot-look-Imperf-for around us \[\text{Later Rules}\] \[\text{ara milimiya}a\]a\]  
'You are not looking around for us.'

d) Using ɔ+irira 'to tease':
\[\text{a}+r+i\text{ri}+\text{ra}+\text{a}+\eta\text{ayu}\]  
M.12.1 \[\text{a}+r+i\text{ri}+\text{y}+a+\eta\text{ayu}\]  
II-Plur-tease-Proj-me \[\text{Later Rules}\] \[\text{aririray}a\]ayu  
'You will all tease me.'

M.12.2  \[\begin{array}{c}
\text{...}
\end{array}\] \[\begin{array}{c}
\left[\begin{array}{c}
w + \text{...}
\end{array}\right]
\end{array}\] \[\begin{array}{c}
\left[\begin{array}{c}
(\ldots) u
\end{array}\right]
\end{array}\]  
\[\begin{array}{c}
y + \text{...}
\end{array}\] \[\begin{array}{c}
\left[\begin{array}{c}
(\ldots) a
\end{array}\right]
\end{array}\]  
\[\begin{array}{c}
\varnothing
\end{array}\] \[\begin{array}{c}
(\ldots) \varnothing
\end{array}\]  
\[\begin{array}{c}
[VbS]
\end{array}\]

The initial \[\text{...}\] of the Middle Perfect morpheme or the Retro-action morpheme is written as \[w+\text{...}\] before an \[\text{u}-\text{final Verb Stem},\] as \[y+\text{...}\] before an \[\text{a}-\text{final Verb Stem} and as a zero morpheme before an \[\varnothing-\text{final Verb Stem}.\]
Ex. 158

a) Using $\text{d+Idu}$ 'to turn over':

\[
\begin{align*}
a+n+\text{d}+\text{udu}+\text{i}+\text{dir} & \rightarrow a+n+\text{d}+\text{udu+w}+\text{i}+\text{dir} \\
\text{Dual-EA-Class-turn-Middle-over Rules} & \rightarrow \text{anduduw}i\text{dir}
\end{align*}
\]

'You and I turned them over.'

b) Using $\text{iri a}$ 'to wave':

\[
\begin{align*}
i+n+\text{iri a}+\text{i}+\text{n}\text{a}+\text{g} & \rightarrow i+n+\text{iri a}+\text{y}+\text{i}+\text{na}+\text{g} \\
\text{III-EA-wave-Durat Mid-it Rules} & \rightarrow \text{iniri lay}\text{i}\text{nd}
\end{align*}
\]

'He kept waving it.'

c) Using $\text{b+U}$ 'to spear':

\[
\begin{align*}
\text{ara} +\text{u}+\text{i}+\text{or}+\text{m}+\text{o}+\text{in}+\text{a}+\text{n}\text{a} & \rightarrow \text{ara} +\text{u}+\text{i}+\text{or}+\text{m}+\text{o}+\text{gn}+\text{a}+\text{n}\text{a} \\
\text{Neg III-Pot-Plur-RA-spear-RA-Dist Rules} & \rightarrow \text{ara uoo}\text{m}\text{on}\text{g}\text{in}\text{n}\text{a}+\text{n}\text{a}
\end{align*}
\]

'They did not spear each other.'

As mentioned in the discussion of the 'O-Precedence' Rule, M.9, the vowel $\text{O}$ exerts considerable influence upon its environment. The third section of Rule M.12.2, as illustrated by Ex.158 (c), also provides an instance of the dominance of $\text{O}$.

\[
\begin{align*}
\text{M.12.3} & \quad (\ldots)\text{V} + \text{V}(\ldots) \rightarrow \text{V}(\ldots)
\end{align*}
\]

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 $\text{aga}$ or the Retro-action morpheme before another vowel.
The first area will be illustrated by Ex. 159 and the second by Ex. 160.

**Ex. 159**

a) Using *undur*+u 'to cut across':

\[ u + n + g + undur + u + a + \phi \rightarrow u + n + g + undur + \phi + a + \phi \]

III-EA-Proj-cut across-TV-Proj-it

Later Rules → ungrundura

'He will cut across it (the passage).'

b) Using *g+a*+d+i 'to scratch':

\[ i + g + a + m + a + d + i + i n d i + n a \rightarrow i + g + a + m + a + d + i + i n d i + n a \]

III-IA-RA-scratch-TV-RA-Dist

Later Rules → igamandindina

'He scratched himself.'

**Ex. 160**

a) Using *línél+i* 'to wait':

\[ g a + n i + l i n e l + i + n a + i \rightarrow g a + n i + l i n e l + i + n a + i \]

I-IA-wait-TV-Dist-for you

Later Rules → gánílínlíndíni

'I waited for you.'

b) Using *á* 'to look for lice':

\[ a g + g a + r a + m + a + r + i n d i + a \rightarrow a g + g a + r a + m + a + r + i n d i + a \]

I-Proj-Plur-RA-look-RA-Proj

Later Rules → angaramarinėdė

'We shall look for each other's lice.'

c) Using *d+ayay+a* 'to limp':

\[ m i + n + d + a y a y + a + n a + a g a + i r \rightarrow m i + n + d + a y a y + a + n a + a g a + i r \]

II-IA-Class-limp-TV-Dist-Question-Emphat

Later Rules → mindayayanaqirdi

'Were you limping badly?'

Note that in the final example, Rule M.12.3 applies twice.
The two rules necessary to cover modifications involving
suffix consonants 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.

\[(...C_1 + C_1(...)) \rightarrow C_1(...)\]

When identical consonants occur contiguously, the first
is deleted.

Ex.161 Using *gul+u* 'to throw':

\[
\begin{align*}
\text{gnu+ru+} & \text{gul+} \ddagger \text{gara} \rightarrow \text{gnu+ru+gul+} \ddagger \text{gara} \\
I-\text{Plur-throw-Mid-for you-it} & \rightarrow \text{gnu+gul+} \ddagger \text{gara}
\end{align*}
\]

'M I threw it for you.'

The Sequential Conjunction suffix *amba* is written as
*دمبا*, and the Question marker *ada* as *بدا* immediately
following the consonants *ل* and *ن*.

The possible consonant contexts are *ل* , the final phon-
eme of the Contemporary morpheme *gal* , and *ن* , the Present
or Durative Projected auxiliary.
Ex. 162

a) Using ꜩul+u 'to throw':

\[a+n+ɡu+ɡul+u+n+amburger \quad \text{M.13.2} \rightarrow a+n+ɡu+ɡul+u+n+amburger\]

\[\text{Dual-EA-Proj-throw-Durat} \quad \text{Rule} \quad \rightarrow \quad \text{angunulunamburger}\]

'Then you and I will keep on throwing them.'

b) Using ɡ+arabba+a 'to drop':

\[iɡ+ar+arabba+a+gal+aga+ɡ \quad \text{M.13.2} \rightarrow iɡ+ar+arabba+a+gal+aga+ɡ\]

\[\text{III-Plur-drop-Near-Question} \quad \text{Rule} \quad \rightarrow \quad iɡararbalagalaga\]

'Did they drop it?'

\[\text{M.14} \quad +\text{-REMOVAL}\]

\[+ \quad \rightarrow \quad \emptyset\]

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.162, 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 pages are derived right through from Base Rules to surface forms.

5.1.1 (Ex.1): ṇan-ma-nā-∅

I-put-Pres-it

'I am putting it (the story down).'

Base Rules:

\[
\begin{array}{c}
S \\
\bigwedge \text{[B.1]} \\
\bigwedge \text{NP [B.7]} \\
\bigwedge \text{PredP [B.3]} \\
\bigwedge \text{VP [B.4]} \\
\bigwedge \text{NP [B.7]} \\
\bigwedge \text{VbNuc} \\
\bigwedge \text{Aux} \\
\bigwedge \text{[B.8]} \\
\bigwedge \text{Nom} \\
\bigwedge \text{[L.1]} \\
\bigwedge \text{[LE.6.1][L.6][L.7]} \\
\bigwedge \text{Nom} \\
\bigwedge \text{[L.1]}
\end{array}
\]

Lexicon:

\[
\begin{array}{c}
\text{Nom} \\
\text{VbNuc} \\
\text{Aspect} \\
\text{Tense} \\
\text{[B.8]} \\
\text{Nom} \\
\text{[L.1]}
\end{array}
\]

Transformations:

\[
\begin{array}{c}
\text{[T.1]} \\
\text{[T.2]} \\
\text{[T.3]} \\
\text{[T.4]} \\
\text{[T.5]}
\end{array}
\]

Realisation:

\[
\begin{array}{c}
\text{[+ProAf]+n+Number+m+a+Durat+Pres+[+ProAf]} \\
\text{[R.1]} \\
\text{[R.4]} \\
\text{[R.2]} \\
\text{[R.3]}
\end{array}
\]

\[
\begin{array}{c}
\text{na} + n + ∅ + m+a + nā + ∅
\end{array}
\]

M.14 \rightarrow \text{ṇanmāṇḍ}
5.1.2 (Ex.2): min-ðarala-n
You-run-Pres
'You are running.'

Base Rules:

Lexicon:

Transformations:

Realisation:

Morphophonemics:

minðaralan
5.1.3 (Ex. 3): *im-bañi-n-agar*

It-finish-Pres-Emphatic

'It (the story) is absolutely finished.'

---

**Base Rules:**

```
                                      S
                                      |
                                      v
                    [B.1]                [B.3] [B.4]
                        NP          PredP          EMPHAT
                    [B.7]          [B.6] [B.8]
                        VP          VbNuc          Aux
                            [B.0] [B.1]
```

**Lexicon:**

```
Nom                     VbNuc Aspect Tense EMPHAT
[L.1]                   [LE.6.3] [L.6] [L.7]
```

**Transformations:**

```
[T.1]  [-N] [+III]
       [+Sing]

[T.2]  [-N] [+ProAf]

[T.4]  [+ProAf]

[T.6]  [+ProAf]+Number+

[T.11] [+ProAf]+η+Number+

+EMPHAT

+ProAf]+η+Number+b+An+i+Durat+Pres+agar

+ProAf]+η+Number+b+An+i+Duration+Pres+agar

```

**Realisation:**

```
[+ProAf]+η+Number+b+An+i+Durat+Pres+agar
[R.1] [R.4] [R.2]
```

**Morphophonemics:**

```
[M.6.2]  i + η + ñ + b+An+i + n + agar

[M.8.2]  i + m + b+añ+i + n + agar

[M.14]  imbañinagar
```
5.1.4 (Ex. 4): \textit{in-g-aalg-aalgama-na-na}

It-Class-Intens-move-Durat-Dist

'It kept on moving about vigorously.'

\textbf{Base Rules:}

\begin{center}
\begin{tikzpicture}
    \node (s) {S}
        child {node (np) {NP}
            child {node (np7) {NP [B.7]}}
        } child {node (vp) {VP [B.4]}
            child {node (vp4) {VP [B.4]}}
        }
    child {node (predp) {PredP [B.3]}
            child {node (vp3) {VP [B.4]}}
        }
    child {node (intens) {INTENS [LE.6.29]}}
    child {node (aux) {Aux [B.8]}}
\end{tikzpicture}
\end{center}

\textbf{Lexicon:}

\begin{center}
\begin{tabular}{ll}
Nom & [L.1] \\
VbNuc & [LE.6.29] \\
Aux & [B.8]
\end{tabular}
\end{center}

\textbf{Transformations:}

\begin{center}
\begin{tabular}{c}
[T.1] \\
[T.2] \\
[T.4] \\
[T.6] \\
[T.10.1]
\end{tabular}
\end{center}

\textbf{Realisation:}

\begin{center}
\begin{tabular}{c}
[R.1] \\
[R.4] \\
[R.2]
\end{tabular}
\end{center}

\textit{ingalgalgalgamanana}
5.1.5 ara gu-l-uru-m-ugul-indi-na-đan (Ex.5) 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:

M-Rules:
5.1.6 un-g-i-ru-gur-a-ðan-ir
(Ex. 6) They-Proj-Plur-Intens-make catamaran-Proj-for me-them
'They will surely make them (the two sections of a
catamaran) for me.'
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 ə.

Paradigm 1 (P.1), ə-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 d-Class verbs of P.3 give examples of the I morphophoneme and the optional Retro-active morpheme m. Class q verbs, P.4, are represented by the one verb 'to laugh (at)', which can express all three Action Types.
### $\varphi$-Class Verbs

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<thead>
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<th>PERSON</th>
<th>ACTION</th>
<th>TYPE</th>
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<td><strong>I</strong></td>
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<td>I</td>
<td>$\eta\text{-n}\text{-and}\text{-i}\text{-n}$$\hat{\varphi}$</td>
<td>$\eta\text{-m}l\text{-n}$$\hat{\varphi}$</td>
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<td>mi-n</td>
<td>mi-n</td>
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<td>(Inc)</td>
<td>a-r-and-i-n$$\hat{\varphi}$</td>
<td>a-r-mi-n$$\hat{\varphi}$</td>
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<td>I</td>
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<td>III</td>
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<td>i-r</td>
<td>i-r</td>
</tr>
</tbody>
</table>

### Extra-Active

- and 'pick up'

### Intra-Active

- mi 'look about'

### Retro-Active

- mar+a 'burn, cook'

- $\eta$-a$$\hat{\varphi}$$
- $\eta$-a$$\hat{\varphi}$$
- $\eta$-a$$\hat{\varphi}$$
### $\phi$-Class Verbs

<table>
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<tr>
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<td><strong>Sing</strong></td>
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<td>guŋ-ir-........</td>
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<td>( b+\text{udug}+\text{u} 'stamp off' )</td>
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## P.2 b-Class Verbs

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<td>g+am+a 'laugh'</td>
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### P.4.2 (Cont.)
Irregularities in Bardi 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  ḡ̂+̱, 'to carry, take away'  LE.6.4/112

The Present Imperfect and the Immediate Perfect singular forms have the consonant ḡ as the Verb Stem.

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<td>ḡ̂a-n-ga- движения</td>
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<td>i-··························</td>
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<td>g Dual</td>
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Irreg:2  ḡ̂+U̱, 'to spear, kill, give needles'  LE.6.8/112

The same modification takes place with ḡ̂+U̱ as with the previous verb.

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<td>a-··························</td>
<td>a-··························</td>
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</table>
Irreg: 3 ḫ+ẖ, 'to address, say to'  LE.6.21/113

In the Present and Immediate singular of this verb, the Verb Nucleus is ḫa. The second person singular Projected (the Imperative) form is shortened to ḫaṅda.

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<td>n III</td>
<td>i+da.........</td>
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<tr>
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Irreg: 4 ḯ+a, 'to be, exist'  LE.6.30/113

With this Intra-active verb, the same tenses are affected in both singular and plural forms. The Transitional Vowel changes to ḥ, and there is an  ḫ  added to the Nucleus in the singular forms.

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<tr>
<td>P I</td>
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<tr>
<td>l II</td>
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<td>gu+i</td>
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<tr>
<td>u III</td>
<td>i+i</td>
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Irreg: 5 ḡ+al+a, 'to walk to, approach' (Extra-active)

This verb was used to illustrate the factor of 'Abbreviation' in Section 4.2.1/200 with reference to common Bāṛdi verbs. The Auxiliaries of the Imperfect Tenses are deleted in surface forms.
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Irreg:6 θ+α, 'to give' (Extra-active)

The Middle Perfect forms of this verb are abbreviated.

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6.3 Text

This text is Part One of a two-part description narrated by a Baridi man, Mr Tudor Ejai. It is available in tape and transcript form through the Australian Institute of Aboriginal Studies (Tape Catalogue No. Al839). 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 Ġawal ǧan-man-∅ (1) Ġar! ǧanān. Story I-am putting-it this. Tree coffin.

2 Ġara-manana-r (2) amb agal ṣaḏīn mlon. They-used to put-them men and women 'before' times.

3 baḏa-gon gandl. In-ḏiḏin (3) arinā-aḏar amba. Tree-in on top. He-died one-Intensifier man.

4 Malambu. ʿIm-bañina (4) qināggara Inara-na-∅ (5) Malumbo Bay. He-died. Then they-took-him

5 baḏa- gandurman-nim ďin-Ïr Inara-na-∅ (6) away. Relations-Agent his-they they-took-him.

6 ḋun Ġara-mana-∅ (7) gundulmara gandl. There they-put-him Gundulmara Hill on top.
Tree name-on branches. Tree coffin-in. They-

lit-it fire his dead man. Back returned

they-∅. Time-for it-went in Temp = sunset.

Here they-placed-them. Divining pegs their-name

Those sticks. Message-pertaining to

sticks those. Who-Agent he-killed-him Conj

who-Agent he-followed-him (as a) 'shadow-man'

that man (is) that stick. Pegs-Relator-these

they-put-them message-with Infinitive-tell-Infinitive

to them the living-Relator-them dead man-Agent

people. Then left behind they-∅-with it

this dead man. Back walked they-∅ people
19 balı-ñaŋ· gɨr· ñɛŋ-ar-alana· (18) dagadag ɨŋɪrli-nil· (19)·
camp-to. Stayed they-went about slept they-∅.

20 muyun ñɛŋ-ar-ämı́na· (20) bâɡa· dar ñɛŋ-ar-âna· (21)
Early they-rose up away. Came they-∅

21 ŋùnu· ñɛŋ-ar-alana-∅· (22) nída· bânil· bur
there. They-looked at-it Quantitative this way saw

22 ñɛŋ-ar-alana-∅· (23) ara-gîlō ʊlar-alana-∅· (24)
they-saw-it. Neg-Intensifier they-saw-him

23 nída· míɾurunu nil-ña ambâ giîlîng
Quantitative. 'Shadow-man'his-name being that.

24 gânapîni-b· ara ʊlar-alana-∅· (25) nínbl·
Murderer-Relator. Neg they-saw-it track.

25 ñagud ɨŋîrli-nil· (26) balabû· gîr· ñɛŋ-ar-alana· (27)·
Returned they-∅ back. Stayed they-went about

26 ñrâra· mar· ñâdana· (28) burû· giîlîngara ban
Three Temp it was time. Then spoke

27 ɨŋîrli-nil· (29) lagl· ruwîl· a-ña· (30) ìâ. bâd
they-said-to him Loki go you-∅ you off

28 ɨŋîrli-nil· (31)· lagal· damba· ɡâ:-ña· (32) bâdag-on·
they-said-to him. Climb Sequ you-climb tree-in.

29 ŋâدل-ɡun· ɡâ-landamba· (33) gândî· ɨŋîrli-nil· (34)·
Tree coffin-in. You-sit-Sequ on top they-said-to him

30 bânil· ñîrâ· ɪr· mîlôn-ðun· ambûlîn·
That way their those before-belonging people.
31  in-darmina (35) rani ruwil i-ñana (36)  
He-rose up straightaway went he-∅

32  baqq· ruwil i-ñana (37) garagara ŋunu dab  
away. Went he-∅ Continuative there went up

33  i-ñana (38)· qining-on baqq· lagal in-gañina (39)·  

34  ar-alga· ṣ dagud in-duna (40) halab· gado  
another-sun. Conj returned he-∅ there. Still

35  ruwil i-ñana (41) gorra· dagadag inirin-n (42) ar-  
came he-∅ well. Slept they-∅ another-

36  alga min ruwil i-ñana (43) dar-∅ inor-onbuna-∅ (44)·  
sun Temp went he-∅ here-from they-sent-him.

37  lagal-gun buru gala· dil marab in-idini (45)  
bad-at time now. Burst open Temp it-came out

38  nu:-nu qining diwara-bamba· ruwil  
his-stomach that dead one-Relator-man. Went

39  i-ñana (46) dar-∅ banim  digir in-duna (47)  
he-∅ here-from. Quickly peeped he-∅

40  ŋunu gandin-gun· ŋun in-ñalana-∅ (48) nu:dIn  
there tree coffin-at. There he-saw-it intestine

41  in-galgalgamanana (49) gand· aran nu:dIni  
it-was moving around on top. Another intestine

42  lag-a-madan in-ana (50) nidi·  
bottom-Directional it-was Quantitative.
43 In-galgalgamanana (51) nīdl· agal ambad
It-was moving around Quantitative. Conj man

44 in-ḍalana-∅ (52) dārli In-galgalgamanana (53) nî-majā· he-saw-him this he-was moving around his-arm.

45 agal nly-aqā· bll-amba dīqlr in-ḍūnā-ātn (54) Conj his-body. Again-Seqe peeped he-∅-at him

46 baql in-ḍalana-∅-b (55) ṣāgānaṭ dīn (56) this way he-saw-him-Temp. Tried to stop he-∅

47 in-dargina (57)· in-daralana (58) gililq-g- he-was frightened. He-ran off that-from-

48 ṣān-ḍūnā ṣānātn· yur because of-belonging tree coffin. Came down

49 ina-mana (59) dārli bl:nba· dārli mar arar he-∅ this marsh. Here Temp standing

50 lāgīri-n (60) amb-araŋ lāgīl-irman-ir (61)· alguṛu they-∅ men-other they-called out-Emphat. Brother

51 ḍanam-ḥuṛu-ŋan ml:n-ḍaralan (62) lāgīri-n-ōn (63)· which-place-to you-are running they-said-to him.

52 ara-ṇa ma-lamanga-ŋ (64) qililq-g· qad Neg-Emph Infinitive-listen-Infinitive he. Still

53 in-ḍaralana (65) baŋdara ṣānū· lāgīl-irman-ōn (66) he ran straight on there. They-called-to him

54 bayibirāŋ· ṭ ara-ṇa ma-lamanga-ŋ (67)· behind. Conj Neg-Emph Infinitive-listen-Infinitive.
Further on came he-ŋ camp-to alongside off

They-called-to him mother-father-

Agent his-they and older-group a few-not.

Old women-group lived they-went about Quantitative

they called-to him which-place-to you-are running

they said-to him. Neg to him still he-ran (like)

nothing behind-belonging = on his own Affirmative.

In return Temp humbug Temp-his

teasing. People he-fought-them that-(is why)

they-put-him in return away-Relator went he

tree coffin-to. Up they-chased-him off

others-Agent. They-brought-him away camp-to.
Why you were running just they said to him. Response

I was frightened just from him. Causal he moved about

just there on top. He waved just to me

he said to them. That is why I was running just

It finished Emphat that (story).
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 Gunduľmara Hill, on a tree coffin in the branches of an 'Iğiri' 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 those 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 Loki (bin Sali, a Baŗdi 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 Loki 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 men 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.
7.0 BIBLIOGRAPHY

Only works to which reference has been made within the dissertation have been listed in this Bibliography.

BOLLINGER, Dwight L.

BOLT, J.E., J.R. CLEVERLY and W.G. HODDINOTT.

BOLT, J.E., W.G. HODDINOTT and F.M. KOFOD.
(1971) 'An Elementary Grammar or the Ngaliwuru Language of the Northern Territory' Unpublished mimeo.

BREKLE, Herbert E.

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)


(1965) 'Aborigines:Languages'. In Australian Encyclopaedia, 1:21-28. (Sydney, Grolier)


CAPELL, Arthur and A.P. ELKIN.

(1937) 'The Languages of the Kimberley Division'; Oceania, 8:216-246.

CAPELL, Arthur and H.E. HINCH.


CHADWICK, N.

(1968) 'Djingili (North Australia) in a Comparative Perspective', Oceania 38:220-228.

CHOMSKY, Noam A.


CHOMSKY, Noam A. and Morris HALLE.


COATE, Howard H. and L. OATES.


DIK, Simon C.


DIXON, Robert M.


ELKIN, Adolphus P.

(1932) 'Social Organisation in the Kimberley Division', Oceania, 2:296-333.

(1939) (ed.) 'Studies in Australian Linguistics'. Oceania Monograph, No. 3.

ELSON, Benjamin F. (ed.)


FILLMORE, Charles J.


FRANTZ, Donald G.


GARVIN, P.


GODFREY, Marie.


HALE, Kenneth.


(1967a) 'Some Productive Rules in Lardil (Mornington Island) Syntax'. In Pacific Linguistics, Series A, No.11 (Canberra, the Australian National University), pp.63-73.


HOCKETT, Charles F.


HYMES, Dell.


JACKENDOFF, R.S.


KATZ, Jerrold J. and Paul M. POSTAL.


KERR, N.


LAKOFF, Robin.


LANG, Adrianne.


LEES, Robert B.

LONGACRE, Robert E.
(1964) Grammar Discovery Procedures: A Field Manuel (the Hague, Mouton).

LYONS, John. (ed.)

McCawley, James D.

Matthews, G.H.
(1965) Hidatsa Syntax (the Hague, Mouton).

Matthews, P.H.

Metcalf, Christopher D.

Nekes, Hermann.
(1939) 'The Pronoun in the Nyol-Nyol (Nyul-Nyul) and Related Dialects'. In A.P. Elkin (ed.), pp. 139-163.
NEKES, Hermann and Ernest A. WORMS.

O'GRADY, Geoffrey N., Stephen A. WURM and Kenneth HALE.
(1966) 'Aboriginal Languages of Australia', (Victoria B.C., University of Victoria).

PERLMUTTER, D.M.

POSTAL, Paul M.

ROBINSON, Michael V.
(forthcoming) 'Change and Adjustment Amongst the Baridi of Sunday Island, North-Western Australia'. M.A. Thesis, University of Western Australia.

SAPIR, Edward and Harry HOIJER.

SHARP, Margaret C.

SOMMER, Bruce A.

STANLEY, Richard J.
TAYLOR, Andrew J.


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.


(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.


WURM, Stephen A.


YOUNG, Robert A.

(1964) 'The Primary Verb in Bena Bena'. In Elson (ed.):45-83.
Supplement to:

**BARDI VERB MORPHOLOGY**

*A Transformational Analysis*

by C.D. Metcalfe.

THE RULES

This Supplement 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. The page numbers are those of the thesis.
2.0 THE BASE COMPONENT

2.1 The Base Rules

B.1 $S \rightarrow (S \text{ Conj}) \ (\text{PreS}) \ NP \ PredP$

B.2 $\text{PreS} \rightarrow \{ \text{Question} \}$

B.3 $\text{PredP} \rightarrow \text{NEG (EMPH)} \ NP \ \{ \text{NP} \} \ \text{VP} \ \{ \text{NP} \} \ \text{(Comple)} \ \text{POTENTIAL} \ \text{EMPHAT}$

B.4 $\text{VP} \rightarrow \text{(INTENS) VbNuc Aux}$

B.5 $\text{Comple} \rightarrow \text{(PostposP|Adverb)}$

B.6 $\text{PostposP} \rightarrow \text{NP Postpos}$

B.7 $\text{NP} \rightarrow \text{Nom (S)}$

B.8 $\text{Aux} \rightarrow \text{Aspect Tense}$

B.9 $\text{Adverb} \rightarrow \text{(Time|Quantit)}$

B.10 $\text{Postpos} \rightarrow \{ \text{Comitat} \}$

B.11 $\text{Conj} \rightarrow \{ \text{Instrum} \}$

Linked parentheses indicate that at least one category must be chosen.
2.3 **Lexical Rules (L.)**

L.1  **Nom** \[\rightarrow +N\]

L.2  **-N** \[\rightarrow [ αPeron, βNumber] \]

L.2.1 **Number** \[\rightarrow +Sing\]

L.2.2 **Person** \[\rightarrow +I\]

L.2.3 **-I** \[\rightarrow +II\]

L.2.4 **-II** \[\rightarrow +III\]

L.2.5 \[+I +II\] \[\rightarrow +Dual\]

L.2.6 \[+I +Sing\] \[\rightarrow +II -Sing\] \[\rightarrow +Inclusive\]

L.2.7 \[+I +Sing\] \[\rightarrow +II\] \[\rightarrow +Exclusiv\]

L.3  **+N** \[\rightarrow [ γFeature, (+Sing)]\]

L.4  **VbNuc** \[\rightarrow [ (+Pre-Stem (+Action Change)), +Class, (+PartRedup), +VbS, (+TransitV), (+ObligRetro), (+Impers), (+Irreg:n), +N: , + N: ]\]

L.5  **Temporal Adverb** \[\rightarrow [ +Tense]\]

L.6  **Aspect** \[\rightarrow [ +Durat]\]
Tense \[\rightarrow\] +Perf

-Perf \[\rightarrow\] +Pres

-Pres \[\rightarrow\] +Proj

+Perf \[\rightarrow\] +Definite

+Definite \[\rightarrow\] +Contemp

+Contemp \[\rightarrow\] +Immed

-Immed \[\rightarrow\] +Near

-Contemp \[\rightarrow\] +Mid

-Mid \[\rightarrow\] +Dist
3.1 Transformational Rules

T.1 OBLIG PRONOMINAL AFFIX

S.D.  X \[
\begin{array}{c}
\text{+N} \\
@\text{Person} \\
@\text{Number}
\end{array}
\]
Y
1 2 3

S.C.  1 2 \[+\text{ProAf}\] 3
\[
\begin{array}{c}
@\text{Person} \\
@\text{Number}
\end{array}
\]

T.2 OBLIG SUBJECT PRONOMINAL PREFIX

S.D.  X \[+\text{N}\] \[+\text{ProAf}\] (S) Y VbNuc Aux Z (Comple)
1 2 3 4 5 6 7 8 9

S.C.  1 \[\emptyset\] \[\emptyset\] \[\emptyset\] 5 \[\emptyset\] \[\emptyset\] \[\emptyset\] 2 4 9

T.3 OBLIG OBJECT PRONOMINAL SUFFIX

S.D.  X \text{Aux} \[+\text{N}\] \[+\text{ProAf}\] (S) Y (Comple)
1 2 3 4 5 6

S.C.  1 \[+3\] \[\emptyset\] \[\emptyset\] \[\emptyset\] 5 2 4 6

T.4 OBLIG NUMBER PREFIX

S.D.  X \[+\text{ProAf}\] \[VbNuc\] Y
1 2

S.C.  1 \[Number\] \[+\] 2
<table>
<thead>
<tr>
<th>T.5</th>
<th>OBLIG</th>
<th>EXTRA-ACTION</th>
<th>135</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>$X$</td>
<td>$[+\text{ProAf}] + Y + [+\text{ProAf}] Z$</td>
<td>1 2</td>
</tr>
<tr>
<td>S.C.</td>
<td>1</td>
<td>$n + 2$</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T.6</th>
<th>OBLIG</th>
<th>INTRA-ACTION</th>
<th>136</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>$X$</td>
<td>$[+\text{ProAf}] + Y$</td>
<td>1 2</td>
</tr>
<tr>
<td>S.C.</td>
<td>1</td>
<td>$\varnothing + 2$</td>
<td></td>
</tr>
<tr>
<td>Condition:</td>
<td>2 does not include $[+\text{ProAf}]$</td>
<td></td>
<td></td>
</tr>
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<thead>
<tr>
<th>T.7.1</th>
<th>OBLIG</th>
<th>PRE-STEM PLACEMENT</th>
<th>137</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>$X$</td>
<td>$[+\text{ProAf}]+Y + [\text{Pre-Stem}(+\text{Action Change}), Z ]$</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>VbNuc</td>
<td>VbNuc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.C.</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
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<th>T.7.2</th>
<th>OBLIG</th>
<th>ACTION CHANGE</th>
<th>139</th>
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</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>$X$</td>
<td>Pre-Stem $+$Action Change $[+\text{ProAf}] + \varnothing + Y$</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>S.C.</td>
<td>1</td>
<td>$\varnothing$</td>
<td>3</td>
</tr>
</tbody>
</table>
T.8.1 OBLIG RETRO-ACTION I

S.D. $X \,[+\text{ProAf}] + \underbar{n} + Y + \text{Aux} + [+\text{ProAf}] \ Z$

\[1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7\]

S.C. $1 \quad 2 \quad \emptyset \quad 4+\text{ind}i+5 \quad \emptyset \quad 7$

Condition: $2 = 6$

T.8.2 OPTIONAL RETRO-ACTION II

S.D. $X + \text{Class} + Y + \text{ind}i + Z$

\[1 \quad 2 \quad 3\]

S.C. $1 \quad \emptyset \quad 3$

T.9.1 OBLIG POTENTIAL

S.D. $W \ \text{POTENTIAL} \ X + \{\frac{n}{\emptyset}\} + Y + \text{Aspect} + Z$

\[1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7\]

S.C. $1 \quad \emptyset \quad 3 \quad \emptyset \quad 5 \quad \emptyset \quad 7$

T.9.2 OBLIG NEGATIVE

S.D. $W \ \text{NEGATIVE} \ X + \{\frac{n}{\emptyset}\} + Y + \text{Aspect} + Z$

\[1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7\]

S.C. $1 \quad \text{ara} \quad 3 \quad \emptyset \quad 5 \quad \emptyset \quad 7$
T.10.1 OBLIG VERB STEM REDUPLICATION

S.D. X INTENS Y + VbS + Z

1 2 3 4 5

S.C. 1 3 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 + \(\text{ir}_n\) 3 4

Condition: 2 is not marked [+Proj].

T.12 OBLIG NEGATIVE EMPHASIS

S.D. NEG EMPH X [+ProAf] + Y + Verb Nucleus (+\text{ind}j) + Z#

1 2 3 4 5 6

S.C. ara + na 3 ma + 5 + n
<table>
<thead>
<tr>
<th>T.13</th>
<th>OPTIONAL</th>
<th>YES-NO QUESTIONS</th>
<th>156</th>
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<tr>
<td>S.D.</td>
<td>X ŋanda Y + Aux Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>S.C.</td>
<td>1  3 + ada 4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T.14</th>
<th>OBLIG</th>
<th>IMPERATIVE</th>
<th>158</th>
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<tbody>
<tr>
<td>S.D.</td>
<td>IMPERAT X + Aux Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>S.C.</td>
<td>2</td>
<td>3</td>
<td>4  [+Proj]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T.15.1</th>
<th>OPTIONAL</th>
<th>ASSOCIATIVE SUFFIX</th>
<th>159</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>X Aux Y [+N] [+ProAf] {Instrum Comitat} Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>S.C.</td>
<td>1  +4</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T.15.2</th>
<th>OPTIONAL</th>
<th>REFERENTIAL SUFFIX</th>
<th>163</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>X Aux Y [+N] [+ProAf] {Dative Ablative} Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>1 +4</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Conditions: (i) 3 is marked [+Animate].

(ii) 2 is not 1st. or 2nd. Person Pronominal Object.
T.16.1 OBLIG TIME ADVERB/AUXILIARY AGREEMENT 167

S.D. X + Tense Y Time Z
     1 2 3

S.C. 1 2 3

T.16.2 OBLIG 'THEM' DELETION 169

S.D. W Aux + X [+ProAf] Y nidi Z
     1 2 3

S.C. 1 2 3

T.17.1 OPTIONAL SEQUENTIAL CONJUNCTION 170

S.D. S1 [amba] S2 [X + Aux Y] S2
     1 2 3 4

S.C. 1 2 3 +amba 4

T.17.2 OPTIONAL PURPOSIVE CONJUNCTION 173

S.D. S1 arindi-yan S2 [X [+ProAf]+Y + VbNuc (+ind) + Z#] S2
     1 2 3 4 5 6

S.C. 1 φ 3 ma + 5 + n
T.18.1  **OPTIONAL TEMPORAL RELATOR**  

\[
\begin{align*}
S.D. & \quad S_1 \{ \text{maraba} \} \quad S_2 \{ X + \text{Tense} + Y \} \\
& \quad \underbrace{1} \quad \underbrace{2} \\
S.C. & \quad 1 \quad 2 + b# 
\end{align*}
\]

T.18.2  **OPTIONAL EMBEDDED NOMINAL RELATOR**  

\[
\begin{align*}
S.D. & \quad \left[ W \text{ Nom} \ S_2 \{ X (\text{Pre-Stem}) [+\text{ProAf}] + Y [+N] Z \} \right]_{S_2} \\
& \quad \underbrace{1} \quad \underbrace{2} \quad \underbrace{3} \quad \underbrace{4} \quad \underbrace{5} \quad \underbrace{6} \\
S.C. & \quad 1 \quad 2 \quad 3 \quad \text{ba + 4} \quad \emptyset \quad 6 \\
\text{Condition:} & \quad 2 \text{ is co-referential with 5.}
\end{align*}
\]

T.18.3  **OPTIONAL PRONOMINAL SUFFIX RELATOR**  

\[
\begin{align*}
S.D. & \quad X + [+\text{ProAf}] \quad Y \\
& \quad \underbrace{1} \quad \underbrace{2} \\
S.C. & \quad 1 + \text{ba} + 2 \\
\text{Condition:} & \quad 1 \text{ does not include either the Sequential conjunction suffix amba or the Associative suffix n}.
\end{align*}
\]
3.2 Realisation Rules

R.1 SUBJECT PRONOMINAL PREFIX

\[+\text{ProAf}\]

\[+I\]
\[+\text{Sing}\]
\[\rightarrow \text{ŋa}\]

\[+\text{II}\]
\[+\text{Sing}\]
\[\rightarrow \text{mi}\]

\[+\text{III}\]
\[+\text{Sing}\]
\[\rightarrow \text{i}\]

\[+\text{Dual}\]
\[\rightarrow \text{a}\]

\[+\{\text{Inc}\}\]
\[\rightarrow \text{aŋ}\]

\[+\text{II}\]
\[-\text{Sing}\]
\[\rightarrow \text{guŋ}\]

\[+\text{III}\]
\[-\text{Sing}\]
\[\rightarrow \text{iŋ}\]

R.2 AUXILIARY

R.2.1 \[[-\text{Perf}]\]
\[+\text{Durat}, -\text{Perf}\]
\[[-\text{Definite}]\]
\[+\text{Contemp}\]
\[X + [+\text{Durat}, +\text{Contemp}]\]
\[\rightarrow \text{ngal(đ)}\]
\[+\text{Middle}\]
\[\rightarrow \text{inđ}\]
\[+\text{Durat}, +\text{Middle}\]
\[\rightarrow \text{na}\]
\[+\text{Distant}\]
\[\rightarrow \text{nana}\]

Condition: X does not include the Potential morpheme \_\_. 
R.2.2 \( X + \text{Number} + Y \rightarrow X + \varphi + \text{Number} + Y \uparrow \)\( +\text{Tense} \)\( [+\text{Proj}] \)

**Condition:** \( X \) does not include the Potential morpheme \( \mid \).

R.2.3 \[
\begin{align*}
X + \mid + Y +& \quad [\{-\text{Perf}\}] \\
& \quad \{[+\text{Contemp}]\} \\
& \quad [+\text{Middle}] \\
& \quad [+\text{Dist}] \\
\rightarrow& \quad \begin{bmatrix}
\text{a} \\
\text{na} \\
\text{nana}
\end{bmatrix}
\]
\]

R.3 **OBJECT/ASSOCIATIVE PRONOMINAL SUFFIX**

\[
[+\text{ProAf}]
\]

<table>
<thead>
<tr>
<th>+I Sing</th>
<th>+II Sing</th>
<th>+III Sing</th>
<th>+Dual</th>
<th>+{Inc} Excl</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \eta \text{ayu} )</td>
<td>( ri )</td>
<td>( \varphi )</td>
<td>( \text{wayi} )</td>
<td>( \text{mudu} )</td>
</tr>
</tbody>
</table>

R.4 **NUMBER PREFIX**

\[
\begin{align*}
\text{Number} \rightarrow& \quad \begin{bmatrix}
\varphi \\
\text{r}
\end{bmatrix} \\
[+\text{ProAf}] + X +
\end{align*}
\]

\[
\begin{align*}
[+\text{Sing}] \\
[-\text{Sing}]
\end{align*}
\]
<table>
<thead>
<tr>
<th>Referential Suffix</th>
<th>Transformation</th>
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<tbody>
<tr>
<td>+ProAf</td>
<td></td>
</tr>
<tr>
<td>+Refer</td>
<td></td>
</tr>
<tr>
<td>+I +Sing</td>
<td>$\text{(\text{San})}$</td>
</tr>
<tr>
<td>+II +Sing</td>
<td>$\text{(\text{Di})}$</td>
</tr>
<tr>
<td>+III +Sing</td>
<td>$\text{(\text{Din})}$</td>
</tr>
<tr>
<td>+Dual</td>
<td>$\text{(\text{Dowu})}$</td>
</tr>
<tr>
<td>+{ Inc } Exc</td>
<td>$\text{(\text{Dada})}$</td>
</tr>
<tr>
<td>-Sing</td>
<td>$\text{(\text{Dugara})}$</td>
</tr>
<tr>
<td>-Sing</td>
<td>$\text{(\text{Dir})}$</td>
</tr>
</tbody>
</table>
4.3 Morphophonemic Rules

M.1 SUBJECT PREFIX MODIFICATION

M.1.1 THIRD PERSON

\[ l(...), u(...) \rightarrow \begin{cases} \text{+I} \\ \text{+X+Aux} \end{cases} \]

M.1.2 SECOND PERSON PROJECTED

M.1.2.1

\[ \begin{array}{c} \text{Action} \\ \text{Type} \end{array}, a \rightarrow \begin{cases} \text{a + Action} \\ \text{Type} \end{cases} \]

M.1.2.2

\[ a^+ \eta \rightarrow \eta^+ a \]

M.2 EXTRA-ACTION MARKER DELETION

M.2.1

\[ n \rightarrow \emptyset \rightarrow \ldots \eta^+ \rightarrow \ldots \eta^+ \rightarrow \emptyset \rightarrow \begin{cases} \text{+ProAf} \end{cases} \]

M.2.2

\[ n \rightarrow \emptyset \rightarrow \emptyset \rightarrow \ldots \eta^+ \rightarrow \ldots \eta^+ \rightarrow \emptyset \rightarrow \begin{cases} \text{+{Pres Immed}} \end{cases} \]
M.3

*PREFIX DELETION*

\[\ldots \emptyset \rightarrow \emptyset \quad \left\{ \begin{array}{c}
\ldots + l \\
\ldots + X + VbNuc + Aux \\
\ldots \left[\begin{array}{c}
\text{Pres} \\
\text{Immed}\end{array}\right]
\end{array}\right\} \]

M.4

*PLURAL MARKER DELETION*

\[\ldots \rightarrow \emptyset \quad \left\{ \ldots + \ldots \ldots + X \right\} \]

Condition: X does not include an Object pronominal suffix.

M.5

*CLASS MARKER DELETION*

M.5.1

\[\text{Class} \rightarrow \emptyset \quad \left\{ \frac{1}{d} \right\} \]

M.5.2

\[\text{Class} \rightarrow \emptyset \quad \left\{ \frac{r}{d} \right\} + \ldots + X \]

Condition: X includes an Object pronominal suffix.

M.5.3

\[\left\{ \frac{b}{d} \right\} \rightarrow \emptyset \quad \left\{ \begin{array}{c}
n+ \ldots + X + Aux \\
\text{[+Proj]} \end{array}\right\} \]

M.5.4

\[\left\{ \frac{3}{d} \right\} \rightarrow \left\{ \begin{array}{c}
v \\
w \end{array}\right\} \quad \vdots \quad V + \ldots + V \]
M.6 VERB STEM VOWEL MORPHOPHONEMICS

M.6.1 \[ \begin{array}{c}
I \ldots \rightarrow [u \ldots] \\
i \ldots
\end{array} \] /
\[ \begin{array}{c}
[\dfrac{\dd}{} + \text{Elsewhere}] \\
\end{array} \]

M.6.2 \[ \begin{array}{c}
\ldots \left[ \begin{array}{c}
U \\
A
\end{array} \right] \ldots \\
\rightarrow \left[ \begin{array}{c}
u \\
a
\end{array} \right] \\
\end{array} \] / Class+

M.6.3 \[ \begin{array}{c}
\left[ \begin{array}{c}
U \\
A
\end{array} \right] \{ \} \\
\rightarrow \circ
\end{array} \]

M.7 EPENTHETIC VOWEL

\[ C + C \rightarrow C + V_1 + C \rightarrow \text{+X+(...)V_1} \] [VbNuc]

Conditions: \( C + C \) is not the sequence of:

(i) \( n + \{ \dfrac{\dd}{} \} \)
(ii) \( n + \{ \dfrac{\dd}{} \} \) [+Proj]
(iii) \( n + C(...) + X + \text{Aux} \) [+Pres] [+Immed]
(iv) \( r + C(...) + X \), where X does not include an Object pronominal suffix.
M.8  CLASS MARKER ASSIMILATION

M.8.1  \[
\begin{pmatrix}
  b \\
  g
\end{pmatrix}
\rightarrow
\begin{pmatrix}
  mb \\
  ng
\end{pmatrix}
\]

\[v^+\]

M.8.2  \[
\begin{pmatrix}
  n \\
  m
\end{pmatrix}
\rightarrow
\begin{pmatrix}
  d \\
  b
\end{pmatrix}
\]

M.9  \(\circ\) PRECEDENCE

\[(...)a(...) \rightarrow (...)\circ(...) \rightarrow +x\circ(...)\]

\[\text{[vbs]}\]

M.10  \(\gamma\)-FINAL VERB STEM

\[\gamma + n(...) \rightarrow n(...)\]

M.11  PRONOMINAL SUFFIX MODIFICATION

M.11.1  OBJECT/ASSOCIATIVE SUFFIX

M.11.1.1  \[
\begin{array}{l}
  \text{gayu} \\
  \text{ri} \\
  \text{wayi} \\
  \text{mudu} \\
  \text{gur} \\
  \text{r}
\end{array}
\rightarrow
\begin{array}{l}
  \text{dargayu} \\
  \text{diri} \\
  \text{darwayi} \\
  \text{darmudu} \\
  \text{dargur} \\
  \text{dir}
\end{array}
\]

\[(...)c^+\)
M.11.2 REFERENTIAL SUFFIX

[\text{dan}] \rightarrow [\text{daran}] / (\ldots)c+

M.11.3 DI-TRANSITIVE SUFFIXES

M.11.3.1

[\text{dan+r}] \rightarrow [\text{daran}] / (\ldots)c+

M.11.3.2

\begin{align*}
\text{dan+r} & \\
\text{di+r} & \\
\text{din+r} & \\
\text{dowu+r} & \\
\text{dagala+r} & \\
\text{dugara+r} & \\
\text{dir+r} & \\
\end{align*}

\begin{align*}
\text{dan+ir} & \\
\text{di+ir} & \\
\text{din+ir} & \\
\text{dow+ir} & \\
\text{dag+ir} & \\
\text{dugar+ir} & \\
\text{dir+ir} & \\
\end{align*}

M.12 SUFFIX VOWEL ADJUSTMENT

M.12.1

\begin{align*}
a & \rightarrow [w+a] / (\ldots)\{\frac{\mathrm{y}}{a}\} + \\
y & \rightarrow [y+a] / (\ldots)\{\frac{1}{a}\} + \\
\end{align*}

[vbs]
M.12.2  
\[ \text{i...} \rightarrow \left[ \frac{\text{w }+\text{ i...}}{} \right] \left[ \frac{\text{y }+\text{ i...}}{} \right] \left[ \frac{\varnothing}{\varnothing} \right] \left[ \frac{\text{(...)}u}{\text{(...)}a} \right] + \text{[vbs]} \]

M.12.3  
\[ \text{(...)}v + \text{v(...)} \rightarrow \text{v(...)} \]

M.13  
**SUFFIX CONSONANT ADJUSTMENT**  
242

M.13.1  
\[ \text{(...)}c_1 + c_1(...) \rightarrow c_1(...) \]

M.13.2  
\[ \begin{pmatrix} \text{amba} \\ \text{ada} \end{pmatrix} \rightarrow \begin{pmatrix} \text{damba} \\ \text{bada} \end{pmatrix} \]

M.14  
**+-REMOVAL**  
243

\[ + \rightarrow \varnothing \]